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DEVELOPING AN ECOLOGICAL SOCIAL JUSTICE FRAMEWORK FOR
OCEAN ENERGY TECHNOLOGIES: CASE STUDIES FROM THE PHILIPPINES

by

Jay L. Batongbacal

Submitted in partial fulfillment of the requirements
for the degree of Doctor in Jurisprudential Science

at

Dalhousie University
Halifax, Nova Scotia
August 2010

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DEDICATION PAGE

To my father and mother, Mario A. Batongbacal and Ma. Rosario S. Lazaro, for their love and patience.

And,

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ABSTRACT

Unless subjected to skeptical and conscious scrutiny, environmentally-friendly ocean energy technologies can become “Trojan machines of social inequity” due to the subtle re-organizing influences of technologies on culture and the society. Environmental laws that promote or regulate ocean energy technologies can act as “Trojan legal regimes” in the absence of a framework for assessing and anticipating their adverse impacts on social justice. “Environmental justice” is inadequate for this task, so an alternative framework is proposed: ecological social justice, drawn from the Third World’s perspective of sustainable development as equitable sharing. Though overshadowed by the prevalent notion of sustainable development as limits to growth, a review of international environmental law shows that the ideas of equitable sharing have persisted, underpinning demands for more equitable distribution of resources and environmental amenities, greater public participation in decision-making, and special attention in favor of specified social groups. Beginning with the critiques of environmental justice and then drawing upon a substantivist view of the role of the Economy as an ecological link between Society and Nature, a sketch of ecological social justice is drawn. The assessment of whether specific legal regimes or their implementation promote or hinder social justice revolve around three focal points: distribution, recognition, and participation, and pay special attention to the role of culture and power in society. The assessment also incorporates and emphasizes the ‘local’ conception of social justice in order to remain true to its ‘ecological’ character.

To demonstrate, the paper conducts detailed case studies of the Philippines. The 1987 Constitution established a right to environment as a result of the historical evolution of a constitutional policy of promoting social justice. This caused Philippine environmental and ocean resource laws to incorporate provisions that promote ecological social justice. Analysis of Philippine ocean environment and energy laws and two internationally-recognized ocean energy projects reveals insights into how even the most environmentally-friendly but complex technologies can lead to domination and oppression, and how guiding ideals of equitable sharing at the local levels can lead to more socially-just solutions.

LIST OF ABBREVIATIONS USED

ASEAN	Association of South East Asian Nations
BFAR	Bureau of Fisheries and Aquatic Resources
CAD	Canadian Dollars
CALM	Catenary Armored Leg Buoy
CFPD	Cubic Feet Per Day
CGS	Concrete Gravity Structure
CNG	Compressed Natural Gas
CSD	Commission on Sustainable Development
CSTD	Commission on Science and Technology for Development
DA	Department of Agriculture
DENR	Department of Environment and Natural Resources
DOE	Department of Energy
EA	environmental assessment
ECC	Environmental Compliance Certificate
EIA	environmental impact assessment
EIS	Environmental Impact Statement
EMB	Environmental Management Bureau
EO	Executive Order
ERC	Energy Regulatory Commission
ESC	Economic and Social Council
FARMC	Fisheries and Aquatic Resource Management Councils
FISH	Fisheries for Sustainable Harvest Project
FTAA	Financial and Technical Assistance Agreements
GDP	Gross Domestic Product
GHG	Greenhouse Gas/es
GSEC	Geophysical Survey and Exploration Contract
GT	Gross Tons
GW	Gigawatts
ICJ	International Court of Justice
IEA	International Energy Agency
IEE	Initial Environmental Examination
IPCC	Inter-governmental Panel on Climate Change
IPRA	Indigenous Peoples' Rights Act
ISO	International Standards Organization
ITER	International Thermonuclear Experimental Reactor
IUCN	International Union for the Conservation of Nature
LGU	Local Government Unit/s
LNG	Liquefied Natural Gas
LOS	Law of the Sea

M	nautical mile
MARINA	Maritime Industry Authority
MDG	Millennium Development Goals
Meralco	Manila Electric Rail and Light Company
MM	Millions
MSC	Model Service Contract
MTPDP	Medium-Term Philippine Development Plan
MW	Megawatts
NAMRIA	National Mapping and Resource Information Authority
NEA	National Electrification Administration
NEDA	National Economic Development Authority
NFRDI	National Fisheries Research and Development Institute
NGO	Non-Government Organization
NIMBY	Not In My Backyard
NIPAS	National Integrated Protected Areas System
NPC	National Power Corporation
NSAP	National Stock Assessment Program
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
OSW	Ocean, Solar and Wind
OTEC	Ocean Energy Thermal Conversion
OTEC	Ocean Thermal Energy Conversion
Oxy	Occidental Petroleum (Philippines), Inc.
PA21	Philippine Agenda 21
PAMB	Protected Area Management Board
PCG	Philippine Coast Guard
PCSD	Palawan Council for Sustainable Development
PEISS	Philippine Environmental Impact Statement System
PEISS	Philippine Environmental Impact Statemetn System
PEP	Philippine Energy Plan
PHP	Philippine Pesos
PNOC	Philippine National Oil Company
PPA	Philippine Ports Authority
PR	Philippine Reports
PV	Photo-voltaic
RE	Renewable Energy
SC	Service Contract
SCRA	Supreme Court Reports Annotated
SG	Secretary General
SLAPP	Strategic Lawsuit Againts Public Participation
SPEX	Shell Philippines Exploration, BV
TAGPP	Trans-ASEAN Gas Pipeline Project
TransCo	National Transmission Corporation
UN	United Nations
UNCTAD	United Nations Commission on Trade and Development

UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
UNTS	United Nations Treaty Series
USD	US Dollars
WCC	World Council of Churches
WESM	Wholesale Electricity Spot Market
WSSD	World Summit on Sustainable Development

SOME PHILIPPINE TERMS OFTEN USED

<i>Barangay</i>	village
<i>Punong Barangay</i>	village chief
<i>Sanggunian</i>	local legislative council
<i>Sangguniang Bayan</i>	municipal legislative council
<i>Sangguniang Barangay</i>	village legislative council
<i>Sangguniang Panlalawigan</i>	provincial legislative council
<i>Sangguniang Panlungsod</i>	city legislative council
<i>Sitio</i>	hamlet

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Jay L. Batongbacal

CHAPTER 1

INTRODUCTION

1.1 Ocean Energy Technologies: A Sea-Change or a Sea-Level Rise?

On 24 October 2009, the Department of Energy (DOE) of the Republic of the Philippines awarded 87 service contracts worth 2.2 Billion USD to 18 energy companies for the development of alternative and renewable energy from biomass, geothermal, solar, hydropower, ocean, and wind resources.¹ The contracts follow in the wake of seven renewable energy contracts worth one billion USD signed in just the previous month,² in addition to 11 bio-fuel plantations and 10 bio-fuel power plants already under development.³ All these investments are the direct result of tax and other incentives granted under the recently enacted Biofuels Act⁴ and the Renewable Energy Act.⁵

¹ It was reportedly the highest number of service contracts signed in a single day. J. B. F. Santos, "Firms Get Contracts, Perks to Develop Renewable Energy," *Business World* (24 October 2009), online: <<http://www.bworldonline.com/BW102409/content.php?id=042>>; E. P. C. Anonuevo, "DOE Awards Renewable Energy Deals," *The Manila Times* (24 October 2009), online: <<http://www.manilatimes.net/index.php/business/4532-doe-awards-renewable-energy-deals>>.

² Paul Anthony A. Isla, "DOE Signs 7 Contracts for Renewable Energy Projects," *Business Mirror* (14 September 2009), online: <<http://www.businessmirror.com.ph/home/economy/16002-doe-signs-7-contracts-for-renewable-energy-projects.html>>.

³ Angelo T. Reyes. *Philippine Energy Sector Developments and Investment Opportunities* (Presented at the Visayas Energy Investment Forum, Crown Regency Hotel, Cebu City, 20 May 2009).

⁴ *Biofuels Act*, R.A. 9367 (2006) .

⁵ *Renewable Energy Act*, R.A. 9513 (2008) .

At the same time, the Philippines did not diminish its efforts to tap non-renewable energy resources. It awarded seven of the country's 34 active petroleum service contracts between 2008 and 2009.⁶ Most of these petroleum service contracts cover coastal and offshore areas offered for exploration and development in the two "contracting rounds" held in 2003 and 2005.⁷ Since 2008, it also awarded seventeen of 58 coal contracts,⁸ 11 of these just last September 2009.⁹ These projects implement older legislation and policies for fossil fuels.¹⁰

⁶ Department of Energy, "DOE to Award More Petroleum and Coal Contracts," *Press Release* (28 August 2008), online: <<http://www.doe.gov.ph/News/Press2008.asp?Q=3Q>>; Angelo T. Reyes, "Philippine Energy Sector Developments and Investment Opportunities" (Presented at the Visayas Energy Investment Forum, Crown Regency Hotel, Cebu City, 20 May 2009).

⁷ The contracting rounds system was begun in 2003 to replace the old concessions system for petroleum service contracts. Previously, the government negotiated exploration contracts on a "first-come, first-served" basis, leaving the exploration and development initiative largely with the petroleum companies. The contracting rounds system replaces this with a type of public auction. It is the government that identifies and offers the areas for exploration, while petroleum companies bid for the parcels and must carry out agreed work programs. The system includes a 'model' petroleum service contract with minimum terms and conditions, fiscal incentives, and production sharing schemes already prescribed by the government, leaving little room for negotiations. See *Procedures for Contract Area Definition and Public Contracting Rounds*, DOE DC 2003-05-005 (2003) ; Arlene Y. Armonio-Magbanua. "The Philippine Energy Contracting Round (Presentation)." (Presented at the *5th Workshop of the Philippine Sulu Sea-East Palawan Basin Case Study*, Cebu City, 16 March 2006). Chapter Six below discusses the contracting rounds system in more detail.

⁸ DOE, "DOE to Award More Petroleum and Coal Contracts," *supra* Note 6.

⁹ Donnabelle L. Gatdula, "DOE Awards 11 Contracts," *The Philippine Star* (17 September 2009), online: <<http://www.philstar.com/Article.aspx?articleId=505794&publicationSubCategoryId=66>>.

¹⁰ For petroleum, see *Oil Exploration and Development Act*, P.D. 87 (1972) , as amended by *Oil Exploration and Development Act (1974 Amendment)*, P.D. 469 (1974) , *Oil Exploration and Development Act (1975 Amendment)*, P.D. 781 (1975) , *Oil Exploration and Development Act (1978 Amendment)*, P.D. 1354 (1978) and

The Philippines' long-standing policy of promoting energy sufficiency and independence through the development of a varied mix of indigenous energy resources drive these energy investments.¹¹ They are also attributable to the government's objective of achieving economic progress and sustainable development while adapting to climate change,¹² founded on an absolute faith in the potential of new energy technologies. Indeed, this faith was highlighted in a speech delivered by then-Secretary of Energy Angelo T. Reyes at the UN High-Level Meeting on Climate Change in September 2007, where he affirmed the need for "a technological revolution" similar to that which took place in the global telecommunications industry, led by the private sector and promoted through international cooperation.¹³

Many people in governments, non-government organizations, and private sectors worldwide share this enthusiastic support for technological development and technology transfer. At the Beijing High-Level Conference on Climate Change, Technology Development and Technology Transfer held on 8 November 2008, government officials particularly "underline(d) the critical role of technology in combating climate change and

Oil Exploration and Development Act (1983 Amendment), P.D. 1857 (1983) . For coal, see *Coal Development Act, Amendments*, P.D. 1174 (1977) , as amended by *Coal Development Act, Amendments*, P.D. 1174 (1977) .

¹¹ See Department of Energy, "Highlights of the Philippine Energy Plan 2009-2030," *Department of Energy* online: <<http://www.doe.gov.ph/PEP/default.htm>> Last updated: 22 April 2010 (Date accessed: 04 May 2010).

¹² The Philippine government considers climate change adaptation one of its key policy priorities, as shown by the enactment of *Climate Change Act*, R.A. 9729 (2009) . The new law creates an independent and autonomous Climate Change Commission responsible for coordinating, monitoring, and evaluating plans and programs to address climate change. See *Renewable Energy Act*, *supra* Note 5. See also Charissa M. Luci, "Arroyo Signs Climate Change Act of 2009," *Manila Bulletin* (23 October 2009), online: <<http://www.mb.com.ph/node/226143/arroyo->> and T.J. Burgonio, "Arroyo Signs Climate Change Law," *Philippine Daily Inquirer* (23 October 2009), online: <<http://globalnation.inquirer.net/news/breakingnews/view/20091023-231825/Arroyo-signs-climate-change-law>>.

¹³ See Angelo T. Reyes, "Innovating a Climate-Friendly World - the Role of Technology and Its Dissemination" (Presented at the *UN High-Level Meeting on Climate Change*, New York. 24 September 2007).

the need to accelerate technology research, development, and deployment.”¹⁴ This required States “to overcome policy, knowledge, institutional, financial and legal barriers to, and to create incentives for, the effective transfer and diffusion of technologies for both mitigation and adaptation.”¹⁵ No less than the United Nations General Assembly has also long recognized the need for “financial and technical resources, as well as capacity building and access to and transfer of technology to assist those developing countries adversely affected by climate change.”¹⁶

It may be fairly stated that technological development and proliferation are the means by which most countries hope to address two very prominent challenges of the 21st century, energy production and environmental sustainability. Energy production is concerned with ensuring adequate supplies of energy needed to fuel economic development and growth, while environmental sustainability focuses on how to prevent energy production and consumption from causing serious and irreversible harm at both local and global levels. Both challenges are raised by the expected increase in energy consumption worldwide. (See Figure 1)

¹⁴ "Beijing High-level Statement on Technology Development and Technology Transfer for Climate Change." (Presented at the *Beijing High-Level Conference on Climate Change: Technology development and Technology Transfer*, 7-8 November 2008).

¹⁵ *Ibid.*

¹⁶ *Protection of the Global Climate for Present and Future Generations*, GA Res. 63/32, UN GAOR, (2009) 03 April 2009.

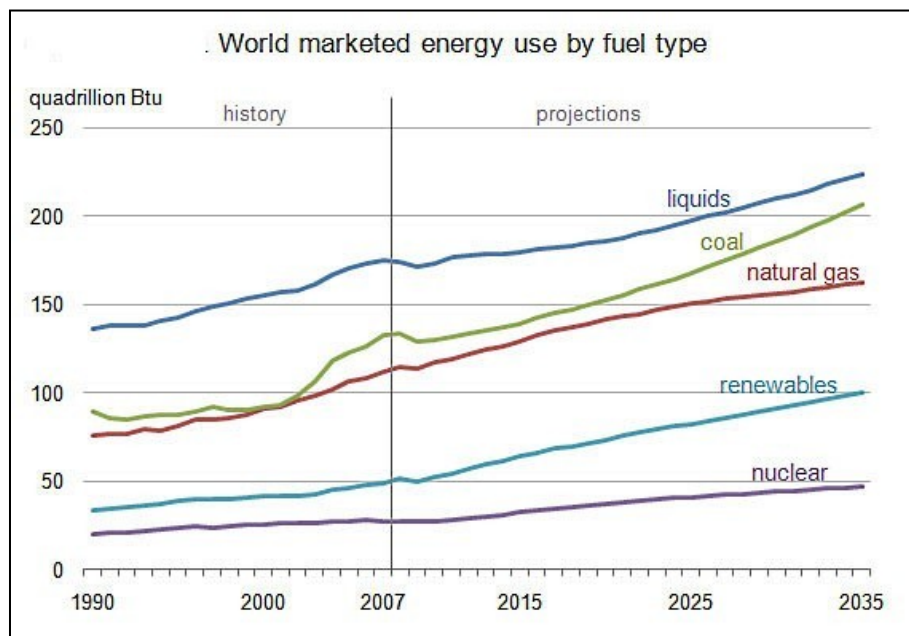


Figure 1. Projections of world energy consumption up to 2035. Chart from the US Energy Information Administration, “International Energy Outlook 2010 - Highlights.”

Recent trends in international law indicate that the international community relies mainly upon two approaches to address these concerns. On the one hand, regional international energy agreements like the European Union’s Energy Charter¹⁷ and numerous bilateral energy cooperation agreements¹⁸ complement international trade agreements that promote the free trade of energy commodities, technology, and infrastructure to establish

¹⁷ *Energy Charter Treaty*. 17 December 1994, 34 I.L.M. 382 (entered into force 16 April 1998).

¹⁸ The UN Treaty Database currently lists 2,559 treaties related to energy deposited with the UN Secretary General. Of these agreements, 2,306 are bilateral agreements involving technical assistance, technology transfer, financial cooperation, equipment standardization, and market access through liberalization of the power sector. The majority of these agreements concern atomic energy. United Nations, "United Nations Treaty Collection," United Nations Online: <<http://treaties.un.org/Pages/AdvanceSearch.aspx?tab=UNTS>> Last updated: 19 February 2010 (Date accessed: 19 February 2010).

or maintain a more efficient and responsive international energy market. On the other hand, the multi-lateral UN Framework Convention on Climate Change¹⁹ and the Kyoto Protocol²⁰ provide for the establishment of an international emissions market to incentivize lower GHG emissions and improved energy efficiency.

These two efforts do not synchronize perfectly; there is an inherent tension between them. The full liberalization of energy markets rely fundamentally upon a philosophy of *laissez-faire*, which places it at odds with climate change reforms that seek greater government regulatory controls on energy production and consumption. Nonetheless, both approaches converge with respect to the idea of promoting technological advances in the field of energy. New and improved energy technologies promise more abundant and stable energy supplies and/or more efficient and less emissions-intensive energy production and consumption. Such technological solutions promise to be capable of simultaneously accommodating the perceived need for energy security and economic growth while complying with international environmental commitments.

Thus it is no surprise that to date, international agreements related to energy are directed toward technology development and transfer, as shown in Table 1 based on the treaty database of the Center for Energy and Environmental Security.²¹ All other things being equal, better and more efficient techniques and designs for finding, producing, distributing, or using energy appear to be ideal and acceptable solutions to the twin problems of energy security and climate change.

¹⁹ *United Nations Framework Convention on Climate Change*. 09 May 1992, 31 I.L.M. 849 (entered into force 21 March 1994).

²⁰ *Protocol to the United Nations Framework Convention on Climate Change*. 10 December 1997, 37 I.L.M. 22 (1998) (entered into force 16 February 2005).

²¹ Center for Energy and Environmental Security, “International Energy Treaties Database.” University of Colorado Law School Online: <<http://cees.colorado.edu/isea/Browse>> (Date accessed: 15 March 2008) .

Subject	Number
I. Cooperation agreements	337
A. Energy data and statistics	19
B. Energy research and development	196
C. Information and/or personnel exchange	198
D. Science and technology cooperation	152
II. Electricity infrastructure and technologies	47
A. Electricity transmission	23
III. Energy markets	26
IV. Energy storage	2
V. Fossil energy	88
A. Coal	32
1) Gasification and/or liquefaction of coal	9
B. Liquefied natural gas	4
C. Natural gas	16
D. Petroleum	33
VI. Nuclear energy	190
A. Arms control and non-proliferation	46
B. Civilian radioactive waste management	49
C. Fission	10
D. Fusion	16
E. International safeguards	57
F. Military research or applications	5
VII. Sustainable energy	155
A. Carbon capture and sequestration	18
B. Energy conservation	32
C. Energy efficiency	82
1) In buildings	13
2) In industry	10
3) In power	14
4) In transportation	26
D. Fuel cell	9
E. Hydrogen	8
F. Renewable energy	95
1) Bioenergy	5
2) Biofuel	1
3) Biomass	9
4) Geothermal	7
5) Hydropower	19
6) Ocean energy	2
7) Solar	19
a) Concentrating solar power	2
b) Photovoltaic	5
8) Tidal	1
9) Wind	10
VIII. Transportation	32

Table 1. Classification of a partial sample of international energy agreements collected in the database of the University of Colorado's Center for Energy and Environmental Security as of 15 March 2008. Source: Center for Energy and Environmental Security, 2008.

A healthy skepticism, however, demands caution against the panacea that technology represents. Experience has proven that technology and technological interventions in social problems are double-edged swords that can have serious impacts when introduced to any society. Sociological and historical studies about the introduction of new technologies have often investigated their roles in causing social change.²² Today,

²² One of the earliest and most influential studies is Lynn Jr. White, "Technology and Invention in the Middle Ages" (1940) 15:2 *Speculum* 145, which stirred academic interest in pre-industrial technological innovations. In the 1970s, a less academic and much more popular and widely disseminated analysis was provided to a mass audience by *Connections*, a groundbreaking television series aired by the British Broadcasting Corporation, which was also published in printed form. See James Burke, *Connections (1st Series)* [Video Documentary on DVD-ROM] (London: British Broadcasting Corporation, 1978); also James Burke, *Connections*. (Boston, Toronto and London: Little, Brown and Company, 1978). By the 1980s, sociologists had taken a keen interest on the role of technologies in social change. Lois B. DeFleur, "Technology, Social Change and the Future of Sociology" (1982) 25:4 *Pacific Sociological Review* 403, online: <<http://www.jstor.org/stable/1388922>>. Even an apparently innocuous technology can have massive social impacts, as exemplified by contraceptives and their effect on human sexuality, argued in Hera Cook, "The English Sexual Revolution: Technology and Social Change" (2005) 59 *History Workshop Journal* 109. At present, there is enormous interest in the revolutionary potential of information and communications technologies. See for example Sheila Kinkade and Katrin Verclas, *Wireless Technology for Social Change*. (Washington DC and Berkshire UK: UN Foundation-Vodafone Group Foundation Partnership, 2008), which includes case studies in different countries of how mobile phones are used in providing health services for the poor, humanitarian assistance in natural disasters, and conservation and monitoring of trees and wildlife. See also Diane Coyle and Patrick Meier, *New Technologies in Emergencies and Conflicts: The Role of Information and Social Networks*. (Washington DC and Berkshire UK: UN Foundation-Vodafone Group Foundation Partnership, 2009); Vital Wave Consulting, *Mhealth for Development: The Opportunity of Mobile Technology for Healthcare in the Developing World*. (Washington DC and Berkshire UK: UN Foundation-Vodafone Group Foundation Partnership, 2009); Gautam Ivatury and Mark Pickens, *Mobile Phone Banking and Low-Income Customers: Evidence From South Africa*. (Washington DC: Consultative Group to Assist the Poor/World Bank and United Nations Foundation, 2006). For an overview of studies relating to technological developments and their impact on the environment, see Jeffery K. Stine and Joel A. Tarr, "At the Intersection of Histories: Technology and

developing countries regard these new technologies more keenly, since technological developments have played much more visible roles in recent social change for them. The introduction of new technologies may affect the distribution of economic and political power among social forces within societies.²³ But whether it is a real boon or a bane

the Environment" (1998) 39:4 Technology and Culture 601, online:
<http://muse.jhu.edu/journals/technology_and_culture/v039/39.4stine.html>.

- ²³ This paper will occasionally refer to ‘social forces’ as key social groups relevant to issues and discussions of social justice, particularly in its later chapters. Social forces encompass a much broader composition than the familiar term ‘social groups’ or ‘social sectors’ often used to refer to distinct categories of persons such as “the poor”, ‘women’, ‘labor’, ‘youth’, or ‘professionals’. Jose Migdal describes social forces as “powerful mechanisms of associative behavior” that are comprised of formal and informal organizations, movements, groups, and networks joined and strongly motivated by common objectives, interests, and ideas. Joel S. Migdal, "The State in Society: An Approach to Struggles for Domination." In *State Power and Social Forces: Domination and Transformation in the Third World*, ed., Joel S. Migdal, Atul Kohli, and Vivienne Shue (Cambridge, New York, Melbourne: Cambridge University Press, 1994) at 20-22. He writes:

These forces encompass informal organizations (such as... patron-client networks, or friendship groups and old-boy networks in other societies) as well as formal organizations (such as businesses and churches). They can also be social movements, including those held together by common, strongly motivating sets of ideas (even where organizational ties are absent).

Social forces need not hold on to the same ideology or have the same approach; they compete with each other in social and political arenas in pursuit of their own respective interests, but can align on specific social issues either briefly or over the long term. Social forces may thus be more fluid since their alignments are more pragmatic and issue-oriented rather than ideological. The reality is that the more common concept of ‘communities’ and ‘social groups’ may be fluid, depending on social circumstances, political alignments, or geographical scale. While on some issues the public may be more or less united, in others they may not be, especially once the issue starts directly impacting a distinct and identifiable group. So for example, while an alliance of sectors may be in total agreement in principle that there is a need to act on climate change, the consensus may be lost once a member group realizes that such action will negatively affect the industry it depends on for employment.

The flexibility of composition is one reason why Migdal’s ‘social forces’ is often a more appropriate term than the traditional ‘classes’ or ‘groups’. The concept accounts for a much the more diverse and fluid collection of groups and entities

seems to be determinable only upon hindsight, particular circumstances, and reflection after the fact. Precognition about technology is an elusive talent.

Doubts must be raised because today, as with many other aspects of our lives, most people look upon science and technology very optimistically as the harbinger of beneficial change. But science and technology historian James Burke has noted that the problem with any kind of technology is that nobody really knows where or what it could lead to. The nature and extent of the future social changes that follow from any piece of technology is never really foreseen by those who invent or use them, and these could have massive implications not only in terms of scientific and technological advancement, but also in terms of how societies are constituted or structured, and how its individual members live and interact. In the late 1970s, Burke pointed out that our modern technological world, including all its riches and deprivations, benefits and disadvantages, conveniences and dangers, is the product of many complex accidents and happenstances more than deliberate foresight, and the effects of technological development upon our societies may be just as accidental. He called for reflection on what these technologies mean for individual identity, choice, and freedom, as well as culture and civilization itself, observing that not enough thought has been given to precisely these profound questions.²⁴

It is not the first time that technology has offered the solutions to major social problems. In fact, the belief in groundbreaking technological miracles as global problem-solvers has

within communities and societies that vie for dominance in decision-making. It is less rigid than the traditional ‘social class’ categories used in Marxist class analysis (e.g., proletariat vs. bourgeoisie). Furthermore, it is not necessarily limited to groups or organizations outside the State.²³ The concept of social forces accommodates the notion that the State itself is not a monolithic entity, but may be comprised of competing State entities (e.g., local governments vs. state governments vs. federal governments) allied with other sectors of society.

²⁴ Burke, *Connections (1st Series)*, *supra* Note 22, particularly Episode 1 entitled “The Trigger Effect,” and Episode 4, “Faith in Numbers.” Also in Burke, *Connections*, *supra* Note 22 at 1-14, 81-114; see also 287-95.

been around for decades. As will be explained further in Chapter Three, since the end of the Second World War, the idea that technology (hand-in-hand with science) holds the answers to world poverty and deprivation is a foundational assumption of the very concept of ‘development.’ The experience of the developing world since then certainly seems to disprove it; notwithstanding massive strides in science and technology more than half a century later, poverty and deprivation are still pervasive worldwide, prompting the UN to embark on the new millennium with a focus on poverty and poverty-alleviation through the UN Millennium Development Goals (MDG).²⁵

Even the very concept of poverty itself has now expanded to include “energy poverty,” or the lack of access to “affordable, adequate, modern energy services.”²⁶ A number of UN agencies, programs, and institutions that collaborated to form UN-Energy highlighted this when it issued a report in 2004 emphasizing the importance of energy to achieving the UN MDG.²⁷ The UN-Energy report emphasized that the current state of “energy services”²⁸ worldwide has failed to meet the needs of the poor. To support household income, health and education services, and environmental standards, poverty reduction requires affordable, accessible, and reliable energy.²⁹ Moreover, the effects of poverty in

²⁵ *United Nations Millennium Declaration*, GA Res. 55/2, UN GAOR, UN Doc A/RES/55/2 (2000).

²⁶ See Randall Spalding-Fecher, Harald Winkler, and Stanford Mwakasonda, "Energy and the World Summit on Sustainable Development: What Next?" (2005) 33 *Energy Pol'y* 99 at 101; also UN-Energy, *The Energy Challenge for Achieving the Millennium Development Goals* (New York: United Nations, 2005); and UNDP, UNDESA, and WEC, *World Energy Assessment: Overview*. (New York: United Nations Development Program, United Nations Department of Economic and Social Affairs, World Energy Council, 2000).

²⁷ UN-Energy, *ibid.*

²⁸ “Energy services” are defined as “the benefits produced by using energy supplies.” UN-Energy, *supra* Note 26 at 3.

²⁹ *Ibid.* at 5-7.

general are no longer limited to the deprivation of bare necessities for survival, because the poor are also the most vulnerable to the adverse impacts of climate change.³⁰

Another technological proposition now presents itself: that the adoption of new and improved energy technologies is the solution to the energy and environmental crises of the 21st century. Environmental advocates and the mass media regularly present this proposition in very favorable terms, trumpeting the urgent need for and the benefits expected from “cleaner and greener” energy. Few, if any, seem to raise any doubts about the soundness and acceptability of new and/or improved energy technologies, especially under the simultaneous demands of energy security and climate change. But, an informed decision on attractive and apparently incontrovertible technological propositions requires an appreciation of all aspects of the issue, not only the apparent benefits and advantages much extolled lately. Thus, the apparent shortage of outstanding doubts and reasonable questions about these propositions is precisely what sparked this research.

Given the potential of any new technology to affect the social equilibrium, what concerns this research most is the relationship between energy technologies, social justice, and law. Legal developments often follow in the wake of new technologies, but the correlation between them is multi-faceted and complex.³¹ New devices, processes, and ways of doing things come into being and popular use oftentimes ahead of the legal regulation of such uses. It is usually only after ‘doing’ and ‘using’ that society learns

³⁰ See Task Force on Climate Change Vulnerable Communities and Adaptation, *Livelihoods and Climate Change*. (Winnipeg: International Institute for Sustainable Development, International Union for Conservation of Natural Resources, and Stockholm Environment Institute, 2003). The vulnerability of the poor arises from the limited resources at their disposal to adapt to climate change. See also Food and Agriculture Organization, *Climate Change Mitigation and Adaptation in Agriculture, Forestry, and Fisheries* (Rome: Food and Agriculture Organization, 2008).

³¹ For a succinct discussion, see Noel Cox, "The Relationship Between Law, Government, Business and Technology" (2006) 8:1 Duq. Bus. L. J. 31 at 42-54. A very comprehensive analysis of the many interactions between law and science and technology is presented in Hugh Gibbons, "The Relationship Between Law and Science (Parts I-IV)" (1982) 22 IDEA 43, 159, 227, & 283.

whether new technologies should be subject to certain rules. Regulation is often the product of experience and hindsight, and the ability of Law to anticipate and pre-empt particular effects seems as limited as the ability of lawmakers and political leaders to foresee the future. But considering that Law is also used as the vehicle for promotion and adoption of new technologies, as is now the case with new energy technologies, the relationship between Law and technology needs to be more carefully and critically examined. It is not enough to know that Law may open doors for technology or can respond to its impacts; it is also necessary to be mindful of what Law could allow technology to do to society.

Of particular concern is how, through its influence on the distribution of power and resources, technology affects the promotion of social justice. Social justice is most often equated with distributive justice, or the way in which social institutions distribute the benefits and disadvantages of normal life within society.³² However, the traditional notion of social institutions³³ does not distinctly encompass technology or any of its myriad devices and/or processes. The ordinary citizen more often perceives technology as little more than material objects and special techniques subject to human direction and

³² See David Miller, *Social Justice*. (Oxford, London: Clarendon Press, 1976); also John Rawls, *A Theory of Justice*. (Cambridge MA: Harvard University Press, 1971).

³³ For example, Rawls defines social institutions as “a public system of rules which defines offices and positions, with their rights and duties, powers and immunities, and the like...An institution may be thought of in two ways: first as an abstract object, that is, as a possible form of conduct expressed by a system of rules; and second, as the realization in the thought and conduct of certain persons at a certain time and place of the actions specified by these rules.” He is particularly concerned with the ‘major social institutions’ which distribute fundamental rights and duties and determine the division of advantages and disadvantages within society. These institutions include “the political constitution and the principal economic and social arrangements,” such as guaranteed freedoms under a constitution’s Bill of Rights, property regimes, the concept of the family, the form of government, etc. See Rawls, *A Theory of Justice*, at 7 at 55.

use,³⁴ separate from or perhaps subordinate to social institutions that may or may not adopt them for their own purposes. For example, few would question the wisdom of automating the election process, or computerizing public records, or using robots in hazardous industries. Those who do may find themselves accused of protecting narrow or vested interest, especially if the overall effect of the new technology is to increase operational efficiency. But since the adoption of technology does impact society, both independently and through social institutions, then it is also reasonable to ask whether, and more importantly how, technology also affects social justice.

This research makes environmental technology itself the subject of inquiry, rather than the motivations and interests of specific social forces advocating them. It assumes that, independently of conscious and deliberate thought and despite the best intentions, social injustice may still arise in the long term from the very nature and application of particular technologies to specific social issues (in this case, environment and energy). There is more to social inequity than the constant push of vested interests and utility maximization resulting in a maldistribution of advantages and disadvantages. Social inequities may also arise out of the nature of the presumed solutions to prior problems, and this research dwells on technological solutions as a possible source of these inequities.

In the Philippines, jurisprudence defines social justice in the landmark case of *Calalang v. Williams*³⁵ thus:

Social justice is “neither communism, nor despotism, nor atomism, nor anarchy,” but the humanization of laws and the equalization of social and economic forces by the State so that justice in its rational and objectively secular conception may at least be approximated. Social justice means the promotion of the welfare of all the people, the adoption by the Government of measures calculated to insure economic stability of all the

³⁴ See for example the definition in Charles Susskind, *Understanding Technology*. (Baltimore; London;: The Johns Hopkins University Press, 1973) at 1; also, the introductory remarks of W. Brian Arthur, *The Nature of Technology: What It Is and How It Evolves* (New York: Free Press, 2009) at 9-18.

³⁵ *Calalang v. Williams* [1940], S.C. 47800, 70 P.R. 726.

competent elements of society, through the maintenance of a proper economic and social equilibrium in the interrelations of the members of the community, constitutionally, through the adoption of measures legally justifiable, or extra-constitutionally, through the exercise of powers underlying the existence of all governments on the time-honored principle of *salus populi est suprema lex*.

Social justice, therefore, must be founded on the recognition of the necessity of interdependence among divers and diverse units of a society and of the protection that should be equally and evenly extended to all groups as a combined force in our social and economic life, consistent with the fundamental and paramount objective of the state of promoting the health, comfort, and quiet of all persons, and of bringing about “the greatest good to the greatest number.”³⁶

Since 1940 when it was laid out, this legal definition of social justice has shaped the history of social welfare law and jurisprudence in the Philippines, especially on labor and agrarian reform. In very contentious cases that had broader social implications, the Court has used the social justice doctrine to tip the scales for the benefit of disempowered and marginalized social sectors, and thus directly influenced the legal norms and principles for the distribution of benefits and resources in society. It is on account of the knowledge of this particular impact of social justice that the founding question of this research is asked: can a legal concept of social justice make a similar contribution to the development of energy and environment law, especially with respect to new technologies on the horizon?

This is an important and urgent question since the Philippines looks forward to new and emergent energy technologies (as well as improved old technologies) as the primary solution to the problem of economic development under conditions of climate change. Already it has laid the legal foundations for the adoption of technologies yet to be proven, particularly those technologies that seek to tap the vast potential of its archipelagic

³⁶ *Ibid.* at 734-35. The evolution and content of this doctrine will be examined and analyzed in much more detail in Chapter Four, as a necessary step in understanding the potential of a legal concept of social justice in guiding legislative and executive actions.

waters.³⁷ The DOE has already mapped potential oceanic energy resources, and invites proposals from domestic and foreign energy companies for the development of wave, currents, and Ocean Energy Thermal Conversion (OTEC) resources (Figure 2), in addition to ongoing offshore petroleum exploration (Figure 3).

What does not appear in these energy resource maps, however, is the fact that Philippine maritime spaces are also well-used by other sectors based in coastal settlements all over the islands. Other interests, such as fishing, bio-diversity protection and marine transportation, also exist in these marine areas.³⁸ The introduction of energy development is therefore very likely to compete with and possibly displace other ocean-use sectors, raising the issue of allocation and management, which must unavoidably generate questions of social justice between social forces competing for access to the ocean's resources. If a new wave of technologies are to make landfall upon the nation's coasts, what shall be needed for the 'humanization' of energy law and the 'equalization of social and economic forces' that swirl around the former?

³⁷ *Private Sector Participation in OSW Energy Resources*, E.O. 232 (2000); Cf. *Renewable Energy Act*, *supra* Note 5.

³⁸ Most of these major interests that could be directly affected by the energy sector are described in Chapter Five.

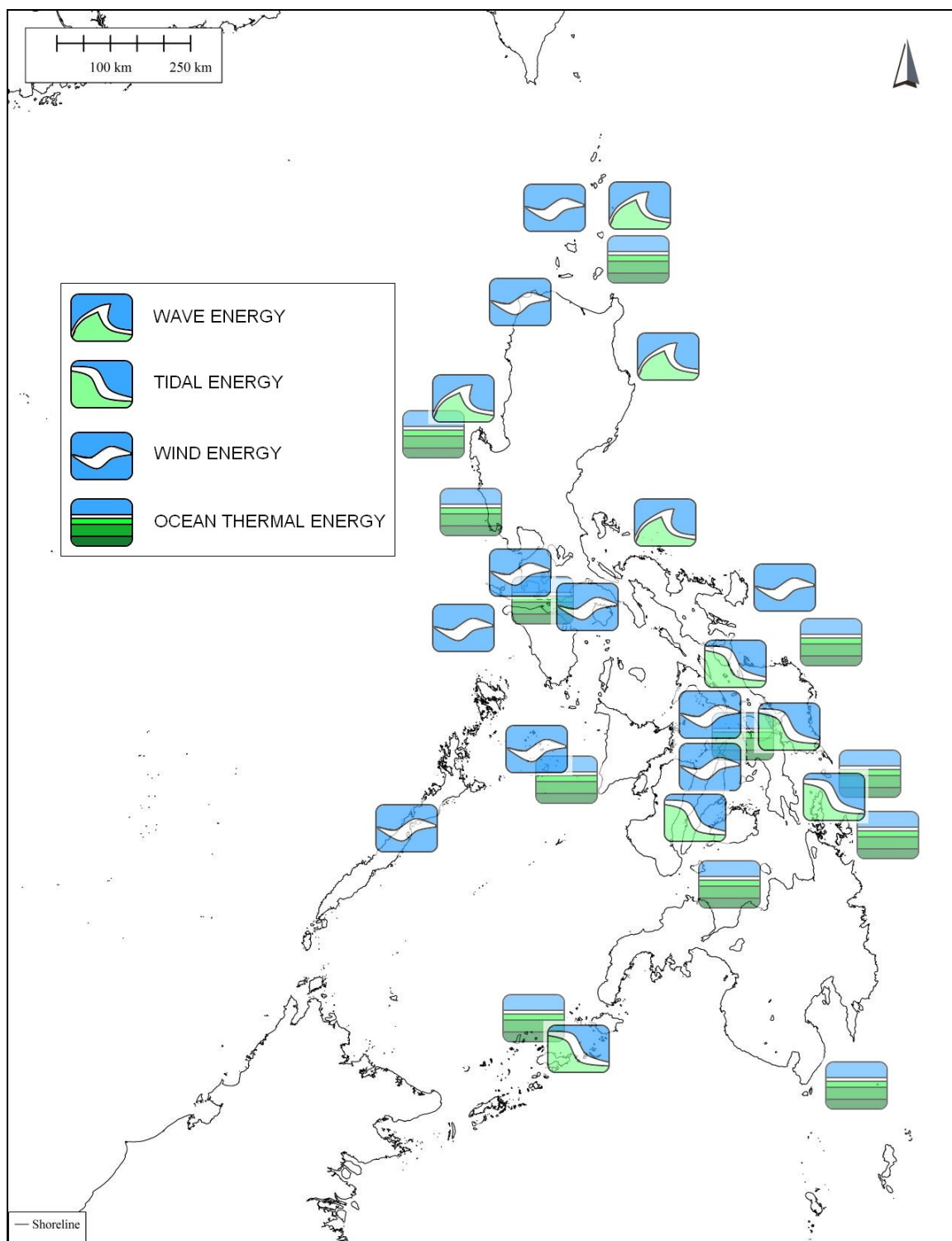


Figure 2. Map of areas in the Philippines with potential ocean energy resources, offered by the Department of Energy (DOE) for bidding by interested investors. Information consolidated from resource maps on DOE Website.

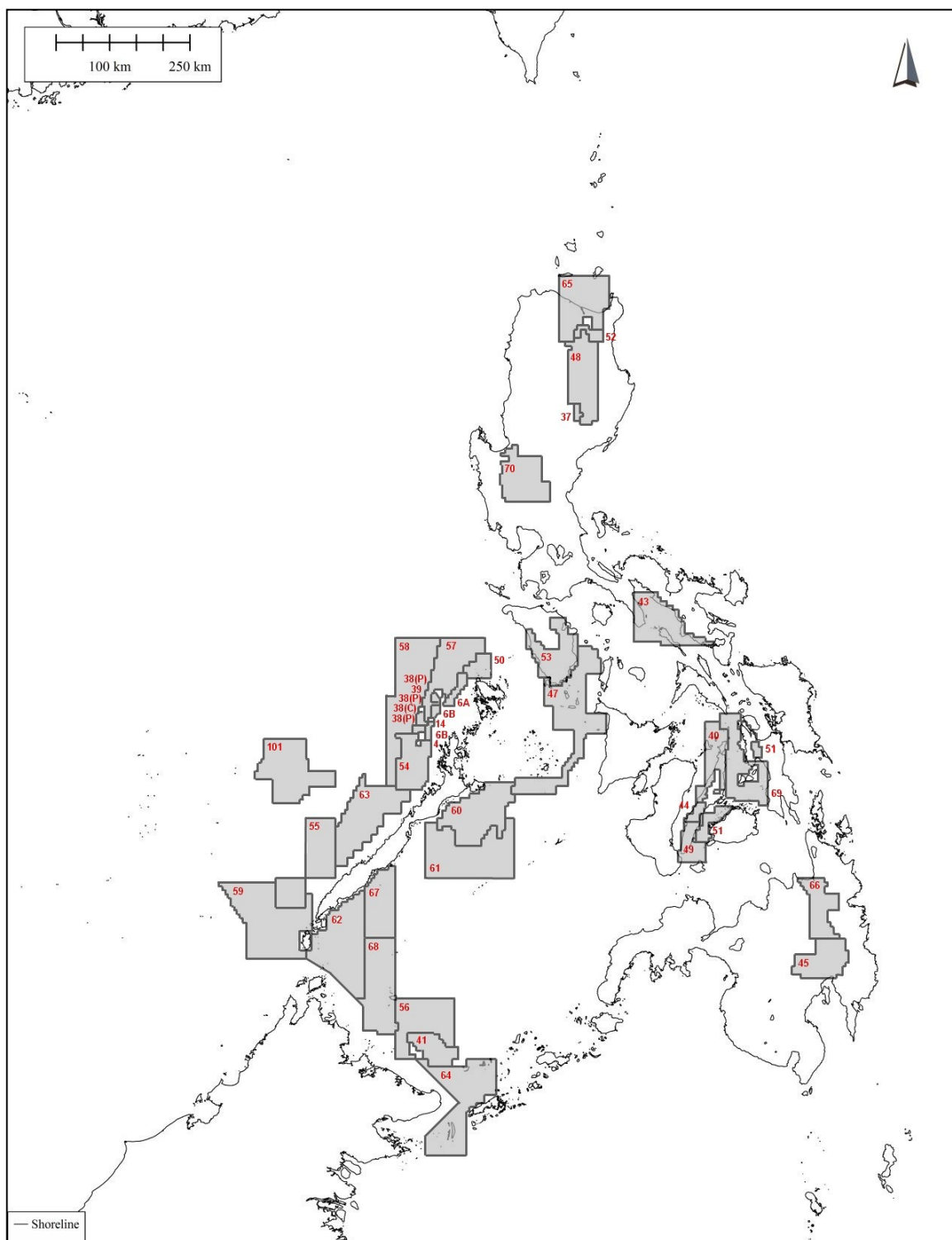


Figure 3. Petroleum service contract areas in the Philippines as of 2009. To date, only one is (SC 38) actually in production. Source: DOE.

Ocean energy technologies are being endorsed as part of a broader package of urgently-needed and environmentally-sound technologies to help solve the critical problem of climate change, and will undoubtedly emerge as a major sector of energy production in the near future. But, do ocean energy technologies represent a “sea-change,” a transformation that should be earnestly anticipated and promoted? Or, are they more of a “sea-level rise,” an inexorable and overwhelming modification that society should guard against?

Competition between energy and environment priorities often divide social forces and can be a source of resource conflicts. Whether petroleum, water, fisheries, or cultivated lands, the allocation of resources among different social forces has been the basic issue that societies have tried to resolve in myriad ways, fair and foul. On account of its indispensable role in present and future economic development, energy is the most important strategic resource of the 21st century.³⁹ This makes it vital to raise questions and undertake research on the issue of how society and its institutions undertake the allocation of energy resources among its people. Otherwise, the apparently overriding role of energy in modern societies may justify all forms of oppression and injustice.

A more balanced discussion of the possible advantages and pitfalls of ocean energy technologies with respect to social equity is needed in order to encourage a much more thorough and thoughtful consideration of these new technologies. Such a discussion is imperative since ocean spaces are often subject to multiple uses, and energy development in this arena involves technological interventions that may have not only environmental impacts, but also social implications far less apparent and more difficult to anticipate. The possible long-term social benefits and social costs of any technological shifts in the use of ocean space, especially in terms of culture, power, and social equity among

³⁹ World Commission on Environment and Development, *Our Common Future: Report of the World Commission on Environment and Development*. UN Doc A/42/427 (Oxford; New York;: Oxford University Press, 1987) at 169-74. [*Our Common Future*]

adjacent coastal communities, have not often been discussed in particular detail. The assumption is often that social benefits “trickle down” and follow as a matter of course from both improved economic conditions and better environmental quality. But precisely how do the benefits measure when such social costs are considered? Are their outcomes likely to be equitable or not? What can Law, society’s first (albeit often belated) line of defense against detrimental social change, contribute?

There are good reasons to consider ocean energy technologies apart from all other energy technologies. First, they include many emissions-free energy resources, aside from the usual offshore petroleum and minerals. The ocean is a vast wellspring of potential and kinetic energy, and Chapter Two describes many ways to tap them. The ocean environment requires relatively advanced designs for devices to capture and harness any ocean energy resource. In the non-renewable sector, the petroleum industry makes use of the latest machinery and techniques both onshore and offshore, and itself drives engineering invention and innovation in order to address the technical and financial challenges of environmentally friendly energy development.⁴⁰ In the renewable sector, various technologies show enormous promise and are being designed, tested, and developed precisely with the mitigation of their adverse environmental impacts in mind.⁴¹

Second, the coastal and offshore areas in which ocean energy technologies are to be located are often jurisdictional grey areas where the legal regimes governing the distribution and allocation of rights and interests among different social forces and

⁴⁰ See Jared Diamond, *Collapse: How Societies Choose to Fail Or Succeed*. (New York: Penguin Group, 2005), at 450-51; Len Bolger and Eddy Isaacs, "Shaping an Integrated Energy Future." In *Fueling the Future: How the battle for energy is changing everything*, ed. Andrew Heintzman and Evan Solomon (Toronto: House of Anansi Press, 2003) at 74-75; Sidney Sharpe, *A Patch of Green: Canada's Oilpatch Makes Peace With the Environment*. (Toronto: Key Porter Books Limited, 2002), at 140-48.

⁴¹ See J. Khan and G. Bhuyan, "Ocean energy: global technology development status," *Powertech Labs for the IEA-OES* online: International Energy Agency - Oceans <http://www.iea-oceans.org/_fich/6/ANNEX_1_Doc_T0104.pdf> (Date accessed: 02 June 2009).

stakeholders overlap.⁴² Even without jurisdictional issues, they pose significant technical regulatory challenges. The advanced expertise and technologies employed in the offshore petroleum industry can be far ahead of the technical capabilities and capacities of government agencies to assess, which hinder independent and objective monitoring and regulation. The issue of what regulations should be appropriate may not even be on the agenda of many governments since new ocean energies have yet to be developed. These make it difficult to anticipate the key social issues and problems that new technologies may pose.

With such legal uncertainty, it becomes all the more important for an appropriate and legally embedded framework of social justice to guide the rules and processes of development of ocean energy resources. Otherwise, the promised benefits and potential impacts of ocean energy development will be uncontrolled and unpredictable. History has shown that where the exploitation of resources is concerned, unless there are socially imposed limits, it is often those in control of the technologies for resource exploitation

⁴² Indeed, it was only around the 1970s that developed countries such as the United States realized the need for closer attention to the complicated overlaps and great gaps in coastal and ocean policy and legislation, leading to the development of the field of coastal zone management. By the 1990s, this had branched out into various other areas with particular nomenclatures, such as coastal resource management, ocean sectoral management, integrated coastal management. Thanks to the impetus of international environmental law, the beginning of the new millennium saw greater attention being paid to the development and refinement of the coastal States' legal regimes for coastal and ocean spaces, though there is still much to be done as information continues to accumulate on the need for better ocean management. See generally Patricio Bernal and Biliana Cicin-Sain, *Ensuring the Sustainable Development of Oceans and Coasts: A Call to Action. Co-Chairs' Report From the Global Conference on Oceans and Coasts at Rio+10* (Paris and Newark: Intergovernmental Oceanographic Commission and Center for the Study of Marine Policy, 2001) at 4; Jens Sorensen, "The International Proliferation of Integrated Coastal Zone Management Efforts" (1993) 21:1-3 *Oceans & Coastal Management* 45; Thia-Eng Chua, "Essential Elements of Integrated Coastal Zone Management" (1993) 21:1-3 *Oceans & Coastal Management* 81; Robert C. Kay and Jacqueline Alder, *Coastal Planning and Management* (New York: Taylor & Francis Group, 2005) at 10-12.

who exclusively benefit from them, leaving everyone else to bear the costs and adverse impacts.

This inquiry looks into how a legal concept of social justice may impact or influence the adoption and development of ocean energy technologies. Establishing a relationship between a legal concept of social justice and ocean energy technologies is not an easy task, as it requires that existing and future ocean energy technologies first be understood and then contextualized with the development of Law. As stated, Law often follows in the wake of advances in technology, and this is even more prominent in the oceanic realm.⁴³ As Hugh Gibbons notes, “science and technology change not only the substance of the law but also its process.”⁴⁴ This is not, however, to say that technology merely and always defines Law. The nature of the relationship between the two is complex, reflexive, unclear,⁴⁵ and certainly very dynamic and interactive.

An understanding of social justice specifically addressing the environment and environmental decision-making must be articulated and applied as a tool for assessment of law and policy. This requires a conceptual framework that incorporates a clear

⁴³ For example, the history of the Law of the Sea ties directly to the ability of coastal States to assert and enforce jurisdictional claims in order to protect economic activities made possible by technological development. See Douglas M. Johnston, *The Theory and History of Ocean Boundary-Making* (Kingston and Montreal: McGill-Queen's University Press, 1988) at 61-74; R.P. Anand, *Origin and Development of the Law of the Sea* (The Hague: Martinus Nijhoff Publishers, 1983) at 162-63; and Edward Miles, "Preparations for UNCLOS IV?" (Presented at the *New Developments in Marine Science and Technology: Economics, Legal and Political Aspects of Change. 22nd Annual Conference of the Law of the Sea Institute, Narragansett RI, 12-16 June 1988*) at 492. The history of marine transportation and its associated technologies is palpably marked by the corresponding development of international maritime law as the latter strove to keep up with the range and requirements of marine transport activities as they expanded worldwide. See Edgar Gold, *Maritime Transport: The Evolution of International Shipping Policy and Maritime Law*. (Lexington MA: Lexington Books, 1989) at 25-63, and 233-306.

⁴⁴ Gibbons, "The Relationship Between Law and Science (Part I)," *supra* Note 31 at 44.

⁴⁵ *Ibid.*

relationship between technology, Law, and the environment, and pays attention to the ways in which technology and Law relate to each other and interact to create situations of social justice or injustice. This includes decisions and activities intended to tackle environmental challenges, as is the case with ocean energy technologies. It is necessary to test the conceptual framework against experience with actual ocean energy development projects to determine its feasibility and utility. The lessons from such application can then be drawn and generalized in order to provide guidance in the assessment and anticipation of the possible future impacts of ocean energy technologies.

1.2 Summary of Research

The challenging tasks broadly described above are attempted and explored through this dissertation. Chapter Two begins with the question of whether ocean energy technologies constitute a “sea-change” that merits welcome and earnest anticipation, or a “sea-level rise” that must be looked upon with caution and preparation. It establishes the context in which ocean energy technologies have emerged as an attractive technological option for societies worldwide. This context is that of an imminent crisis created by the convergence of the escalating demands for energy security and increasingly urgent need for action against irreversible climate change. Ocean energy technologies offer alternatives to conventional and land-based energy technologies due to vast reserves of untapped non-renewable and renewable energy, much which are under the exclusive jurisdiction of the coastal State.⁴⁶ However, a great deal of such energies remain ‘stranded’ or out of reach due to technical or economic constraints. The diverse technologies already available for testing, as well as some still at the conceptual stages, are described and assessed.

The brief survey highlights that advanced technologies needed for ocean energy development require significant technical expertise and capital expenditures. These advanced technologies are being created mainly by the industrial powers of the world,

⁴⁶ *United Nations Convention on the Law of the Sea*. Montego Bay, 10 December 1982, 21 I.L.M. 1261 (entered into force 28 July 1994), art. 56.1(a).

which signals how ocean energy technologies may represent a risk to an equitable balance of social forces and could lead to situations of social injustice, no matter how attractively and benignly they are portrayed and despite the best of intentions.

The industrialized world's development of ocean energy technologies must be viewed more realistically as not merely being for altruistic purposes of abundant and clean energy for all, but for the more pragmatic purpose of gaining profit and advantage. These aims are contrasted with long-standing, but often-ignored, principles in international environmental law that call for a more equitable distribution of resources for all peoples of the world. It is shown that this aim is manifest in the inclusion of social equity as a core value of sustainable development. Despite the debates about the concept of sustainable development, the inclusion of social equity as a core principle represents a desire for integrating social justice in the equations of policy- and decision-making for the environment and its resources, including energy in all its forms.

The ways in which social justice may be incorporated concretely and explicitly in environmental law reforms (particularly in terms of substantive policies or procedural practices) is not often the subject of deliberate public discussion. From a critical perspective, it is may be seen that ocean energy technologies can be "Trojan machines" of social inequity.⁴⁷ The metaphor of the Trojan Horse aptly emphasizes how technologies have often been welcomed for the benefits and gifts they are thought to bestow, but only belatedly recognized to exact unanticipated and unwanted costs. The exploration begins by considering the world's previous experience with the technology-centered concept of development itself, that has dominated common understanding of 'development' since the end of the Second World War. Some have observed that technologies can adversely impact the distribution of benefits and disadvantages in

⁴⁷ Wolfgang Sachs, "Technology As a Trojan Horse," *New Internationalist* (01 June 1992), online: <<http://www.newint.org/issue232/trojan.htm>>; see also Otto Ullrich, "Technology." In *The Development Dictionary: A Guide to Knowledge as Power*, ed. Wolfgang Sachs (London; New York;: Zed Books, 2001) at 285.

society not only on account of how they are used, but also due to their inherent nature and design despite even the best intentions of their inventors, promoters, and users.

The invention, planning, and implementation of a technology relate closely to the creation of social injustice. The key to understanding this relationship is through the appreciation of technology as a system beyond the material devices or techniques with which they are most commonly associated. The anthropological perception of technology as a way of doing things, or a social practice, that arise in conjunction with the particular devices or techniques in question,⁴⁸ opens the way toward this understanding.

The inclusion of social practices in the scrutiny of technologies allows the integrated assessment of their governing laws: it is argued that laws themselves may be viewed as extensions of the technologies they regulate. This insight is based on several perspectives about the role of Law in society. Roscoe Pound's sociological jurisprudence sheds light on the potential of Law to serve as a means of social control,⁴⁹ implying the means to either domination or liberation. Application of Michel Foucault's concept of 'discourse' implies that such social control is exercised not only through overt acts of regulation and punishment, but also by ordering people's ways of thinking about the subject of the Law around particular assumptions and premises.⁵⁰ Foucault's idea of 'governmentality' additionally reveals that it is possible for Law to operate for its own sake, rather than the social purposes for which it was originally intended.⁵¹ Pierre Bourdieu further sheds

⁴⁸ See Francois Sigaut, "Technology." In *Companion Encyclopedia of Anthropology*, ed. Tim Ingold (London: Routledge, 1994) at 420-459.

⁴⁹ See Roscoe Pound, *Social Control Through Law*. The Powell Lectures, Sixth Series (Bloomington IN: Archon Books, 1942); also Roscoe Pound, "A Survey of Social Interests" (1943) 57:1 Harv. L. Rev. 1.

⁵⁰ See Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences*. (London: Tavistock, 1970).

⁵¹ See Michel Foucault, "Governmentality." In *The Foucault Effect: Studies in governmentality, with two lectures by and an interview with Michel Foucault*, ed. Graham Burchell, Colin Gordon, and Peter Miller (Chicago: University of Chicago Press, 1991).

light on the *habitus* of Law, which suggests that the power of the discourse and governmentality of any particular technology may also be influenced by the ‘culture’ of Law itself,⁵² which induces legal professionals to create, use, or implement Law in ways that emphasize compliance with rules rather than achievement of the rules’ original social goals. The possibility that Law could be directed not by authentic human needs, but rather by technological demands, should be a real cause for concern since Law plays a very critical role in society by defining acceptable norms of conduct and establishing social order. When laws serve the purposes of technology rather than people, they may rightly be described as “Trojan legal regimes:” systems of law ride on the attractiveness of the technologies they regulate and are accepted as ‘needed’ legal reforms, but ultimately serve as instruments of future social inequity.

Chapter Three then considers how one may defend against the Trojan machines of social inequity that ocean energy technology might be. The idea of “environmental justice” immediately comes to the mind of most readers at this point. Environmental justice has generally been defined as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”⁵³ A significant amount of legal literature has described environmental justice as the application of social justice to environmental issues and problems.⁵⁴

⁵² See Pierre Bourdieu, "The Force of Law: Toward a Sociology of the Juridical Field" (1987) 38 *Hastings L. J.* 805.

⁵³ US National Environmental Justice Advisory Council and Inter-agency Working Group on Environmental Justice, cited in Kevin DeLuca, "A Wilderness Environmentalism Manifesto: Contesting the Infinite Self-Absorption of Humans." In *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, ed. Ronald Sandler and Phaedra C. Pezzullo (Cambridge MA: MIT Press, 2007) at 29.

⁵⁴ For example, Commission for Racial Justice, *Toxic Wastes and Race in the United States: A National Report on the Racial and Socio-Economic Characteristics of Communities With Hazardous Waste Sites* (Washington DC: Public Data Access / United Church of Christ, 1987); David J. Sarokin and Jay Schulkin, "Environmental

Justice: Co-Evolution of Environmental Concerns and Social Justice" (1994) 14:2 The Environmentalist 121; Laura Westra and Peter Wenz, eds., *Face of Environmental Racism: Confronting Issues of Global Justice* (New York: Rowman & Littlefield Publishers, 1995); Robert D. Bullard, "Symposium: The Legacy of American Apartheid and Environmental Racism" (1996) 9 St. John's J. Legal Comment. 445; Fen Osler Hampson and Judith Reppy, eds., *Earthly Goods: Environmental Change and Social Justice* (New York: Cornell University, 1996); Robert W. Lake, "Volunteers, NIMBYs, and Environmental Justice: Dilemmas of Democratic Practice" (1996) 28:2 Antipode 160; A. Szasz and M. Meuser, "Environmental Inequalities: Literature Review and Proposals for New Direction in Research and Theory" (1997) 45:3 Current Sociology 99; Andrew P. Dobson, ed., *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice* (Oxford and New York: Oxford University Press, 1998); Environmental Protection Agency, *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* (Washington DC: US Government Printing Office, 1998); Nicholas Low and Brendan Gleeson, *Justice, Society and Nature: An Exploration of Political Ecology* (London: Routledge, 1998); Andrew P. Dobson, ed., *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*, 1999 ed. (Oxford, New York: Oxford University Press, 1999); David Schlosberg, *Environmental Justice and the New Pluralism: The Challenge of Difference in Environmentalism* (New York: Oxford University Press, 1999); Martin V. Melosi, "Environmental Justice, Political Agenda Setting, and the Myths of History" (2000) 12:1 Journal of Policy History 43; Dorceta E. Taylor, "The Rise of the Environmental Justice Paradigm: Injustice Framing and the Social Construction of Environmental Discourses" (2000) 43:4 American Behavioral Scientist 508; David A. McDonald, ed., *Environmental Justice in South Africa* (Athens & Cape Town: Ohio University Press & University of Cape Town Press, 2002); Clifford Rechtschaffen and Eileen Gauna, *Environmental Justice: Law, Policy and Regulation* (Durham NC: Carolina Academic Press, 2002); Kristin Schrader-Frechette, *Environmental Justice: Creating Equality, Reclaiming Democracy*, ed. Kristin Shrader-Frechette. Environmental Ethics and Science Policy Series (Oxford UK: Oxford University Press, 2002); Eric J. Krieg and Daniel R. Faber, "Not So Black and White: Environmental Justice and Cumulative Impact Assessments" (2004) 24 Environmental Impact Assessment Review 667; Joan Martinez-Alier, *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation* (New Delhi: Oxford University Press, 2004); David Schlosberg, "Reconceiving Environmental Justice: Global Movements and Political Theories" (2004) 13:3 Environmental Politics 517; Robert D. Bullard, *The Quest for Environmental Justice: Human Rights and the Politics of Pollution* (San Francisco: Sierra Club Books, 2005); David Naguib Pellow and Robert J. Brulle, *Power, Justice, and the Environment: A Critical Appraisal of the Environmental Justice Movement* (Cambridge MA: Massachusetts Institute of Technology, 2005); Robert J.

However, it is contended that despite its merits, environmental justice is conceptually limited and is primarily a tool of hindsight best applied on a case-by-case basis; as such it does not provide sufficient guidance for foresight and anticipation of future impacts on social justice within a given context. It is not adequate as an analytical framework to assess new and emergent technologies (including the laws to regulate them) that are still on the horizon and have yet to make discernible impacts on human communities.

Moreover, the new energy technologies that are the subject of inquiry are themselves often precisely proposed as environmentally-friendly alternatives to older technologies that have been known to cause unwanted and adverse impacts. As such, the new energy technologies in question themselves are presented implicitly as socially just solutions to previous problems, which obscures the possibility of their being seen as themselves sources of social injustice, especially under the framework of environmental justice. In light of these weaknesses of the environmental justice concept, there is a need to construct an alternative framework of social justice designed to assess technological interventions that are sought to be justified on their environmental merits.

First, the critiques of environmental justice are seriously considered in order to identify key areas that an alternative framework should focus on. These revolve around three main issues that David Schlosberg found to recur in claims for environmental justice:

Brulle and David Naguib Pellow, "Environmental Justice: Human Health and Environmental Inequalities" (2006) 27 *Annual Review of Public Health* 103; Ronald Sandler and Phaedra C. Pezzullo, eds., *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement* (Cambridge MA: MIT Press, 2007); David Schlosberg, *Defining Environmental Justice: Theories, Movements and Nature* (Oxford UK: Oxford University Press, 2007); Robert D. Bullard, "Confronting Environmental Racism." In *Ecology*, ed. Carolyn Merchant (New York: Humanity Books, 2008); David V. Carruthers, ed., *Environmental Justice in Latin America: Problems, Promise and Practice* (Cambridge MA: The MIT Press, 2008); Luke Cole and Sheila Foster, "The Environmental Justice Movement." In *Ecology*, ed. Carolyn Merchant (New York: Humanity Books, 2008); and Julie Sze and Jonathan K. London, "Environmental Justice at the Crossroads" (2008) 2:4 *Sociology Compass* 1331.

claims to distribution, recognition, and participation.⁵⁵ To establish criteria for appreciating social justice in each of these three dimensions, lessons are drawn from contemporary political theory: John Rawls and David Miller provide the guidance for understanding distribution,⁵⁶ while Jurgen Habermas and Iris Marion Young assist in standards for evaluating recognition and participation.⁵⁷ But these writers notably deal with the broader and higher level theory of justice itself; they have not dealt particularly with the application and manifestation of justice in the environmental field. Therefore there is a need to consider the relationship between social justice and the environment, particularly recent attempts to formulate principles and norms to govern human conduct through the concept of sustainable development. To be sure, both are social justice and sustainable development are contested concepts, but this does not hinder their exploration as conjoined subjects of law. In fact, ideas of social justice are embedded in the concept of sustainable development through principles such as generational justice (which has two components: inter-generational, or between different generations, and intra-generational, or within the same generation), common but differentiated responsibilities, prevention, precaution, and polluter pays. A review of the history of relevant international soft law shows that international acceptance of sustainable development arose from two discourses running in parallel in the 1970s-1980s: one which cast sustainable development as mainly an issue of “limits to growth” and associated with the developed world’s perspective of environmentalism, and another which saw it as an issue of “equitable sharing” linked to the perspective of the developing world. Although the

⁵⁵ See Schlosberg, "Reconceiving Environmental Justice: Global Movements and Political Theories", *supra*.

⁵⁶ See John Rawls, *Justice As Fairness: A Restatement*, ed. Erin Kelly, 2003 ed. (Cambridge Mass.; London: Harvard University Press, 2003); David Miller, *Principles of Social Justice*. (Cambridge Massachusetts, London: Harvard University Press, 1999).

⁵⁷ See Jurgen Habermas, *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy*, trans. William Rehg, 1996 ed.. Studies in Contemporary German Social Thought (Cambridge Mass.: The MIT Press, 1996); Iris Marion Young, *Justice and the Politics of Difference*. (Princeton: Princeton University Press, 1990).

“limits to growth” discourse came to dominate in the post-Brundtland Commission era, the need for “equitable sharing” continued to make demands on the development of international environmental law. From occasional provisions that drew special attention to identified groups, it most significantly emerged in regional conventions and soft law in the 1990s with treaty law on public participation in national and international decision-making.

This leads to a reconsideration of the relationship between social justice and the environment, by looking at the economy as the primary interaction between society and nature. Karl Polanyi’s substantivist perspective of the Economy provides the critical lens with which to view this relationship.⁵⁸ Polanyi considers the Economy to be “an instituted process of interaction between man and his environment, which results in a continuous supply of want-satisfying material means.”⁵⁹ This interaction “moves” and appropriates goods and services from their original place or condition (e.g. food, raw materials) or ‘hands’ (e.g. the farmer, the hunter) to other places, conditions, or ‘hands’;⁶⁰ they therefore include all kinds of social activities and technologies meant to achieve those

⁵⁸ Karl Polanyi, "The Economy as Instituted Process." In George Dalton, ed. *Primitive, Archaic, and Modern Economies: Essays of Karl Polanyi* (Boston: Beacon Press, 1968), 139-74. This essay was originally published as Karl Polanyi, "The Economy as Instituted Process." In *Trade and Market in the Early Empires*, ed. Karl Polanyi, Conrad M. Arensberg, and Harry W. Pearson (Glencoe IL: The Free Press, 1957), 243-70.

⁵⁹ *Ibid.* at 145. Polanyi distinguishes this definition of the economy from the classical ‘economistic’ definition as follows:

The [formal meaning] derives from logic, the [substantive meaning] from fact. The formal meaning implies a set of rules referring to choice between the alternative uses of insufficient means. The substantive meaning implies neither choice nor insufficiency of means; man’s livelihood may or may not involve the necessity of choice and, if choice there be, it need not be induced by the limiting effect of a “scarcity” of the means. *Ibid.*

⁶⁰ *Ibid.* at 146. ‘Movements’ are therefore either locational (things move in relation to other things) or appropriational (things move in relation to the persons who need or dispose of them) or both. See Karl Polanyi, "Redistribution: The State Sphere in Eighteenth-Century Dahomey." In Dalton, *supra* Note 58, 207-37 at 207.

movements and/or appropriations. All such activities and technologies that comprise the Economy may be described as three different “patterns of integration” comprised of reciprocity, redistribution, and market exchange.⁶¹ Of the three, the patterns of reciprocity and redistribution tend to be most closely associated with social values, obligations, and relations, while market exchange stands apart because it tends to distance itself from such values, obligation, and relations, favoring instead market rationality or utility-maximization. Within the collective values, rules, and social obligations that define these inter-woven patterns lie the values and norms upon which each society’s concept of social justice, beginning with the fundamental Justinian sense of “rendering every one his due.” Embedded in the patterns of integration that comprise all economic activities are the building blocks for a concept of social justice directed toward the Economy as an ecological relation between Society and Nature: in other words, an ecological social justice framework.

Ecological social justice, simply put, is social justice in the utilization of Nature and its resources; it is about how the members of a human society share the benefits and disadvantages of their environment. It is the pursuit of equitable terms of access and distribution for living in and using the natural world, to the end that no persons, groups, or societies should be deprived unduly of their equal rights and entitlements of their fair and equal shares and opportunities to satisfy their basic needs and live a decent and dignified life. Ecological social justice particularly concerns the development of principles and norms to govern society’s relationship with Nature, which is manifest

⁶¹ Polanyi, “The Economy as Instituted Process,” *supra* Note 58 at 149. He says: Empirically, we find the main patterns to be reciprocity, redistribution, and exchange. Reciprocity denotes movements between correlative points of symmetrical groupings; redistribution designates the appropriational movements toward a center and out of it again; exchange refers here to *vice-versa* movements taking place as between “hands” under a market system. Reciprocity, then, assumes for a background symmetrically arranged groupings; redistribution is dependent upon the presence of some measure of centricity within the group; exchange in order to produce integration requires a system of price-making markets.

through the economy in all its different levels and scales. These norms and principles are manifest in customary and written law, as well as the values and traditions of any given community of people. Thus, ecological social justice seeks an understanding of law and legal culture.

Whereas a ‘generic’ conception of social justice is concerned with the creation of ideal and just social institutions, ecological social justice is focused on how the existing institutionalized economy interacts with Nature and its resources in ways that promote or prevent social justice or injustice in a locality, particularly through the terms of access and distribution of benefits. This is done by examining how specific technologies affect the institutions of distribution, participation, and recognition. By comparing and contrasting trends or tendencies in the effects of technologies on the institutions of distribution, participation, and recognition in the present, ecological social justice attempts to anticipate the conditions of access and distribution in the future.

The practical application of the framework is hinted by Ursula Franklin: a case study exercise to draw out specific experiences and conceptions of social justice.⁶² This approach roughly coincides with the approach to the study of social justice recently advocated by Amartya Sen: a “realization-focused comparison” concerned with comparing actual institutions and behavior, and then seeking to remove injustice as they are actually seen and experienced through adoption of appropriate solutions learned from such comparison.⁶³ This differs from the more conventional approach of political philosophers, best exemplified by John Rawls, of attempting to identify a transcendental theory of social justice. Focusing on actual events and experiences and thereby learning the ways to enhance justice, rather than trying to identify ideal and perfectly just

⁶² Ursula M. Franklin, *The Real World of Technology*, 1999 ed.. CBC Massey Lectures Series (Toronto: House of Anansi Press, 1990).

⁶³ Amartya Sen, *The Idea of Justice*. (Cambridge MA: Harvard University Press, 2009) at 5-8.

institutional arrangements, better serve the ends of justice.⁶⁴ Sen therefore calls attention to the study of concrete cases of justice and injustice, and the derivation of clear lessons from actual experiences with the promotion of the former and elimination of the latter.

In line with these recommendations, this research undertakes a multi-stage case analysis of the Philippines and its experience with social justice in ocean energy technologies. The analysis consists of three stages, moving successively from the national to the local legal contexts. The first stage is an examination of the origins and evolution of the concept of social justice in Philippine law. The second stage considers the impact that the principles derived from this concept have had on the development of Philippine environment and ocean resource laws in general. And the third deals specifically with ocean energy laws and their actual implementation through two concrete examples.

The first stage of the analysis begins in Chapter Four. Here, the aspects of the Philippine legal system relevant to social justice and the regulatory framework for ocean energy technologies are examined closely. It highlights the emergence of a legal principle of social justice in Philippine Law against the backdrop of the history of the Philippine legal system. After its inclusion as a state policy the 1935 Constitution,⁶⁵ it was established as a judicial doctrine,⁶⁶ allowing the judiciary to intervene in and influence the economic policies and decisions of the legislative and executive branch of government.

Jurisprudence from social welfare cases and legislative innovations expanded the principles of social justice from its original sphere of labor law to agrarian reform law, eventually allowing it to move on to natural resources law under the 1987 Constitution.⁶⁷

This expansion is manifested through the inclusion and implementation of rules of distribution of both resources and powers in environment and natural resources laws enacted since then.

⁶⁴ *Ibid.* at 410.

⁶⁵ *Constitution of the Republic of the Philippines* (1935), art. II, s. 5. [1935 Const]

⁶⁶ *Calalang v. Williams* [1940]. S.C. 47800, 70 P.R. 726.

⁶⁷ *Constitution of the Republic of the Philippines* (1987), art. 13, s. 4. [1987 Const]

The rules of distribution arising from the concept of social justice is shown to have already begun to bridge specific environment and energy laws in Chapters Five and Six, the second stage of analysis. The principle came to permeate the present Constitution and Philippine laws affecting Nature, the environment, natural resources, and governance, demonstrated in Philippines general laws on environmental management, petroleum resources, renewable energy resources, and local governments. Of note is the influence of the legal concept of social justice on the rules on the sharing of benefits from natural resources, as well as procedural safeguards for their exploitation. It is argued that the inherent connection between social justice and ecological sustainability is carried further and highlighted in subsequent government policies and regulations concerning the environment, the focal point of which is the EIA process. This shows how, in the Philippine legal context, social justice is an integral factor linking both ecological sustainability and social stability. This is not set in stone, however, as the study also reveals aspects and opportunities in the Law which may still permit a regressive outcome. Moreover, a critique of the way in which the laws work demonstrate how particular technologies tend to impose the “logic of the machine” on measures that should have been more responsive to the needs of real people.

Chapter Seven then proceeds with the third stage of the analysis, with the first case study of the Malampaya Deepwater Gas-to-Power Project (Malampaya for short), a large scale non-renewable energy project and the Philippines’ first natural gas production facility. The project is notable not only for the financial investment and technical achievements it represents, but also for the fact that it has been recognized internationally as a prime example of how sustainable development should be undertaken. A recipient of the 2002 Sustainable Development Partnerships Award at Johannesburg, Malampaya is portrayed as a success story in terms of having simultaneously addressed the challenges of minimizing bio-physical impacts in an ecologically sensitive area, avoiding debilitating social conflict sometimes associated with petroleum development initiatives and contributing to the Philippines’ economic growth and production. The prominence given to how the public engagement challenges that Malampaya faced were successfully met

has all the more made it an example for other energy projects to follow. The case study highlights the development of the Philippine government's policies on natural gas and the decision-making process involved, particularly the EIA process. The experience reveals many useful lessons and insights about social justice in the environmental field. It is a prime example of how ocean energy technology has affected coastal communities in terms of social justice, and demonstrates how ecological social justice can be used as a tool for assessing the effect of technology on the distribution of resources and power in society.

When considered from a broader and integrative perspective of ecological social justice, it is determined that the project's technical success was purchased with disempowerment of the affected coastal communities and denial of what they believed to be an equitable and fair share of the benefits, advantages, and opportunities offered by the project in their seascape. It is argued that this disempowerment and marginalization is not attributable merely to a conscious and deliberate intention on the part of key stakeholders, but rather from the way in which the requirements and processes imposed for environmental protection were administered by government and complied with by the energy companies without an adequate framework of ecological social justice. Although there existed a vibrant and active community of environmental NGOs and local government units, they could not effectively engage against this disempowerment and denial likewise because of their own lack of such a framework. There is little doubt that the complexity and scale of the technology involved was a pivotal factor in this situation. The law and regulations established around the ocean energy technology in question limited their abilities and opportunities, not only due to the absence of technical capacities, but also because they were not guided by ecological social justice principles in the course of their advocacy and engagement with the government and project proponents in the early stages of the project's implementation. This experience highlights the vital role that a concept of ecological social justice may play in the assessment of major ocean energy development projects.

A contrast is provided in Chapter Eight with the second case study of how the Northwind Bangui Bay Windpower Project (Northwind for brevity) affected its coastal community. Northwind is a renewable energy project on a much smaller scale than Malampaya. It is the first major commercial venture into renewable wind energy in the Philippines, and recognized as a prime example of sustainable development in action. Northwind is also a success story in the way in which it addressed the demands of ecological sustainability and economic growth, and is particularly notable for its effective and close integration into the local community. It is a prime example of achieving sustainability in its social aspects, where social acceptance was achieved through conscious and deliberate mutual accommodation by the coastal community, resulting in what the stakeholders themselves perceive to be a fair sharing of the benefits, advantages, and opportunities offered by the project in their midst.

Northwind's experience is also remarkable for having made these achievements under conditions of relaxed scientific and technical requirements for EIA. The amount of scientific work and formal consultations required by law and regulations were nowhere nearly as systematic or extensive as that of Malampaya, and could fairly be described as being superficial. But the quality and authenticity of direct consultations and social relations between the project proponents and the local stakeholders clearly compensated for any formal shortcomings that might have been raised had Northwind entailed an EIA process with a scientific rigour comparable to that of Malampaya. Northwind demonstrates how the establishment of equitable relationships between stakeholders at the planning and implementation stages, supported by the assurance of an equitable sharing of benefits from the project according to distributive rules and procedural requirements established in law and regulations, can overcome the potentially adverse impacts of a 'new' technology on its social milieu. Although Northwind is of a much smaller scale than the Malampaya, it provides additional insights and lessons on how to achieve distributive justice and institutional justice in relation to smaller-scale ocean energy technologies.

Chapter Nine finally synthesizes the various lessons and insights acquired from the case studies. Relevant areas of further research which could not be pursued in this dissertation are also pointed out for future consideration. In this manner, it is hoped that this study is able to make a substantial and original contribution to the increasingly important discourse and advocacy for ocean energy technologies.

Finally, a note on methodology. In addition to library research traditionally relied upon in legal studies, this dissertation draws on a number of methods and tools from disciplines other than Law. Most prominent are the case studies that entailed actual field research. The two projects were chosen for the reason that both were the first projects of their respective kinds in the Philippines: its first natural gas production facility and its first wind-farm. The LGUs hosting or adjacent to the projects were identified on a map, and those geographically closest to the project were selected for the conduct of field visits and key informant interviews. These visits were undertaken in 2006 and 2007 for the Malampaya Deepwater Gas-to-Power Project, and 2007 for the Northwind Bangui Bay Project. The necessary ethics approval was secured from the Social Sciences and Humanities Human Research Ethics Board of Dalhousie University prior to the conduct of the interviews.

The key informants were either appointive or elective officials of the LGU (particularly municipal mayors, local legislators, or civil servants involved in local economic planning and development), and members of any NGOs operating in the area. Interviews were semi-structured; the author engaged the key informants in conversations with the help of guide questions regarding their experiences with and opinions about the relevant project. Most were one-on-one interviews, but in some cases two or three people preferred to be interviewed at the same time. The time spent per interview varied depending on the interviewees' responses, but generally lasted 20-30 minutes on average; "group" interviews lasted from 45 minutes to 1.5 hours.

Representatives of the energy company concerned at their home offices in Metro Manila were also sought for interview, but only Northwind officials responded favorably, and

apart from those connected with the Pilipinas Shell Foundation or Malampaya Foundation field offices, there was no response to a request to meet with representatives of Shell Philippines Exploration for the Malampaya Project. However, Shell did provide numerous published materials that adequately represented its official views and positions.

Interviews were recorded on an MP3 recording device and manually transcribed (with exception of one interview in which the device failed), and in most cases translated into English. The transcripts were then “coded” using Atlas.TI software⁶⁸ for qualitative analysis of the interview data via “constant comparison,” a technique used in “grounded theory” research in sociology.⁶⁹ No quantitative analysis procedure was performed, although it is possible to use the data to do so in the future.

Various digital maps of the Malampaya Project’s impact on the surrounding areas of Palawan and Oriental Mindoro were created and analyzed using ArcGIS 9.2 software.⁷⁰ Both the software and the training to use it were provided by Ms. Jennifer Strang of the GIS Center of Dalhousie University’s Killam Library. Digital geographic data released to the public domain were downloaded from various open access websites maintained by government and academic institutions, such as the General Bathymetric Chart of the Oceans (GEBCO) website of the UK Hydrographic office, and the UNEP Geo-portal database. The National Mapping and Resource Information Authority of the Philippines provided additional local bathymetric data, as well as permitted the use of the GlobalMapper 11 software⁷¹ of the Philippine Extended Continental Shelf Project to create the simplified maps appearing in the dissertation.

⁶⁸ Thomas Muhr. Atlas.TI, Version 5.0 [Software]. Berlin: Scientific Software Development, 2004. Available from <<http://www.atlasti.com/>>.

⁶⁹ For information on grounded theory, see Barney G. Glaser and Anselm L. Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research*. (Chicago: Aldine Pub., 1967).

⁷⁰ ArcGIS, Version 9.2 [Software on DVD-ROM] (Toronto: ESRI Canada, 2004).

⁷¹ Global Mapper Software. Global Mapper, Version 11 [Software]. Parker CO: Global Mapper Software, 2009. Available from <<http://www.globalmapper.com/>>.

Open source concept-mapping software such as Compendium⁷² and Freemind⁷³ were also used in the analysis of the principles of sustainable development, as well as the development of the dissertation's structure and some of its chapters. Biblioscape bibliographic reference software was used for generating and managing footnotes and bibliographies in conjunction with MS Word. The illustrations were made using Paint.NET graphics software.⁷⁴

1.3 Scope and Limitations

This research is a policy-oriented critical legal study that is highly inter-disciplinary in nature and resorts quite liberally to a wide range of literature, research methods, and analytical tools. In addition to traditional legal methods relying on logic and textual interpretation, it draws upon a range of perspectives in its analysis of Law: political science and political philosophy with respect to the issues of development and justice; anthropology in its views of the economy, society, and culture; history with respect to the development of legal norms and principles; and sociology, geography and marine sciences in its understanding of the case studies. Part of the reason for this approach to Law and policy is the training and experience of the author in the very highly interdisciplinary field of marine management. But to a greater extent, it is also due to the author's own professional orientation since law school: his legal education began with the assumption that the Law can never be fully understood through the mere deconstruction, comparison, reorganization, and reconstruction of a logical system of rules and terminologies, the usual staple of legal research. Each body of Law must always be considered within its native social (which includes historical and political dimensions),

⁷² Compendium Institute. Compendium, Version 1.5.2 [Software].(Online: Compendium Institute, 2010) Available from <<http://compendium.open.ac.uk/institute/download/download.htm>>.

⁷³ Jörg Müller, *et al.* Freemind, Version 0.9 [Software]. Online: Freemind, 2010. Available from <http://freemind.sourceforge.net/wiki/index.php/Main_Page>.

⁷⁴ Paint.NET, Version 3.5.5 [Software]. Online: Paint.net, 2010. Available from <<http://www.getpaint.net/>>.

cultural and natural context, as well as in the context its relationship or interaction with other bodies of Law.

The author's ultimate concern is very pragmatic and realistic: preventing present and future ocean energy technologies, whose rapid adoption is encouraged mainly by the influence of policy advocacy at the level of the international community and transnational NGO networks and private sector, from exacerbating socio-economic and political inequalities already existing in the coastal areas of the Philippines. A very extensive body body of law and jurisprudence on social justice is presented in light of international environmental law that has been pressing the Philippines to adopt new and/or improved ocean energy technologies on the grounds that such a course of action is in accord with the ideals of sustainable development. As will be revealed, the Philippines is quite advanced in its development of the relevant legal regimes in some areas but not in others. Such advances or shortcomings may be easily misunderstood without the appropriate historical and contextual background. Since the research is undertaken for submission to a Canadian legal educational institution under an entirely different legal system, a great deal of effort is expended to ensure the reader appreciates the differences in history, perspectives, and legal systems that contextualize the Philippine legal regimes and concepts subject of the study.

This focus of Philippine law and jurisprudence has, however, led to some practical difficulties in legal writing. Philippine law is an extremely complex hybrid of civil law and common law imbued with both dictatorial and democratic tendencies, the legacy of its colonial past and a history of social upheavals in a relatively short period of time. There is an incredibly high degree of inconsistency in the forms of its laws from different points in its history, from something so simple as a title to the way a legal code is structured. On the surface, this has necessitated some modification in the author's use of the McGill Guide in citing material and compiling them in the bibliography; but more substantially, it has required a greater degree of elaboration on the original texts of laws and jurisprudence in order provide complete and accurate information.

It is accepted that there are serious debates ongoing with respect to several of the major concepts that are involved (e.g. development, social justice, sustainable development, technology); this study does not attempt to analyze or resolve such disputes. Such investigations could be entire dissertations in themselves, and may not directly assist in answering this study's immediate concerns. Neither does this study propose a completely new theory to supplant those already available; at most, this is an exercise in meta-theory and selecting a favored position among a contested range of possible interpretations. What matters to the author is whether the reader gains a deeper and closer understanding of a particular set of norms, how it is generated, and how it works.

This is not a study of "climate justice," another term that recently has gained great currency in political and academic circles.⁷⁵ Climate justice has entered the lexicon of environmental discourse, framing climate change as an issue of equity between the developed and developing world.⁷⁶ While this is indeed a valid global issue, this research is bit more limited and down-to-earth by being concerned with more tangible problem of social justice for specific local communities affected by the efforts of the national government to attain sustainable development, including its climate change mitigation and adaptation measures.

Finally, this study is made from the perspective of a citizen of a developing country, holding values, perspectives, and attitudes shaped by a completely different set of experiences, and trained in traditions of Law different from the Canadian legal tradition and education institution to which it is submitted. This perspective includes a constant left-leaning skepticism peppered with streaks of nationalism and anti-colonialism, as well as a rather pessimistic realization that despite all efforts to the contrary, the colonialism fostered by the North for the past 500 years is very much alive and well, and indeed

⁷⁵ See "The Bali Principles of Climate Justice," *India Resource Center* online: <<http://www.indiaresource.org/issues/energycc/2003/baliprinciples.html>> Last updated: 28 November 2003 (Date accessed: 5 May 2009).

⁷⁶ *Ibid.*

acquired a renewed vibrancy in the face of globalization and the expansion of the free market system.

At the same time, it is also fueled by the optimistic hope that in the local communities of the so-called Third World, the spirit of communal solidarity and equitable sharing remains the best potential defense and source of future solutions to the adverse effects of environmental technologies. For this reason, it aims to give voice to these distant communities, especially through the copious quotations in the case studies, with the intention that the arcane technical and legal terminologies of Law, science, and technology that dominate the discourse of sustainable development in energy will be tempered by the authentic and realistic voices of the majority who have largely been marginalized by the discourses of the international community and the academe. “*Dapat sila ang bumaba* [It is they who should come down],” as aptly declared by a *barangay* leader in one of the case studies,⁷⁷ referring to how the large energy corporations, government officials, and their consultants should relate with the coastal communities at the fringes who are directly affected by their policies, decisions, and actions. Such an exhortation should apply with even greater force and urgency to researchers and researches which attempt to provide alternatives, such as this dissertation.

⁷⁷ *Barangay* official #2, Naujan, Oriental Mindoro. Personal interview (17 August 2006).

CHAPTER 2

OCEAN ENERGY TECHNOLOGIES AND THE TROJAN MACHINES OF SOCIAL INEQUITY

In the well-known mythology of the Trojan Wars, the Greeks departed the battlegrounds and left the Trojans a large wooden horse after a long and unsuccessful siege of the impregnable city of Troy. The Trojans welcomed it as a gift and took it inside the city walls to celebrate their victory. Later in the night as the Trojans slept, the horse deployed a small hidden force of warriors who opened Troy's gates to the returning Greek army, who thereupon ransacked and conquered the city. Thus the expression, the Trojan Horse.⁷⁸

Today, this ancient myth resonates in the Information Age with all-too-real 'Trojan' software: a type of virus that infects a computer by attaching itself to a useful application or file, or computer program that initially appears to be useful to the unknowing users who acquire it but then turns out to wreak some other unwanted or unexpected digital havoc.⁷⁹ People must beware of things they accept or desire, that without their knowledge may be the sources of grief, or perhaps their own destruction. This is the moral of the

⁷⁸ The myth of the Trojan War, the Trojan Horse and the Fall of Troy may be found among any contemporary publications of Greek classic literature. See for example Publius Vergilius Maro, *The Aeneid of Virgil*, trans. Cecil Day Lewis (London: Hogarth Press, 1961). More contemporary and younger audiences are likely to be familiar with the story's incarnation in the movies, most recently in the Hollywood big-budget film *Troy*. Benioff, D. and Homer. *Troy*. Directed by W. Petersen [Movie on DVD-ROM] (Hollywood: Warner Brothers Pictures, 2004).

⁷⁹ See generally Richard Ford, "Malware: Troy Revisited" (1999) 18:2 Computers & Security 105; Jyoti Kalyani et al., "Analysis of Virus Algorithms" (2006) 2:10 Journal of Computer Science 785; Lloyd Bridges, "The Changing Face of Malware" (2008) 2008:1 Network Security 17.

story of the Trojan horse, and it is an especially useful attitude in the modern age, where as the pace of life accelerates, so does the adoption of new ideas, practices, inventions, and technologies. But, in some cases such innovations are so attractive and promising that few would take a critical stance that runs against the popular perspective. Such is the case with some promising new energy technologies that so desperately needed to combat the global crisis of climate change. Among these are ocean energy technologies, heralded as one of the biggest sources of clean and green energy in the future.⁸⁰

Could ocean energy technologies be some kind of modern Trojan Horses? This is the basic question behind this research. To find the answers, this chapter reviews the international policy context within which ocean energy technologies must be located. It reviews the wide range of existing and developing ocean energy technologies and points out some key characteristics, and provides the critical framework for questioning the possible impacts of such technologies. It then raises certain questions about ocean energy technologies and the future of societies, questions that are particularly concerned with social justice.

2.1 Energy as an International Environmental Issue

Energy development and security are among the key crosscutting social, economic, and environmental challenges of the 21st century. The energy sector is the engine of industrialization, commonly seen as the hallmark of a modern and advanced economy. Economists observe definite correlations between energy production and consumption patterns and the traditional measures of economic development such as Gross Domestic Product, although opinion is divided as to whether energy use is either the result of, or a

⁸⁰ M. Teresa Pontes. "The International Energy Agency R&D Collaborative Programme on Ocean Energy Systems." Proceedings of the World Renewable Energy Congress, Barcelona, 2005, 1181-1186 at 1181; Robert Pelc and Rod M. Fujita, "Renewable Energy From the Ocean" (2002) 26 Marine Pol'y 471 at 471.

prerequisite for, economic growth.⁸¹ Despite the ambivalence of this data, the dominant perspective is that energy development is essential for economic growth, and for developing countries, it is pivotal to poverty reduction.⁸² Economic growth is necessary to support social development programs, and national development goals are tied irretrievably to the growth and development of energy production.

⁸¹ A direct causal relationship was first proposed in J. Kraft and A. Kraft, "On the Relationship Between Energy and GNP" (1978) 3:401 *Journal of Energy and Development* 403, indicating that increasing economic growth led to greater energy consumption in the United States. Subsequent inquiries into this relationship as applied to other countries, however, delivered different results, showing either a reverse or a bi-directional relationship. See for example, Anjun Aqeel, "The Relationship Between Energy Consumption and Economic Growth in Pakistan" (2001) 8:2 *Asia-Pacific Development Journal* 101 ; Chien-Chang Lee, "Energy Consumption and Gdp in Developing Countries: A Cointegrated Panel Analysis" (2005) 27 *Energy Economics* 415; Moshen Mehrara, "Energy Consumption and Economic Growth: The Case of Oil Exporting Countries" (2007) 35 *Energy Pol'y* 2939; Theodoros Zachariadis, "Exploring the Relationship Between Energy Use and Economic Growth With Bivariate Models: New Evidence From the G-7 Countries" (2007) 29:6 *Energy economics* 1233; Chien-Chiang Le and Chun-Ping Chang, "Energy Consumption and Economic Growth in Asian Economies: A More Comprehensive Analysis Using Panel Data" (2008) 30 *Resource and Energy Economics* 50; and Paresh Kumar Narayan and Arti Prasad, "Electricity Consumption-Real GDP Causality Nexus: Evidence From a Bootstrapped Causality Test From 30 OECD Countries" (2008) 36:2 *Energy Pol'y* 910. Of interest is a discussion paper released by the University of Surrey, which reviewed various studies of this relationship and concluded that "causality between energy to GDP is more prevalent in the developed/OECD world than the developing/non-OECD world...it suggests that (reduced energy consumption) will have a greater impact on the GDP of the developed world than the developing world." The study emphasizes that "the results suggest that the degree of causality from energy to GDP is generally *less* in the developing world than the developed world (or alternatively, that causality from energy to GDP generally *increases* at higher stages of development." Jaruan Chontanawat, Lester C. Hunt, and Richard Pierse, *Causality Between Energy Consumption and GDP: Evidence From 30 OECD and 78 Non-OECD Countries* (Surrey Energy Economics Discussion Paper, 2006) at 18-20. The United Nations, however, calls attention to the clear correlation between energy consumption and the Human Development Index (HDI) to describe the challenge that energy poses to the Millennium Development Goals. UN-Energy, *The Energy Challenge for Achieving the Millennium Development Goals* (New York: United Nations, 2005) at 6.

⁸² UN-Energy, *Ibid.* at 5-6.

However, energy production and consumption also have been the source of severe ecosystem stresses due to greenhouse gas emissions and the environmental changes that they cause, in addition to the direct biophysical impacts of power facilities. Even back in 1974, the OECD already recognized the potential impacts of the extraction, production, transportation, storage, conversion, and use of all forms of energy and the need for a comprehensive policy framework to provide protection from adverse environmental consequences.⁸³

Our Common Future, the Brundtland Commission's groundbreaking report to the United Nations regarding the state of the world environment in 1987, provided the foundation for accelerating the evolution of national and international environmental policies begun by the Stockholm Conference 15 years earlier.⁸⁴ One chapter of the document recognized the vital role that energy plays in day-to-day life, industry, and economic growth.⁸⁵ It called attention to energy consumption patterns rising into the next century, which generated two major issues of concern: (a) the impacts of pollution from energy production, and (b) the availability of energy supplies. Increased usage of fossil fuels by the better-off nations heightened the risks of climate change, trans-boundary impacts of acid rain, and urban-industrial pollution.⁸⁶ Nuclear energy carried the dangers of radioactive contamination, the problems of nuclear waste disposal, and the threat of nuclear weapons proliferation.⁸⁷ Meanwhile, the world's poor who relied on fuel-wood for much of their primary energy

⁸³ Organization for Economic Cooperation and Development, "Energy and Environment Recommendation C(74)222," (1974).

⁸⁴ See Edith Brown Weiss, "Global Environmental Change and International Law: The Introductory Framework." In *Global Environmental Change and International Law: New Challenges and Dimensions*, ed. Edith Brown Weiss (Tokyo: United Nations University, 1992) at 7-10.

⁸⁵ World Commission on Environment and Development, *Our Common Future: Report of the World Commission on Environment and Development*. UN Doc A/42/427 (Oxford; New York;: Oxford University Press, 1987) at 168-205. [*Our Common Future*]

⁸⁶ *Ibid.* at 174-81.

⁸⁷ *Ibid.* at 181-89.

needs faced dwindling supplies and deforestation.⁸⁸ The Commission saw these problems as the result of years of haphazard and short-sighted energy development programs unmindful of the long-term impacts of growing energy production and use.

These amounted to a bigger but longer-term energy crisis than the Middle-East Oil Crisis that swept the world just about a decade before the Commission's reportage. It was of global proportions and generational timescales: both the progress of civilization and the habitability of the planet depended on key decisions about how humanity extracts and uses energy resources. The Brundtland Commission noted that continuing with "business as usual" would result in the inequitable distribution of modern energy resources, and at the same time push the world into the uncertain and unknown risks brought about by pollution and climate change.⁸⁹ A four-point strategy for urgent research was proposed to focus on the monitoring and regulation of emissions from energy production activities, and the risks of climate change.⁹⁰ The establishment of the IPCC and efforts to forge international agreements on climate change address this strategy. For the longer term, the Commission recommended energy efficiency and conservation, as well as the diversification of energy resources from petroleum to alternatives such as natural gas and renewable energy.⁹¹

The 1992 Earth Summit convened at Rio de Janeiro acknowledged climate change as a major environmental issue and resulted in the opening for signature of the UN Framework Convention for Climate Change,⁹² currently the main international instrument most directly relevant to energy production and consumption. The Summit's main product, Agenda 21, did not devote a separate chapter to the topic of energy specifically,

⁸⁸ *Ibid.* at 189-92.

⁸⁹ *Ibid.* at 175-77.

⁹⁰ *Ibid.* at 176.

⁹¹ *Ibid.* at 192-201.

⁹² *United Nations Framework Convention on Climate Change*. New York, 09 May 1992, 31 I.L.M. 849 (entered into force 21 March 1994).

but subordinated it under Chapter 9 on the protection of the atmosphere.⁹³ Agenda 21 advocated a technology-centered response to the energy crisis. It recognized that energy is essential to economic and social development and improving the quality of life, and is produced and consumed in ways that could not be sustained in the absence of either improved technology or substantially increased quantities.⁹⁴ It also said that there is a need to remove constraints to increasing the supply of “environmentally sound” energy, particularly in developing countries.⁹⁵ Agenda 21 proposed that the basic objective was “to reduce adverse effects on the atmosphere from the energy sector by promoting policies or programs, as appropriate, to increase the contribution of environmentally sound and cost-effective energy systems, particular new and renewable ones, through less polluting and more efficient energy production, transmission, distribution and use.”⁹⁶ The global response agreed upon was to use better technologies in the face of rising energy consumption.

The technological solution was not surprising in itself; it was consistent with a trend in thinking in the international community formally established as early as 1952 when the UN General Assembly decided that the application of science and technology was the key to world productivity and economic growth.⁹⁷ Thereafter, it laid a solid foundation for exchange of scientific information and technology transfer as an important aspect of international relations and co-operation.⁹⁸ By the 1960s, the UN was increasingly

⁹³ Spalding-Fecher, et al, *supra* Note 26, at 102.

⁹⁴ United Nations, "Report of the United Nations Conference on Environment and Development," in *UN Doc A/CONF.151/26/Rev. 1 (vol. I)* (Rio de Janeiro: United Nations, 1992). at para. 9.9.

⁹⁵ *Ibid.* at para. 9.10.

⁹⁶ *Ibid.* at para. 9.11 to 9.12.

⁹⁷ *Methods to Increase World Productivity*, GA Res. 522 (VI), UN GAOR, UN Doc A/RES/522(VI) (1952)

⁹⁸ *International Cultural and Scientific Co-Operation*, GA Res. 1043 (XI), UN GAOR, UN Doc A/RES/1043(XI) (1957); *Development of International Co-Operation in the Fields of Science, Culture and Education*, GA Res. 1164 (XII), UN GAOR, UN Doc A/RES/1164(XII) (1957); *International Relations and Exchanges in the Fields of*

concerned with science and technology and incorporated them in the implementation of the First UN Development Decade, as the firm anchor for social and economic development, especially under-developed and developing countries.⁹⁹ This held true in first half of the 1970s,¹⁰⁰ although doubts emerged regarding the double-edged character of science and technological developments. In particular, there were fears that science and technology would lead to the debasement of culture and “uniformity and monotony

Education, Science and Culture, GA Res. 1397 (XIV), UN GAOR, UN Doc A/RES/1397(XIV) (1959); *International Relations and Exchanges in the Fields of Education, Science and Culture*, ESC Res. 803 (XXX), UN ESCOR, UN Doc E/RES/803 (XXX) (1960). These foundations would later be translated into the 1979 Vienna Programme of Action on Science and Technology for Development.

⁹⁹ *Questions Relating to Science and Technology*, ESC Res. 980 (XXXVI), UN ESCOR, UN Doc E/RES/980 (XXXVI) (1963), in relation to *United Nations Development Decade: A Programme for International Economic Co-Operation (I)*, GA Res. 1710 (XVI), UN GAOR, UN Doc A/RES/1710(XVI) (1959). See also *International Cooperation in the Application of Science and Technology to Economic and Social Development*, GA Res. 1944 (XVIII), UN GAOR, UN Doc A/RES/1944 (XVIII) (1963); *Questions Relating to Science and Technology*, Res. 1047 (XXXVII), UN GAOR, UN Doc A/RES/1047(XXXVII) (1964); *Report of the Advisory Committee on the Application of Science and Technology to Development*, ESC Res. 1083 (XXXIX), UN ESCOR, UN Doc E/RES/1083(XXXIX) (1965); *Science and Technology*, ESC Res. 1155 (XLI), UN ESCOR, UN Doc E/RES/1155 (XLI) (1966); *Science and Technology*, Res. 2082 (XX), UN GAOR, UN Doc A/RES/2082(XX) (1965); *The Role of Patents in the Transfer of Technology to Under-Developed Countries*, ESC Res. 1013 (XXXVII), UN ESCOR, UN Doc E/RES/1013(XXXVI) (1964); *Standardization in Industrial Development*, ESC Res. 1182 (XLI), UN ESCOR, UN Doc E/RES/1082(XLI) (1966); *Arrangements for the Transfer of Operative Technology to Developing Countries*, Res. 1201 (XLII), UN GAOR, UN GA Res. 1201 (XLII) (1967); *Science and Technology*, Res. 2318 (XXII), UN GAOR, UN GA Res. 2318 (XXII) (1967); *Arrangements for the Transfer of Operative Technology to Developing Countries*, ESC Res. 1361 (XLV), UN ESCOR, UN Doc E/RES/1361(XLV) (1968); *Arrangements for the Transfer of Operative Technology to Developing Countries*, ESC Res. 1311 (XLIV), UN ESCOR, UN Doc E/RES/1311(XLIV) (1968); *Arrangements for the Transfer of Operative Technology to Developing Countries*, ESC Res. 1429 (XLVI), UN ESCOR, UN Doc. E/RES/1429(XLVI) (1969).

¹⁰⁰ See *The Role of Modern Science and Technology in the Development of Nations and the Need to Strengthen Economic and Technico-Scientific Co-Operation Among States*, Res. 2658 (XXV), UN GAOR, UN GA Res. 2658 (XXV) (1970).

in modes of life”¹⁰¹ or social problems and material inequalities;¹⁰² or could be “used by the forces of imperialism and colonialism to intensify the arms race, suppress national liberation movements and deprive the peoples of their fundamental rights.”¹⁰³

Nonetheless, they still constituted pillars of the implementation of the International Development Strategy under the Second UN Development Decade,¹⁰⁴ and drove a desire to reduce the “technology gap” between developed and developing countries through cooperation in the transfer of technology.¹⁰⁵

In 1975, the UN defined the duties of States with respect to science and technological diffusion and cooperation, encouraging States to regulate science and technological achievements to ensure that their populations benefitted to the fullest extent possible, and were not victim to the mis-use of science and technology.¹⁰⁶ Afterwards, the potential negative effects of science and technology receded to the background, as States appear to have become more convinced of the beneficial impacts of industrial growth and development of technological capacity.¹⁰⁷ Access to and the transfer of technology (including the associated technical and managerial knowledge) from developed to developing countries was thereby made an key element of the official effort toward the

¹⁰¹ See *Human Rights and Scientific and Technological Developments*, Res. 3026 (XXVII), UN GAOR, UN GA Res. 3026 (XXVII) (1972).

¹⁰² *Use of Scientific and Technological Developments in the Interests of Peace and Social Development*, Res. 3150 (XXVIII), UN GAOR, UN GA Res. 3150 (XXVIII) (1973), Preamble 6.

¹⁰³ *Ibid.*

¹⁰⁴ *The Role of Modern Science and Technology in the Development of Nations and the Need to Strengthen Economic, Technical and Scientific Co-Operation Among States*, Res. 3168 (XXVIII), UN GAOR, UN GA Res. 3168 (XXVIII) (1973), Preamble 3.

¹⁰⁵ *Human Rights and Scientific and Technological Developments*, Res. 3268 (XXIX), UN GAOR, UN GA Res. 3268 (XXIX) (1974), Preamble 7 and 8.

¹⁰⁶ See *Declaration on the Use of Scientific and Technological Progress in the Interests of Peace and for the Benefit of Mankind*, Res. 3384 (XXX), UN GAOR, UN GA Res. 3384 (XXX) (1975).

¹⁰⁷ *United Nations Conference on Science and Technology for Development*, Res. 32/115, UN GAOR, UN Doc A/RES/32/115 (1977).

latter's socio-economic progress through industrialization.¹⁰⁸ This thinking has permeated international policy ever since, and is even more strongly entrenched today,¹⁰⁹ especially considering that science and technology transfer now has its own international institutional mechanism, the Commission on Science and Technology for Development (CSTD) under the UNCTAD.¹¹⁰

¹⁰⁸ *Transfer of Technology to Developing Countries*, Res. 2091 (XX), UN GAOR, UN Doc A/RES/2091(XX) (1965). The projected role of science and technology in development was detailed in *United Nations Conference on Science and Technology for Development*, Res. 34/218, UN GAOR, UN Doc A/RES/34/218 (1979). Note also *Implementation of the Vienna Programme of Action on Science and Technology for Development*, Res. 44/14, UN GAOR, UN Doc A/RES/44/14 (1989), which adjusted this role for the 1990s and onward.

¹⁰⁹ See for example, *Science and Technology for Development*, Res. 62/201, UN GAOR, UN Doc A/RES/62/201 (2008), which essentially echoes the declarations of the 1960s. There are notable differences, though, in that express attention is paid to environmentally-sound technologies, information and communications technologies, traditional knowledge, and a more prominent emphasis on the connection with poverty-eradication under the UN MDG. Other recent GA resolutions emphasizing the continuing role of science and technology in development include *Agricultural Technology for Development*, Res. 62/190, UN GAOR, UN Doc A/RES/62/190 (2008); *Science and Technology for Development*, Res. 60/205, UN GAOR, UN Doc A/RES/60/205 (2006); *Science and Technology for Development*, Res. 58/200, UN GAOR, UN Doc A/RES/58/200 (2004); *Science and Technology for Development*, Res. 56/182, UN GAOR, UN Doc A/RES/56/182 (2002); *Strengthening the Coordination of the Mechanisms on the Commission for Science and Technology for Development: Promoting Complementarity of Activities in the Area of New and Innovative Technologies Within the United Nations System*, UN GA Res. 55/185, UN GAOR, UN Doc A/RES/55/185 (2001); *Science and Technology for Development*, Res. 54/201, UN GAOR, UN Doc A/RES/54/201 (2000); *Science and Technology for Development*, Res. 52/184, UN GAOR, UN Doc A/RES/52/184 (1998); *Social Welfare, Development and Science and Technology*, Res. 44/54, UN GAOR, UN Doc A/RES/44/54 (1989).

¹¹⁰ The CSTD was created in 1992 to take over from the former Inter-governmental Committee on Science and Technology for Development and Advisory Committee on Science and Technology for Development that were formed in 1979. It is an official forum for discussion of the implications of science and technology on development, advancement of information on science and technology issues especially for developing countries, and formulation of policy recommendations and guidelines on science and technology issues. It was established partly because

Despite its merits, the technological solutions mentioned in Agenda 21 sought to cure the symptoms (scarcity and pollution), not the disease. There was a need to move on from merely looking at these symptoms of the energy crisis, and on to dealing with energy production as an issue in itself. "Sustainable energy" became the main topic of the 9th Session of the Commission on Sustainable Development (CSD) in 2001.¹¹¹ The CSD acknowledged that energy was central to the goals of sustainable development and that globally, wide disparities among States marked its usage.¹¹² As a policy issue, "sustainable energy" had two main aspects, technology and access:

Energy resources are plentiful, and environmentally sound technological options exist and should be made available and facilitated by developed countries to developing countries as well as countries with economies in transition with a view to making energy for sustainable development a reality. Ensuring adequate and affordable access to energy for present and future generations, in an environmentally sound, socially acceptable and economically viable way, will require considerable efforts and substantial

countries recognized that science and technology was giving greater comparative advantages in the rapidly-moving world economy, and also on account of the need for new environmentally-sound technologies that could incorporate environmental concerns into economic development policies. See United Nations Conference on Trade and Development, "Commission on Science and Technology for Development: Mandate and Institutional Background," *United Nations* online: <<http://www.unctad.org/Templates/Page.asp?intItemID=2700&lang=1>> (Date accessed: 15 February 2010).; also *Science and Technology for Development*, Res. 46/165, UN GAOR, UN Doc A/RES/46/165 (1991). Science and technology issues have been so important yet so controversial that there has been a pending proposal to establish an international code of conduct on the transfer of technology since 1979. *United Nations Conference on an International Code of Conduct on the Transfer of Technology*, Res. 34/195, UN GAOR, UN Doc A/RES/34/195 (1979); *International Code of Conduct on the Transfer of Technology*, Res. 45/204, UN GAOR, UN Doc A/RES/45/204 (1990); *International Code of Conduct on the Transfer of Technology*, Res. 46/214, UN GAOR, UN Doc A/RES/46/214 (1991); *International Code of Conduct on the Transfer of Technology*, Res. 47/182, UN GAOR, UN Doc A/RES/47/182 (1993).

¹¹¹ See United Nations Commission on Sustainable Development. "Report on the Ninth Session, 5 May 2000 and 16-17 April 2001." UN Doc E/CN.17/2001/19, Supp. No. 9 (2001).

¹¹² *Ibid.* at 1.

investments, including from the private sector. Attention will also need to be given to promoting an enabling environment.¹¹³

The CSD's discussion was sufficiently broad that it touched on many major issues and challenges not clearly articulated by the Brundtland Commission. It included subjects such as implementation of the principle of common but differentiated responsibilities, recommendations on accessibility of energy, energy efficiency, renewable energy, advanced fossil fuel technologies, nuclear technologies, rural energy, transportation, and a number of other related issues.¹¹⁴ The records of discussion show little doubt that the CSD treated sustainable energy as primarily a technological issue.

Oddly, energy issues seemed to separate entirely from the general discourse on environment and social development. The 2000 UN Millennium Declaration did not mention energy at all, nor did it include energy-related objectives in the Millennium Development Goals.¹¹⁵ At the 2002 World Summit on Sustainable Development in Johannesburg, two main problems were identified in the energy sector: (a) increasing peoples' access, especially the poor, to affordable and modern energy services, and (b) achieving an environmentally-friendly mix of energy technologies, policies, and usage.¹¹⁶ Unfortunately, although Johannesburg produced the 2002 Plan of Implementation,¹¹⁷ it did not result in substantive agreements on how to address these challenges specifically. Instead, the summit focused on technology-transfer and capacity-building accords: once again, a technology-centered response. The conference did not agree upon important proposals for increasing access, production targets for renewable energy, and a

¹¹³ *Ibid.* at 1-2.

¹¹⁴ *Ibid.*

¹¹⁵ See *United Nations Millennium Declaration*. It was only four years later that the strategic importance of energy was finally articulated by UN-Energy. See UN-Energy, *The Energy Challenge for Achieving the Millennium Development Goals*.

¹¹⁶ Spalding-Fecher, *et al.*, *supra* Note 26 at 99.

¹¹⁷ *Plan of Implementation of the World Summit on Sustainable Development*. In United Nations. *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August – 4 September 2002*. UN GAOR, A/CONF.199/20, at 7-72.

coordinated international program on energy,¹¹⁸ due to the *impasse* between industrialized and developing countries on the appropriate response to the potential environmental threats posed by uncertain climate shifts.

The *impasse* is rooted in major changes in energy production technologies and reductions of energy consumption patterns needed in order to reduce further human impacts on the global climate. The United States was especially unable to accept the anticipated costs of transforming their energy infrastructure, cutting back on energy-intensive economic growth to meet emissions reductions, and changing the lifestyles to which they were accustomed.¹¹⁹ Also, fossil fuel technologies had a headstart on all new and more efficient technologies on account of the economies of scale, earlier adoption, and proliferation; these technologies have been so deeply ingrained into the modern world that any shift to alternatives entails huge economic and political risks.¹²⁰ Lingerings uncertainties over the cause and nature of climate change gave good reasons for petroleum lobby groups to influence decision-makers, fueled global bickering, and hindered immediate action.¹²¹ The differences overshadowed the negotiations of the 1997 Kyoto Protocol five years after Rio as States attempted to secure a global agreement on binding targets for emissions reductions. In the meantime, the level of emissions continued to creep upwards.¹²²

¹¹⁸ See Spalding-Fecher, *et al.*, *supra* Note 26 at 106-08.

¹¹⁹ Paul Roberts, *The End of Oil: On the Edge of a Perilous New World* (Boston; New York: Houghton Mifflin Company, 2005) at 134-37.

¹²⁰ *Ibid.* at 259-306 .

¹²¹ For an enlightening and concise synopsis of the debate, including the various forms it took not only in the political arena but also in the academe and mass media, see Robert Henson, *The Rough Guide to Climate Change* (London: Rough Guides, 2006) at 235-61.

¹²² Intergovernmental Panel on Climate Change, *Climate Change. 2007: Synthesis Report*, ed. Core Writing Team, R.K. Pachauri, and A. Reisinger, 4 vols., vol. 4. IPCC Fourth Assessment Report (Geneva: Intergovernmental Panel on Climate Change, 2009) at 36-37.

Since then, scientific consensus about the anthropogenic causes of climate change continued to grow, culminating in the IPCC's Fourth Assessment Report released in January 2008 that sounded an ever-more urgent call for international action.¹²³ Popular awareness and support for action on climate change had also increased in the meantime, aided by notable natural disasters, soaring petroleum prices, and high visibility in the mass media.¹²⁴ The confluence of these factors in the past few years undoubtedly contributed to heightening the public discourse on climate change to a degree "unprecedented in international environmental law."¹²⁵ By December 2009, interest in climate change made the UN Climate Change Conference at Copenhagen headline news in major media organizations for its duration.¹²⁶

¹²³ A copy of the full report may be downloaded from the IPCC website at http://www.ipcc.ch/publications_and_data/publications_and_data_reports.htm#1.

¹²⁴ Extreme weather events such as flooding, heat waves, and cold snaps in Europe and the US have dominated the news since the beginning of the 21st century. The Hurricane Katrina disaster in New Orleans famously emphasized that no country could be spared from Nature's wrath. See "Hurricane Katrina: In Depth," *BBC News* online: British Broadcasting Corporation <http://news.bbc.co.uk/2/hi/in_depth/americas/2005/hurricane_katrina/default.stm> Last updated: 22 April 2008 (Date accessed: 12 June 2010). The increase in public awareness about climate change due to the efforts of the IPCC and the information campaign of US former Vice President Al Gore (highlighted by the wide release of the documentary "An Inconvenient Truth") merited their receipt of the Nobel Peace Prize in 2007. "Gore and UN Panel Win Nobel Prize." *BBC News* (12 October 2007), online: British Broadcasting Corporation <<http://news.bbc.co.uk/2/hi/europe/7041082.stm>>.

¹²⁵ Patricia Birnie, Alan Boyle, and Catherine Redgwell, *International Law & the Environment*, 3rd ed. (Oxford: Oxford University Press, 2009) at 370.

¹²⁶ "Copenhagen summit urged to take climate change action," *BBC News* online: British Broadcasting Corporation <<http://news.bbc.co.uk/2/hi/8398510.stm>> Last updated: 07 December 2009 (Date accessed: 12 June 2010).; "Copenhagen deal: Key points," *BBC News* online: British Broadcasting Corporation <<http://news.bbc.co.uk/2/hi/science/nature/8422307.stm>> Last updated: 19 December 2009 (Date accessed: 12 June 2010); *Copenhagen Accord*, UN FCCC Dec. 2/CP.15, UN FCCCOR, 15th Sess. UN Doc FCCC/CP/2009/11/Add.1 (2009) 4 [Copenhagen Accord] at 4-9.

Although concerted global action on climate change agreements was reluctant and slow, research and development into environmentally-friendly energy technologies continued and perhaps even accelerated since 1995. Natural gas has become the fuel of choice for industrialized nations seeking to address climate change obligations due to their lower carbon emissions.¹²⁷ High oil prices made alternative fuels like natural gas and renewable energy technologies such as wind, wave, and solar power competitive with the well-established conventional petroleum technologies.¹²⁸

¹²⁷ Roberts, *The End of Oil*, *supra* Note 119 at 166-68. In the years since the Kyoto Protocol was signed, the market for natural gas, transported either directly through pipelines or as liquefied natural gas (LNG) onboard LNG carrier vessels, has boomed so much that supply has been barely able to keep up with demand, especially from the European Union and Japan. See Energy Information Administration, "Worldwide Natural Gas Supply and Demand and the Outlook for Global LNG Trade," *Natural Gas Monthly*, August 1997 (Washington DC: US Department of Energy, 1997); Energy Information Administration, *The Global Liquefied Natural Gas Market: Status and Outlook*. DOE/EIA-0637 (2003) (Washington DC: US Department of Energy, 2003); and Dinakar Sethuraman, "Global LNG Supply to Exceed Demand in 2010, Bernstein Says," *Bloomberg.com* (23 November 2009), online: <<http://www.bloomberg.com/apps/news?pid=20601072&sid=azP4pF14puRc>>. The EU now is especially vulnerable to fluctuations in gas supply, most of which it draws from a single source (Russia); disruptions in supply always make the news headlines. See for example, "Ukraine warns EU of gas 'problem'," *BBC News* online: British Broadcasting Corporation <<http://news.bbc.co.uk/2/hi/europe/7809450.stm>> Last updated: 03 January 2009 (Date accessed: 12 June 2010).; "European gas supplies disrupted," *BBC News* online: British Broadcasting Corporation <<http://news.bbc.co.uk/2/hi/europe/7812860.stm>> Last updated: 06 January 2009 (Date accessed: 12 June 2010).; "Energy fuels new 'Great Game' in Europe," *BBC News* online: British Broadcasting Corporation <<http://news.bbc.co.uk/2/hi/europe/8090104.stm>> Last updated: 09 June 2009 (Date accessed: 12 June 2010).; "Europe's pipeline politics," *BBC News* online: British Broadcasting Corporation <<http://news.bbc.co.uk/2/hi/europe/8083511.stm>> Last updated: 07 June 2009 (Date accessed: 12 June 2010).

¹²⁸ Nancy DuVergne Smith, "Gas and Renewable Fuels May Edge Out Oil By 2025, Shell Chair Says," *MIT Tech Talk* (04 December 2002), online: <<http://web.mit.edu/newsoffice/2002/watt-1204.html>>; Syed Imran Shah, "Soaring oil prices make wind energy competitive," *Findarticles.com* online:

Environmental reformists, particularly those engaged with the issue of climate change, earnestly anticipate the shift to “clean and green” energy technologies. Increasing concerns over the environment has made more urgent the policy advocacy of shifting to renewable energy technologies.¹²⁹ There have been few prominent grounds for objecting to the wisdom of adopting and propagating these renewable technologies, apart perhaps from the objection primarily to the aesthetic and sonic impacts of wind farms.¹³⁰ Renewable energy development marks a new frontier for innovation, perhaps leading the wave of a renewable energy revolution.¹³¹ ‘Cleaner’ non-renewable technologies like natural gas production also appear to have been relatively less notorious than oil operations. High-profile industrial disasters of the 1970s and 1980s, and increased

<http://findarticles.com/p/articles/mi_hb092/is_5-6_37/ai_n29292981/> Last updated: 01 May 2006 (Date accessed: 14 April 2009). For a useful comparison of the costs of various technologies vis-à-vis petroleum, see also Roberts, *supra* Note 119 at 197-207.

¹²⁹ IEA Renewable Energy Working Party, *The Evolving Renewable Energy Market*, ed. Rodney Janssen (Sittard, The Netherlands: Novem BV, 1999) at 13.

¹³⁰ Henson, *The Rough Guide to Climate Change*, *supra* Note 122 at 298; also Susanne Agterbosch, Pieter Glasbergen, and Walter JV Vermeulen, "Social Barriers in Wind Power Implementation in the Netherlands: Perceptions of Wind Power Entrepreneurs and Local Civil Servants of Institutional and Social Conditions in Realizing Wind Power Projects" (2007) 11 *Renewable and Sustainable Energy Reviews* 1025 at 1036-37; and Jeremy Firestone and Willett Kempton, "Public Opinion About Large Offshore Wind Power: Underlying Factors" (2007) 35 *Energy Pol'y* 1584. For a very long study on the issues of windfarm aesthetics, see Avi Brisman, "The Aesthetics of Wind Energy Systems" (2005) 13 *N.Y.U. Envtl. L. J.* 1.

But see also Patrik Soderholm, Kristina Ek, and Maria Pettersson, "Wind Power Development in Sweden: Global Policies and Local Obstacles" (2007) 11 *Renewable and Sustainable Energy Reviews* 365 and Maarten Wolsink, "Wind Power Implementation: The Nature of Public Attitudes: Equity and Fairness Instead of 'Backyard Motives'" (2007) 11 *Renewable and Sustainable Energy Reviews* 1188, for alternative explanations for objections to wind farms, particularly the importance of fairness or equity and public participation in decisions to develop wind power.

¹³¹ Daniel M. Kammen, "The Rise of Renewable Energy" (2006) *Scientific American* 85; For a detailed report on the recent growth and status of renewable energy production, see REN21, *Renewables 2007 Global Status Report*. (Paris, Washington DC: REN21 Secretariat and Worldwatch Institute, 2008).

sensitivity to public opinion in the 1990s, constrained the large petroleum companies to pursue safer and more environmentally-friendly operations and improvements of their traditional technologies.¹³²

Amid the failure of the Copenhagen talks to produce a legally binding agreement on emissions caps and financial commitments,¹³³ technology remains the most prominent item in the search for global solutions. The Copenhagen Accord highlights the need for a technological package for climate change adaptation and mitigation consisting of financial resources, technology, and capacity-building measures, chiefly to be developed by the industrialized countries and transferred to developing countries.¹³⁴ This is consistent with previous work undertaken within the UNFCCC, chiefly through an Experts Group on Technology Transfer that was organized upon the agreement of the Conference of Parties to a framework for technology transfer back in 2001.¹³⁵ Despite their disappointments with Copenhagen, it is certain that even NGOs will embrace these ideas; technological change is prominent in the climate change campaigns of practically all the mainstream international NGOs and NGO-alliances.¹³⁶ After all, the underlying

¹³² Diamond, *Collapse*, *supra* Note 40 at 442-452; Sharpe, *A Patch of Green: Canada's Oilpatch Makes Peace with the Environment*, *supra* Note 40 at 134-62.

¹³³ John Vidal, Allegra Stratton, and Suzanne Goldenberg, "Low Targets, Goals Dropped: Copenhagen Ends in Failure," *Guardian.co.uk* (19 December 2009), online: <<http://www.guardian.co.uk/environment/2009/dec/18/copenhagen-deal>>; Richard Ingham and Agence France Presse, "Copenhagen Conference Fails," *Manila Times.net* (20 December 2009), online: <<http://www.manilatimes.net/index.php/component/content/article/86-special-reports/8168-copenhagen-conference-fails>>; CBC News, "Climate Talks End With Sketchy Deal," *CBC News* (19 December 2009), Canadian Broadcasting Corporation online: <<http://www.cbc.ca/world/story/2009/12/19/copenhagen-accord.html>>.

¹³⁴ *Copenhagen Accord*, at para. 3-6, 8, 10-11.

¹³⁵ See UN FCCC, *Expert Group on Technology Transfer: Five Years of Work*. (Bonn: UN FCCC, 2007); *Marrakesh Accords*, FCCC Dec. 2-14/CP.7, UN FCCCOR, 7th Sess. UN Doc FCCC/CP/2001/13/Add.1 (2001) 2.

¹³⁶ See for example, Shane Tomlinson, "Technology Action Plans and Funding Complement Legally Binding Climate Agreement," E3G online <<http://www.e3g.org/programmes/climate-articles/technology-action-plans-and->

assumption in climate change discourse has been that technological development and technology transfer are the solutions: a UN FCCC ‘fact sheet’ officially emphasizes the centrality of “environmentally sound technologies” for climate change mitigation, adaptation, resilience, and achievement of economic growth.¹³⁷

2.2 Ocean Energy Technologies

A significant proportion of the new and environmentally sound technologies seen as providing solutions to climate change look toward the ocean, long known to be a vast reservoir of potential and kinetic energy. Jurisdiction over such energy resources within the exclusive economic zone of a coastal State has been established by international agreement.¹³⁸ Covering 70% of the Earth’s surface, the ocean is a vast source of renewable and non-renewable energy resources.¹³⁹ Humanity’s benefits from the ocean have always required the intercession of technology. From the ancient times when boats fished beyond the shallows, to the present when submersibles have probed some of the deepest trenches, and into the uncertain future, the ability to access any of the vast resources of the ocean depend on the development of corresponding technologies. In order to understand their possible implications to law, social justice, and society, it is

funding-complement-legally-binding-climate-agre/> Last updated: 26 January 2010 (Date accessed: 26 January 2010); World Wildlife Fund - UK, "How we're tackling climate change," *World Wildlife Fund - UK* online: <http://www.wwf.org.uk/what_we_do/tackling_climate_change/how_we_re_tackling_climate_change/> Last updated: 26 January 2010 (Date accessed: 26 January 2010); Worldwatch Institute, "Energy and Climate Change Program," *Worldwatch Institute* online: <http://www.worldwatch.org/programs/energy_climate> Last updated: 26 January 2010 (Date accessed: 26 January 2010).

¹³⁷ UN FCCC, "Fact sheet: Why technology is so important," <http://unfccc.int/press/fact_sheets/items/4989.php> Last updated: 23 November 2009 (Date accessed: 27 June 2010).

¹³⁸ *United Nations Convention on the Law of the Sea*. 10 December 1982, 21 I.L.M. 1261 (entered into force 28 July 1994) [LOSC], art. 56(1).

¹³⁹ Harold V. Thurman, *Introduction to Oceanography*, 8th ed. (New Jersey: Prentice-Hall, 1997) at 197-98, 223, 227, 249, 254, 278, and 282.

necessary to consider closely the diverse range of these new and emergent ocean energy technologies.

2.2.1 Ocean Energy Resources and Related Terms

As used in this research, the term ‘ocean’ encompasses all marine spaces including portions of coastal areas submerged at high tide in the “coastal zone,” or the area where land and seawater interact, as defined in Philippine law.¹⁴⁰ “Ocean energy resources” refer to all non-renewable and renewable sources of energy that may be found and harnessed within the ocean, including the surface, the water and the seabed.¹⁴¹ ‘Non-renewable’ ocean energy resources are those that depend on extraction of materials that serve as fuel; these refer primarily to minerals and petroleum resources of the seabed. ‘Renewable’ ocean energy resources include those that make use of the water itself as a source of power, whether on the surface (e.g., wave action), or underneath it (e.g., thermal differences, tidal action, and currents), or the geological processes in the seabed.

According to the United Nations Convention on the Law of the Sea, coastal states are entitled to sovereign rights over the exploration and exploitation of all energy resources within the exclusive economic zone that extends seaward from its baselines up to 200 nautical miles away.¹⁴² These sovereign rights also extend to the establishment of any artificial islands, installations, or structures that are necessary to conduct such

¹⁴⁰ *Fisheries Code*, R.A. 8550 (1998) , s. 4(9): “Coastal Area/Zone — is a band of dry land and adjacent ocean space (water and submerged land) in which terrestrial processes and uses directly affect oceanic processes and uses, and vice versa; its geographic extent may include areas within a landmark limit of one (1) kilometer from the shoreline at high tide to include mangrove swamps, brackish water ponds, nipa swamps, estuarine rivers, sandy beaches and other areas within a seaward limit of 200 meters isobath to include coral reefs, algal flats, seagrass beds and other soft-bottom areas.”

¹⁴¹ See Pelc and Fujita, *supra* Note 81; also Carolyn Elefant, "Ocean Energy Development in the 1990s" (1993) 14 *Energy L. J.* 335.

¹⁴² LOSC, art. 56(1), ss. a.

activities.¹⁴³ This represents a vast expanse of possible energy resources that require many different forms of “ocean energy technologies,” including those are still being designed and/or tested.

2.2.1 Non-Renewable Ocean Energy Resources

Non-renewable ocean energy resources are finite and exhaustible within human lifetimes, and are comprised mainly of petroleum and mineral energy resources in the seabed. Petroleum refers to hydrocarbon resources in the form of oil, coal, and natural gas which lie in the seabed. They are often referred to as “fossil fuels” because it is commonly accepted that they originate from ancient plant and animal remains buried millennia ago.¹⁴⁴ For more than 100 years, the petroleum industry has been extracting accumulated reserves of oil, and since the first offshore oil well was successfully drilled and operated in the late 1940s, they have progressed into deeper waters and spread across the world.¹⁴⁵

¹⁴³ *Ibid.*, art. 56(1), ss. b(i).

¹⁴⁴ The prevalent theory on the origin of petroleum, sometimes called “organic” or “biogenic” theory, is that it is produced by the decay of ancient biological organisms whose remains are trapped within geological layers. See Benjamin T. Brooks, “The Origin of Petroleum in the Light of Recent Research” (1948) 68:4 *The Ohio Journal of Science* 129. A much less-popular theory exists, called “deep petroleum” or the “abiogenic” theory which suggests that petroleum is actually produced by normal geological processes deep within the Earth itself. See Geoffrey P. Glasby, “Abiogenic Origin of Hydrocarbons: An Historical Overview” (2006) 56:1 *Resource Geology* 85.

¹⁴⁵ A brief historical overview is provided in Claude R. Hocott and Paul E. Purser, “Energy and the Oceans” (1983) IEEE 1151 and Frank T. Manheim, “U.S. offshore oil industry: new perspectives on an old conflict,” *American Geological Institute* online: <http://www.geotimes.org/dec04/feature_Norway.html> (Date accessed: 15 April 2009). See also Shunsuke Managi et al., “Technological Change and Depletion of Offshore Oil and Gas” (2004) 47 *Journal of Environmental Economics and Management* 388 at 390-91. See Tai Deckner Kreidler, “The Offshore Petroleum Industry: The Formative Years, 1945-1962” (Dissertation, Texas Tech University, 1997) for an in-depth analysis of the early stages of development of the offshore petroleum industry in the United States, from which the technology originated. An analysis of the governance frameworks applied to the industry since the 1940s is also provided in Vern Baxter, “The Effects of Industry Governance on Offshore Oil

Offshore oil and natural gas exploration and development at present are multi-billion dollar industries using the latest and most advanced technologies available; the industry is itself responsible for pushing back the technological frontiers of ocean resource development.¹⁴⁶ These technologies focus on locating and drilling into geological “traps” that hold the petroleum reserves under the seabed, efficiently extracting those reserves, and transporting them to waiting markets.¹⁴⁷

Offshore petroleum exploration and development is always a very expensive activity; at around 10 Million USD, the cost of an offshore well is at least four times that of an onshore well, and final expenditures vary significantly depending on the well depth and sea conditions.¹⁴⁸ Drilling rigs cost anywhere from 50,000 to 500,000 USD per day to rent, and the costs of labor, fuel, and logistics are normally double the daily rig rental rate.¹⁴⁹ As of this writing, the world record for drilling offshore is a subsea well located under 2,851 metres (9,356 feet) of water in the Gulf of Mexico.¹⁵⁰ This record was not expected to last long; even when this particular well was announced in December 2008, plans were already laid for another at even deeper depths.¹⁵¹

Development in the Gulf of Mexico" (1997) 21:2 International Journal of Urban and Regional Research 238.

¹⁴⁶ Hocott and Purser, *ibid.* at 1154.

¹⁴⁷ Descriptions of current offshore petroleum technologies may be found in Canadian Association of Petroleum Producers, *Offshore Drilling Rigs*. (Calgary: Canadian Association of Petroleum Producers, 2001) and Canadian Association of Petroleum Producers, *Drilling an Offshore Well in Atlantic Canada*. (Calgary: Canadian Association of Petroleum Producers, 2001).

¹⁴⁸ See Mark J. Kaiser, "Modeling the Time and Cost to Drill an Offshore Well" (2009) 34:9 Energy 1.

¹⁴⁹ *Ibid.*

¹⁵⁰ Rita Tubb, "Shell drills world's deepest offshore well," *Allbusiness.com* online: <<http://www.allbusiness.com/transportation/pipeline-transportation-oil-gas/11770252-1.html>> Last updated: 01 January 2009 (Date accessed: 15 April 2009).

¹⁵¹ "Shell drills world's deepest offshore well," *Oil & Gas Eurasia* online: <<http://www.oilandgaseurasia.com/news/p/2/news/3352>> Last updated: 12 March 2008 (Date accessed: 2 June 2009).

Recently, research has been conducted into the feasibility of extracting natural gas hydrates, called calthrates, dispersed and embedded as crystals in the very substance of the seafloor itself.¹⁵² The extraction of gas hydrates is likely to be more analogous to seabed mining rather than petroleum drilling, because it requires the seafloor to be somehow excavated and the crystals separated from the seafloor. Prospective seabed mining technologies currently anticipate the use of robotic submersibles guided by remote-control.¹⁵³ It is possible to develop similar technologies for calthrate extraction in the future.

Seabed mining usually connotes the harvesting of metal-rich manganese nodules on the sea floor, and is not often thought to refer to the tunneling for mineral deposits under the seabed similar to mining of any other mineral on land. But it may as well cover the mining of undersea coal resources. Normally, coal is not considered an ocean-based energy resource because land-based coal deposits are plentiful. However, as the location of coal is a matter of geology rather than being on land or at sea, it is not difficult to imagine that coal resources also lie under the seabed. To date, seabed coal resources have been accessed mainly in the coastal areas, through networks of mining tunnels that extend from shore to underneath the seafloor. This type of mining, often referred to as

¹⁵² See R.A. Dawe and S. Thomas, "A Large Potential Methand Source - Natural Gas Hydrates" (2007) 29:3 Energy Sources, Part A: Recovery, Utilization and Environmental Effects 217; B.C. Gbaruko et al., "Gas Hydrates and Clathrates: Flow Assurance, Environmental and Economic Perspectives and the Nigerian Liquefied Natural Gas Project" (2007) 56 Journal of Petroleum Science and Engineering 192; JC Wiltshire, "Methand Hydrates: A Future Ocean Energy Resource?" (2003) 36:4 Marine Technology Society Journal 8.

¹⁵³ See for example John Chadwick, "Davy Jones' Treasure Locker" (2008) International Mining 20. For a survey of initial research and possible environmental impacts of seabed mining, see Jan Magne Markussen, "Deep Seabed Mining and the Environment: Consequences, Perceptions, and Regulations." In *Green Globe Yearbook of International Co-operation on Environment and Development 1994*, ed. Helge Ole Bergesen and Georg Parmann (Oxford: Oxford University Press, 1994).

“submarine mining,” is less known but ‘mature’ technology.¹⁵⁴ Soon, continued use and improvements in mining technology may be used to extract undersea coal and other mineral resources much further offshore.

Coal deposits may also yield an energy source other than the coal itself. Coal-bed methane is a natural gas produced in coal seams. Recent advances in technology have enabled the extraction of the methane gas from coal seams, by drilling wells into the seams and pumping water out of it, allowing the gas to migrate into the well.¹⁵⁵ It is also not difficult to imagine that such coal-bed methane technologies may be adapted to the offshore in the near future.

Minerals in trace amounts are suspended and diluted in seawater.¹⁵⁶ It is thought that in the future these trace amounts (e.g. uranium) might be economically extracted and

¹⁵⁴ The United Kingdom had asserted rights to submarine coal mines extending deep into the seabed off Cornwall even in the early 20th century. R.R. Churchill and A.V. Lowe, *The Law of the Sea*, 1988 ed. (Manchester UK: Manchester University Press, 1983) at 121. This position led to art. 85 of the *United Nations Convention on the Law of the Sea*. The British Geological Survey disseminates online information on the extent of the UK’s undersea coal deposits. British Geological Survey, "Mineral Profile: Coal," *Natural Environment Research Council* online: <http://www.bgs.ac.uk/mineralsuk/free_downloads/home.html> (Date accessed: 15 April 2009). In Canada, the Sydney coalfield in Cape Breton, Nova Scotia extends under the Atlantic Ocean. Hugh Millward, "The Development, Decline, and Revival of Mining on the Sydney Coalfield" (1984) 28:2 *Canadian Geographer* 180. Other examples of operational submarine coalmines exploited by tunneling from the adjacent coast are in Australia, Chile, China, India, Japan, United States, and Turkey. R.N. Singh and A.S. Atkins, "Design Considerations for Mine Workings Under Accumulations of Water" (1982) 1:4 *Mine Water and the Environment* 35 at 51-54. A description of subsea mining in Japan using artificial islands to provide ventilation is described in Patrick J.F. Hannon and J. Wayne LeBlanc. "Artificial offshore islands." (Presented at the *The Mining Society of Nova Scotia, Fall Meeting 1987*, Fall Meeting 1987).

¹⁵⁵ See US Geological Survey, *Coal-Bed Methane: Potential and Concerns*, ed. US Geological Survey. USGS Fact Sheet FS-123-00 (Denver CO: US Geological Survey, 2000).

¹⁵⁶ Thurman, *Introduction to Oceanography*, *supra* Note 139 at 154.

accumulated in sufficient quantities for some form of energy production. But at present, these minerals are available, far more conveniently accessible, and much less costly to recover on land.¹⁵⁷ In the absence of appropriate technology, there is no economic justification for the exploration and exploitation of these kinds of possible mineral reserves in the ocean.

Seawater could provide other elements that are useful for energy production. Deuterium, or heavy hydrogen, occurs naturally in trace amounts in seawater,¹⁵⁸ and is needed to produce heavy water used as a moderator in advanced nuclear fission reactors.¹⁵⁹

Deuterium and tritium (another element found dissolved in seawater), figure prominently in fusion-reactor experiments, and might be needed in the future for commercial nuclear fusion, if ever an appropriate process could be discovered and perfected.¹⁶⁰ The search for viable nuclear fusion has been such a long, complex, and expensive process that several OECD countries decided to jointly invest in the International Thermonuclear

¹⁵⁷ Recent experiments have proven it possible to extract uranium from seawater, but it is estimated that it takes three times as much energy to extract the mineral than what the mineral could later produce. See A.D. Kelmers. "The recovery of uranium from seawater - status of technology and needed future research and development." (Presented at the *The Recovery of Uranium from Seawater*, Cambridge MA, 1-2 December 1980); A K Saxena, "Experiments for Recovery of Uranium From Seawater By Harnessing Tidal Energy" (2004):249 BARC Newsletter 226.

¹⁵⁸ There is normally one atom of deuterium for every 6500 atoms of hydrogen. World Nuclear Association, "Glossary: Deuterium," *World Nuclear Association* online: <<http://www.world-nuclear.org/info/inf51.html#D>> Last updated: 01 December 2005 (Date accessed: 16 April)..

¹⁵⁹ World Nuclear Association, "Generation IV nuclear reactors," *World Nuclear Association* online: <<http://www.world-nuclear.org/info/inf77.html>> Last updated: 01 March 2009 (Date accessed: 16 April).; World Nuclear Association, "Advanced nuclear power reactors," *World Nuclear Association* online: <<http://www.world-nuclear.org/info/inf08.html>> Last updated: 01 March 2009 (Date accessed: 16 April).

¹⁶⁰ World Nuclear Association, "Nuclear fusion power," *World Nuclear Association* online: <<http://www.world-nuclear.org/info/inf66.html>> Last updated: 01 May 2007 (Date accessed: 16 April).; Karine Fiore, "Nuclear Energy and Sustainability: Understanding Iter" (2006) 34 *Energy Pol'y* 3334 at 3337.

Experimental Reactor (ITER) project to attempt to create a working and commercially-viable fusion reactor.¹⁶¹

2.2.2 Renewable Ocean Energy Resources

A vast array of renewable ocean energy resources are available in the ocean, classified through their location into those on the surface, in the superjacent waters, and in the seabed.

2.2.2.1 Energy from the Ocean Surface

The ocean surface alone can host a variety of ocean energy technologies on account of solar energy falling upon it, the kinetic energy generated by the movement of the seawater and air above it, and even the potential energy collected and stored by marine life. Every day, the surface of the ocean directly absorbs solar energy from the sun unimpeded by foliage that occurs on land. The penetration of solar energy into the upper layers of the sea is the basis of primary energy production through photosynthesis by basic marine organisms such as plankton that form the foundation of the ocean food web. The average amount of solar energy that reaches the Earth's surface daily is estimated at 1,000 watts per square meter at noon on a cloudless day, or 4.2 kilowatt-hours every day,¹⁶² a huge source that could be tapped with solar energy technology.

Photo-voltaic (PV) cells are composed of sheets of light-absorbing material connected to a conductor to directly convert sunlight to electricity.¹⁶³ Presently, the electrical output of

¹⁶¹ International Energy Agency, *International Collaboration in Energy Technology: A Sampling of Success Stories*. (Paris: OECD/IEA, 1999) at 42-47, and 113-26. The ITER participants are comprised of China, India, Japan, Russia, South Korea, USA, and the European Union. World Nuclear Association.

¹⁶² Union of Concerned Scientists, "Clean energy: how solar energy works," *Union of Concerned Scientists* online: (Date accessed: 10 June 2009).

¹⁶³ Peter Wong, "Solar photovoltaic cell/module manufacturing activities," *Energy Information Administration* online:
<<http://www.eia.doe.gov/cneaf/solar.renewables/page/solarphotv/solarpv.html>> Last updated: 01 December 2008 (Date accessed: 15 April 2009).

PV cells are very low, typically 15% or less than 1/6 of the energy of the sunlight shining on the cell. This is due to the material either reflecting or absorbing the rest of the energy.¹⁶⁴ To increase their productive efficiency, some devices use mirrored surfaces to concentrate a greater amount of sunlight onto the solar cells, allowing them to operate at higher efficiency.¹⁶⁵ Concentrated solar, also known as solar-thermal, devices focus solar energy onto a heat exchanger to run small turbines that generate more electricity than PV cell-based devices.¹⁶⁶ Modern large-scale PV and solar-thermal arrays can use tracking devices that optimize the panel's alignment with the sun to ensure maximum solar exposure and power output.¹⁶⁷

Due to their lower productive efficiency, large arrays of PV cells and solar or solar-thermal devices that occupy considerable amounts of space are needed to generate any given amount of electricity needed. These areas must be absolutely free of any obstructions between the surface and the sun, preferably in areas that experience low annual average cloud cover. To date, areas meeting these criteria have been found in deserts, but it is conceivable that they may also be found at sea. In the future it may be possible to deploy large PV arrays on natural or artificial islands.¹⁶⁸ The absence of

¹⁶⁴ National Renewable Energy Laboratory, "Learning about renewable energy: photovoltaics," *National Renewable Energy Laboratory* online: <http://www.nrel.gov/learning/re_photovoltaics.html> Last updated: 06 November 2008 (Date accessed: 22 June).

¹⁶⁵ National Renewable Energy Laboratory, "Concentrating Photovoltaic Technology," *National Renewable Energy Laboratory* online: <http://www.nrel.gov/csp/concentrating_pv.html> Last updated: 30 December 2009 (Date accessed: 03 June 2010).

¹⁶⁶ Peter Wong, "Solar thermal collector manufacturing activities 2007," *Energy Information Administration* online: <<http://www.eia.doe.gov/cneaf/solar.renewables/page/solarreport/solar.html>> Last updated: 01 October 2008 (Date accessed: 15 April 2009).

¹⁶⁷ National Renewable Energy Laboratory, "Learning about renewable energy: photovoltaics," *supra* Note 165.

¹⁶⁸ Solar cells currently have relatively low energy conversion efficiencies, i.e. the energy output per square centimeter of the cell surface. Current conversion

overhanging foliage and terrestrial elevations such as mountains fully exposes ocean-based solar arrays to the greatest possible amount and duration of sunlight (barring cloud cover, of course).

Normally, solar energy generates heat that causes the evaporation of water, which makes the air circulate and creates oceanic winds across the planet. The evaporation makes warm air rise and circulate, which creates winds that could then drive turbines. The iconic image of Dutch windmills commemorates the long history of usage of wind power. With present technology, a single wind turbine can now produce electricity in the order of several Gigawatts.¹⁶⁹ Wind speed, turbine heights, and turbine design determine the power output of any given wind turbine; computer-controlled blades now allow 'smart' windmills to adjust to the wind speed and direction, optimizing power generation.¹⁷⁰ Wind turbines combined with small diesel power plants form wind-diesel hybrid systems.¹⁷¹ These hybrid systems enable the continuous production of electricity; the wind turbines carry the load during windy periods, and when there is too little wind, the diesel engines take up the slack. They can provide cost-efficient and stable power to

efficiencies are only between 8 to 35% depending on the type; thus, the larger the area of a solar cell array, the more energy generated. Energy Information Administration, "Average energy conversion efficiency of photovoltaic cells and modules," *Energy Information Administration* online:
<http://www.eia.doe.gov/cneaf/solar.renewables/page/solarreport/table3_8.html>
Last updated: 01 October 2008 (Date accessed: 15 April 2009)..

¹⁶⁹ G.M. Joselin Herbert et al., "A Review of Wind Energy Technologies" (2007) 11 *Renewable and Sustainable Energy Reviews* 1117.

¹⁷⁰ Murat Kenisarin, Vedat M. Karsli, and Mehmet Caglar, "Wind Power Engineering in the World and Perspectives of Its Development in Turkey" (2006) 10 *Renewable and Sustainable Energy Reviews* 341; Energy Information Administration, "Wind," *Energy Information Administration* online:
<<http://www.eia.doe.gov/cneaf/solar.renewables/page/wind/wind.html>> Last updated: 01 April 2008 (Date accessed: 15 April 2009).

¹⁷¹ S. Drouilhet and M. Shirazi, *Wales, Alaska High-Penetration Wind-Diesel Hybrid Power System: Theory of Operation*, ed. National Renewable Energy Laboratory. Technical Report NREL/TP-500-31755 (Golden CO: National Renewable Energy Laboratory, 2002).

isolated locations off the main electrical grid, resolving the inherent problem of inconsistencies in electrical power output (due to wind speed variation) over time.¹⁷²

Wind farms have already begun proliferating in the coastal and offshore areas of some countries.¹⁷³ Coastal areas offer the best advantages for wind energy due to the absence of surface obstructions or irregularities (e.g. hills, trees) that affect wind velocities; also, surface winds from the oceans develop more strongly in these areas. Estimates show that wind turbine towers can be built most economically offshore in waters about 15 meters deep, and it is expected that wind farm locations will continue moving further offshore to mitigate visual and noise impacts that land-based communities often find objectionable.¹⁷⁴ Among the various renewable energy technologies available in many countries, wind power has most rapidly expanded its share of electricity generation due to decreasing capital costs and wind energy policy incentives.¹⁷⁵

The interaction of the wind with the sea surface also causes waves, yet another energy source with even greater energy production potential due to the density of the water and the amount of movement it can propel. Wave motion can mechanically drive turbines that generate electricity.¹⁷⁶ Tidal forces also create ocean waves as the moon's gravity

¹⁷² S. Rheman et al., "Feasibility Study of Hybrid Retrofits to an Isolated Off-Grid Diesel Power Plant" (2007) 11 *Renewable and Sustainable Energy Reviews* 635; J.K. Kaldelis and K.A. Kavadias, "Cost-Benefit Analysis of Remote Hybrid Wind-Diesel Power Stations: Case Study Aegean Sea Islands" (2007) 35 *Energy Pol'y* 1525; Pelc and Fujita *supra* Note 81 at 477-78.

¹⁷³ Gaetano Gaudiosi, "Offshore Wind Energy Prospects" (1999) 16 *Renewable Energy* 828 at 829-832; International Energy Agency, *Offshore Wind Experiences*. (Paris: International Energy Agency, 2005) at 7, 14-18.

¹⁷⁴ Pelc and Fujita *supra* Note 81 at 478.

¹⁷⁵ Joseph F. DeCarolus and David W. Keith, "The Economics of Large-Scale Wind Power in a Carbon-Constrained World" (2006) 34 *Energy Pol'y* 395 at 395; David Elliot, "Sustainable Energy: Choices, Problems and Opportunities." In *Issues in Environmental Science and Technology*, ed. R. Hester and Ed Harrison (Royal Society of Chemistry, 2003) at 30-31.

¹⁷⁶ There are seven general types of ocean wave energy devices:

causes the water to rise and fall. Various configurations of wave energy systems are now being developed to determine the most efficient and cost-effective means of producing electricity from ocean waves.¹⁷⁷

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1. Overtopping devices – floating structures with mounted turbines that turn as waves pass over them
 2. Point absorbers – floating buoys or anchored devices that absorb energy from many directions as the device is moved by the water around it
 3. Attenuators – snake-line, segmented devices with turbines at each segment joint, which are turned by the action of the water passing around the device and pushing the segments in a circular motion
 4. Oscillators – devices which use the action of the water in order to make a turbine turn; there are two kinds: oscillating water column devices in which the water moves up and down a chamber like a piston to compress and decompress air that turns an air turbine, and oscillating wave surge converters in which a floating device acts like an inverted pendulum that moves with the waves to turn a turbine
 5. Collectors – devices which capture waves to concentrate energy into any kind of power take-off system
 6. Submerged pressure differential – devices attached to the seabed that use waves to make the sea level in the device move up and down to induce a pressure differential, which can then be used to move water to generate power
 7. Terminators – a floating device that is positioned perpendicularly to the direction of the waves, on which a power take-off system can then be installed

See Rachel E. Salcido, "Rough Seas Ahead: Confronting Challenges to Jump-Start Wave Energy" (2009) 39 *Env'tl. L.* 1073 at 1076, and Robin Murray, Philip Michael, and Aaron Stevens, *Review and Analysis of Ocean Energy Systems Development and Supporting Policies: A Report By AEA Energy & Environment on the Behalf of Sustainable Energy Ireland for the IEA's Implementing Agreement on Ocean Energy Systems*. (Paris: International Energy Agency, 2006) at 18.

¹⁷⁷ Richard Boud, "Wave and current energy: Status and research and development priorities," in *DTI Report No. FES-R-132*, ed. UK Department of Trade and Industry (London: UK Department of Trade and Industry, 2003). at 9-21; OSPAR Commission, *An Overview of the Environmental Impact of Non-Wind Renewable Energy Systems in the Marine Environment*. Biodiversity Series OSPAR Commission, 2006) at 6-8; Pelc and Fujita *supra* Note 81 at 475-76.

Marine plant life may be cultured and harvested in the shallow coastal waters for the production of bio-energy sources. Among the best known are mangroves along the tropical coasts that have long been the source of charcoal and firewood.¹⁷⁸ They have long been traditional sources of firewood and construction material for coastal populations in many parts of the tropics, which is one of the reasons for mangrove deforestation.¹⁷⁹ Efforts to rehabilitate mangroves involve techniques for culturing and propagating mangroves have been a staple of many coastal conservation programs,¹⁸⁰ but such technology could be easily adapted for bio-fuel production purposes.

Cultured algae, seaweeds, and mangrove species could possibly supply bio-fuels for power-generating stations designed to use such fuels.¹⁸¹ Algae-based bio-fuel is currently the subject of research by academic institutions and commercial ventures.¹⁸² Kelp has

¹⁷⁸ Asiatic mangroves make high quality charcoal, and are estimated to have high calorific value of 8,799 BTUs. James A. Duke, "Handbook of energy crops (online version)," *Purdue University Center for New Crops & Plant Products* online: Last updated: 09 January 1998 (Date accessed: 15 April 2007).

¹⁷⁹ See UN Food and Agriculture Organization, *The World's Mangroves 1980-2005*. FAO Forestry Paper 153 (Rome: UN Food and Agriculture Organization, 2007) at 18-20, 26-28, 33-42, 46. See also Food and Agriculture Organization. "FAO Releases New Global Estimate of Mangroves: Deforestation Continues But at Slower Rate," Press release, 10 March 2003. Online <<http://www.fao.org/english/newsroom/news/2003/15020-en.html>> (Date accessed: 15 April 2007)

¹⁸⁰ See for example, Luzheng Chen et al., "Recent Progresses in Mangrove Conservation, Restoration and Research in China" (2009) 2:2 *Journal of Plant Ecology* 45; Bradley B. Walters, "People and Mangroves in the Philippines: Fifty Years of Coastal Environmental Change" (2003) 30:3 *Environmental Conservation* 293; and Suthawan Sathirathai and Edward B. Barbier, "Valuing Mangrove Conservation in Southern Thailand" (2001) 19:2 *Contemporary Economic Policy* 109.

¹⁸¹ Haroon S. Kheshgi, Roger C. Prince, and Gregg Marland, "The Potential of Biomass Fuels in the Context of Global Climate Change: Focus on Transportation Fuels" (2000) 25 *Annual Review of Energy and Environment* 199 at 211.

¹⁸² University of Virginia, "Algae: Biofuel of the future?," *Science Daily* online: <<http://www.sciencedaily.com-/releases/2008/08/080818184434.htm>> Last updated: 12 August 2008 (Date accessed: 16 April 2009); David Biello, "Biofuel of the

already been investigated as a bio-fuel,¹⁸³ and it is possible that other species of water plants in the ocean may also be found and used. Compared to their land-based counterparts, ocean-based bio-fuels have received less attention in research and development, but there is no reason to discount the possibility that the coastal and marine areas may be farmed for bio-fuels in the same way that they are now being farmed for fish, seaweeds, and other marine goods.

2.2.2.2 Energy from the Superjacent Waters

Beneath the surface, the seawater itself also carries energy in various forms. The liquid medium may host the most number of potential renewable energy devices; a study by the International Energy Agency in 2006 noted no less than 81 individual concepts for extracting energy from ocean waves, tidal currents, thermal and salinity gradients to be under development.¹⁸⁴

future: oil from algae," *Scientific American* online: <<http://www.sciam.com/article.cfm?id=biofuel-of-the-future>> (Date accessed: 16 April 2009); Paul Henley, "In bloom: growing algae for biofuel," *British Broadcasting Company* online: <<http://news.bbc.co.uk/1/hi/sci/tech/7661975.stm>> Last updated: 09 October 2008 (Date accessed: 16 April 2009); Alok Jha, "UK announces world's largest algal biofuel project," *Guardian News and Media Limited* online: <<http://www.guardian.co.uk/environment/2008/oct/23/biofuels-energy>> Last updated: 23 October 2008 (Date accessed: 16 April 2009); Jonathan Watts, "China Recruits Algae to Combat Climate Change," *The Guardian.co.uk* (29 June 2009), online: <<http://www.guardian.co.uk/environment/2009/jun/28/china-algae-carbon-capture-plan>>; Jad Mouawad, "Exxon to Invest Millions to Make Fuel From Algae," *The Seattle Times (Online)* (14 June 2009), online: <http://seattletimes.nwsources.com/html/business/technology/2009465938_exxonalgae14.html>.

¹⁸³ SINTEF, "Seaweed farming for sustainable bio fuel," in *SINTEF Fisheries and Aquaculture Newsletter* (Trondheim, Norway: Stiftelsen for industriell og teknisk forskning, 2008); Severin Carrell, "Kelp-fuel cars on the horizon in Scotland," *Guardian News and Media Limited* online: <<http://www.guardian.co.uk/environment/2008/dec/17/biofuels-scotland>> Last updated: 17 December 2008 (Date accessed: 15 April 2009).

¹⁸⁴ Murray, Michael, and Stevens, *supra* Note 177 at 8-9; also Annex 9.

The rise and fall of tides can be used to turn underwater turbines that generate power from the flow of tidally-impounded water or from the tidal streams.¹⁸⁵ Tidal energy technologies have existed since the late 1960s,¹⁸⁶ but have not come into widespread use due to the technology's need for specific coastal conditions. These include appropriate estuaries to host the dams for the turbines, and significant differences between tidal levels that maximize the production of energy at rates competitive with fossil fuels, in order to make it worthwhile to invest in a tidal power station.¹⁸⁷ Recently, high oil prices encouraged a review of the feasibility of tidal power. Experiments with new types of tidal power devices now use different materials and energy extraction technologies.¹⁸⁸

The transfer of energy from the atmosphere through waves, differences in water temperature and salinity, and tidal forces create undersea currents. These circulate seawater throughout the world's oceans, and the flow of water can drive undersea turbines to generate power.¹⁸⁹ Oceanographers have mapped many of the major oceanic currents, and appropriate devices may harness the continuous movement of these currents. A number of academic and commercial institutions are experimenting with various designs.¹⁹⁰ Like wave energy, even though the movement of currents may be slower than wind, they can generate more energy because water is denser than air and exerts greater kinetic force convertible to electricity; they are also more predictable and

¹⁸⁵ Iwan Ball, *Turning the Tide: Power From the Sea and Protection for Nature* (Cardiff: World Wildlife Fund - UK, 2002) at 63-92. See also Roger Berdard, Mirko Previsic, Omar Siddiqui, George Haberman, and Michael Robinson, *Survey and Characterization: Tidal in Stream Energy Conversion (TiSEC) Devices*. Electric Power Research Institute, 2005), which lists at least 14 different types of tidal power technologies and the companies developing them at present.

¹⁸⁶ The first commercial tidal power station was built in the 1960s at the La Rance, near St. Malo, France. Ball, *ibid.* at 65; Also Pelc and Fujita, *supra* Note 81 at 476-77.

¹⁸⁷ Pelc and Fujita, *ibid.*.

¹⁸⁸ OSPAR Commission, *supra* Note 178 at 8-9.

¹⁸⁹ Boud, *supra* Note 178 at 3-8.

¹⁹⁰ Robert Gordon University Aberdeen, *A Scoping Study for an Environmental Impact Field Programme in Tidal Current Energy*, ed. Department of Trade and Industry UK. DTI Pub/URN 02/882 (London: Department of Trade and Industry UK, 2002).

therefore more dependable than intermittent winds.¹⁹¹ Undersea currents are also expected to be more constant and predictable than winds over longer time periods, which means that the energy produced may be more consistent and stable than that generated by wind turbines.¹⁹² Underwater turbines are presently being designed and tested to exploit this resource in the near future.¹⁹³

Differences in water temperature at different depths of the ocean also create thermal layers, which may also be used to produce energy. In the late 1970s and 1980s, there was much excitement in scientific circles over the potential of Ocean Thermal Energy Conversion (OTEC).¹⁹⁴ OTEC uses the differences in water temperature to drive turbines that produce electricity; it is viable only in tropical seas and requires a temperature difference of at least 22° C between 1000m of water. Although OTEC was proposed originally in the 19th century, it was not until much later that it was actually attempted.¹⁹⁵ In the 1970s, the United States conducted two successful experiments with OTEC off Hawaii.¹⁹⁶ It coincided with the final stages of negotiations on the Law of the Sea Convention and generated much interest in OTEC as the new energy source of the future. However, the technology did not spread as anticipated because OTEC could not

¹⁹¹ Pelc and Fujita *supra* Note 81 at 475.

¹⁹² A. Muetze and J.G. Vining. "Ocean wave energy conversion - a survey." (Presented at the *41st IAS Annual Meeting: Conference Record of the 2006 IEEE*, Tampa FL, 8-12 October 2006). One of the key disadvantages of wind power is the intermittency of wind.

¹⁹³ *Ibid.*

¹⁹⁴ Pelc and Fujita *supra* Note 81 at 472-75.

¹⁹⁵ For a more detailed history and explanation of OTEC technologies, see Joseph C. Huang, Hans J. Krock, and Stephen K. Oney, "Revisit Ocean Thermal Energy Conversion System" (2003) 8 *Mitigation and Adaptation Strategies for Global Change* 157.

¹⁹⁶ Carmine C. Castellano, Eric A. Midboe, and George Jr. M. Hargerman, "The U.S. Department of Energy's 40MWE Ocean Thermal Energy Conversion Pilot Plant Program: A Status Report" (1983) 15 *Oceans* 728, online: <http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=1151976>.

economically compete with energy production from fossil fuels at the time.¹⁹⁷ But the high cost of petroleum in recent years has caused a re-examination of the feasibility of OTEC power plants.¹⁹⁸

In the coastal areas where the freshwater flowing from a river mixes with the sea, a salinity gradient is created. Differences in pressure between the lighter freshwater and denser seawater produces kinetic energy which can move turbines, which can in turn be converted into electricity through several means.¹⁹⁹ This process is called salinity gradient power or osmotic power. Russia, Norway and Netherlands are already experimenting with this potential resource.²⁰⁰

Finally, water from the sea could be separated into its component atoms to provide a plentiful source of hydrogen that is essential for hydrogen fuel-cell technology.²⁰¹ Hydrogen fuel-cells are a spin-off technology of the US space program; they generate electricity by combining hydrogen and oxygen in a chemical reaction, which produces a small electrical charge with plain water as a by-product.²⁰² A variety of hydrogen fuel cell technologies have been patented since the 1960s.²⁰³ Since the water produced can re-

¹⁹⁷ Pelc and Fujita, *supra* Note 81 at 473.

¹⁹⁸ Incidentally, the Department of Energy of the Philippines has already awarded one development contract for OTEC.

¹⁹⁹ A.T. Jones and W. Finley. "Recent developments in salinity gradient power." (Presented at the *Oceans 2003 Conference*, San Diego CA, 22-28 September 2003).

²⁰⁰ *Ibid.*; see also Murray, Michael, and Stevens, *supra* Note 177 at 17.

²⁰¹ Roberts, *supra* Note 119 at 66-75.

²⁰² International Energy Agency, *Prospects for Hydrogen and Fuel Cells*. Energy Technology Analysis (Paris: International Energy Agency, Organization for Economic Cooperation and Development, 2005) at 19.

²⁰³ Helge Godoe and Stian Nygaard, "System Failure, Innovation Policy and Patents: Fuel Cells and Related Hydrogen Technology in Norway 1990-2002" (2006) 34 *Energy Pol'y* 1697 at 1702-04; International Energy Agency at 81-87; Brian C.H. Steele and Angelika Heinzl, "Materials for Fuel-Cell Technologies" (2001) 414 *Nature* 345.

enter the natural water cycle, hydrogen fuel-cells could be considered also as a kind of renewable energy technology.

2.2.2.3 Energy from the Seabed

Although any activity in the deep seabed poses enormous technological challenges that may not be surpassed within the current generation, further into the future it may be possible to tap the seabed for energy production. Heat from undersea geothermal energy sources in volcanically active areas and deep hydrothermal vents that eject superheated water into the ocean conceivably could be tapped for energy production.²⁰⁴ Aside from geological features, biological sources of energy could also be possible. Experimental research is being conducted using algae to produce hydrogen is being conducted.²⁰⁵ Electricity can be produced from the interaction of microbes and bacteria found in marine waters and sediments.²⁰⁶ It has already been reported that at least 75 genomes of micro-organisms are potential bio-energy producers: 21 can produce methane, 24 produce

²⁰⁴ Admittedly, the use of hydrothermal vents for geothermal energy production may be fanciful speculation considering the depth and location of these vents. Undersea geothermal energy production from volcanic heat, though, might be more feasible around volcanically-formed islands, such the US State of Hawaii. For basic information on hydrothermal vents, see Thurman, *supra* Note 139 at 445-56. With respect to geothermal energy technologies, see US Department of Energy, "Geothermal Basics," *US Department of Energy* online: <http://www1.eere.energy.gov/geothermal/geothermal_basics.html> Last updated: 03 October 2008 (Date accessed: 03 June 2010).

²⁰⁵ Sangeeta Dawar, B.K. Behera, and Prasanna Mohanty, "Development of a Low-Cost Oxy-Hydrogen Bio-Fuel Cell for Generation of Electricity Using Nostoc As a Source of Hydrogen" (1998) 22 *International Journal of Energy Resources* 1019.

²⁰⁶ Frank Davis and P.J. Higson, "Biofuel Cells - Recent Advances and Applications" (2007) 22 *Biosensors and Bioelectronics* 1224 at 1230-31, and 1234; Daniel A. Lowy et al., "Harvesting Energy From the Marine Sediment-Water Interface II: Kinetic Activity of Anode Materials" (2006) 21 *Biosensors and Bioelectronics* 2058.

hydrogen, and 30 are potential bio-diesel producers.²⁰⁷ Some of these are found in marine bacteria.²⁰⁸

2.2.3 A Comparison of Ocean Energy Technologies

Ocean energy technologies exhibit great variety in characteristics that could be seen relevant to issues of allocation and distribution. Table 2 is an initial comparison of the technologies across several dimensions. The numerous dimensions indicate a wide variety of perspectives with which the question of distribution of impacts and effects might be approached. However, these only provide a superficial physical or economic starting point for consideration. How they may factor into an analysis of potential long-term social impacts may be limited.

²⁰⁷ Arizona State University, "Can microorganisms be a solution to the world's energy problems?," <<http://www.sciencedaily.com/releases/2008/07/080710094033.htm>> Last updated: 11 July 2008 (Date accessed: 22 June 2009).

²⁰⁸ Swedish Research Council, "Marine bacteria can create environmentally friendly energy source," <<http://www.sciencedaily.com/releases/2007/01/070115102154.htm>> Last updated: 15 January 2007 (Date accessed: 22 June 2009).

Energy Source	Energy type	Location of Facility	Availability of technology	Facility Physical Footprint	Scaleable energy output?	Production may be decentralized?	Renewable or not?	Access to resource	Energy output per unit?	Emissions?
Ocean current	Movement	Seabed, suspended	Under development	Small	Yes	Yes	Yes	High	High	None
Tidal	Movement	Surface, suspended	In use	Small	Yes	Yes	Yes	Moderate to High	High	None
Wind	Movement	Surface	In use	Small	Yes	Yes	Yes	High	Moderate	None
Wave	Movement	Surface, suspended	Under development	Small	Yes	Yes	Yes	High	Moderate	None
Hydro-thermal	Heat	Seabed	Theoretical	Unknown	No	No	Yes	Low	High	Low to moderate
Bio-electric cell	Bio-chemical reaction	Seabed	Under development	Small	Yes	Unknown	Yes	Low	Low	None
Electro-chemical	Electro-chemical reaction	Suspended	Under development	Small	Unknown	Unknown	Yes	Low	Low	Low to moderate
Seabed Geo-thermal	Heat	Seabed	Theoretical	Large	No	No	Yes	Low	High	Low to moderate
Solar	Photo-chemical reaction	Surface	In use (on land)	Small	Yes	Yes	Yes	High	Low	None
Bio-mass	Heat	Seabed, suspended	Under development	Moderate	Yes	Yes	Yes	High	Moderate	Moderate to high
Thermal layers	Heat differential	Suspended	Experimental	Small	No	No	Yes	Low to moderate	Low	None
Oil	Heat	Seabed	In use	Moderate to Large	No	No	No	Low	High	High
Natural gas	Heat	Seabed	In use	Moderate to Large	No	No	No	Low	High	High
Coal	Heat	Seabed	In use (on land)	Moderate to Large	No	No	No	Low	High	High
Subsea uranium	Nuclear	Seabed	Theoretical	Unknown	No	No	No	Low	High	Low
Gas hydrates	Heat	Seabed	Theoretical	Unknown	No	No	No	Low	High	Low to moderate
Hydrogen	Electro-chemical reaction	Surface, suspended	Under development	Unknown	Unknown	Unknown	Yes	High	Low to Moderate	None

Table 2. Initial comparison of ocean energy resources and technologies.

Among the marine energy technologies described, offshore petroleum is the most technologically “mature” of the non-renewable energy sectors. The technology has long been in use, and is the foundation of the global petroleum industry. This industry is built around major multi-national conglomerates that operate on a worldwide scale, whose ownership is weighted heavily in favor of the industrialized North. At present, the top 20 global energy companies are dominated by private multi-national corporations based in the US and Europe; they are challenged only by fully or partially government owned national oil companies.²⁰⁹ (See Table 3 below)

Rank	Company	Country	Assets (in billions of USD)	Revenues (in billions of USD)	Profits (in billions of USD)
1	ExxonMobil	USA	228.052	425.071	45.220
2	Chevron	USA	161.165	264.958	23.931
3	Royal Dutch Shell	Netherlands	282.401	458.361	26.277
4	BP	UK	228.238	361.143	21.157
5	Total SA	France	167.378	221.920	14.658
6	Petrobras	Brazil	148.015	107.106	16.424
7	Rosneft	Russian Federation	77.513	67.871	11.120
8	Gazprom OAO	Russian Federation	232.618	124.661	26.319
9	PetroChina Co	China	174.853	156.523	16.721
10	ENI SpA	Italy	164.945	149.692	12.215
11	StatoilHydro	Norway	91.892	105.244	6.984
12	LUKOIL Oil	Russian Federation	71.461	107.680	9.144
13	TNK-BP Holdings	Russian Federation	31.179	45.128	6.384
14	RWE AG	Germany	132.179	65.874	4.325
15	Occidental Petroleum	USA	41.537	24.217	6.839
16	EnCana Corp	Canada	52.740	32.012	6.329
17	BG Group	UK	40.296	20.594	5.125
18	EDF	France	283.356	88.971	4.706
19	Enel SpA	Italy	188.454	82.463	6.994
20	Marathon Oil	USA	42.686	72.128	3.528

Table 3. The top 20 energy companies of the world.

²⁰⁹ "Platts Top 250 global energy company rankings," *The McGraw-Hill Companies* online: <<http://www.platts.com/top250/index.xml>> Last updated: 17 June 2009 (Date accessed: 17 June 2009).

Meanwhile, in the renewable energy sectors, the distribution of research and development efforts show a comparable pattern favoring the North.²¹⁰ A plethora of innovative designs for renewable ocean energy technologies at different stages of development are currently undergoing tests, particularly those for waves and tides.²¹¹ Only a few are ready for commercial production, but the range and variation of projects show the many ways to extract the kinetic energy of the oceans on a commercial scale. They also indicate some of the serious challenges, and the imaginative solutions proposed by inventors and designers, for building an energy-extracting device that can withstand the extreme conditions of the marine environment.

The environmental difficulties faced by ocean energy technologies are widely varied, and the specifics are currently not well known. Any environmental impacts depend on the siting and scale.²¹² Ocean energy technologies of whatever kind need to be able to survive the adverse environmental conditions of the oceans, from the constant corrosion resulting from interaction with seawater to the destructive forces of extreme weather and water conditions. Natural processes associated with marine living resources (e.g., migration and reproduction) and non-living resources (e.g., siltation, geological events) also need to be considered together with human resource uses such as fishing and shipping. These systems must operate within a complex and interactive environment whose components are continually in flux.

Although research to date has tended to favor “off-the-shelf” components,²¹³ there is little doubt that ocean energy technologies will be high-technologies involving innovative designs and materials in order for such systems to be able to operate efficiently in the marine environment. The implementation of such technologies will also require a

²¹⁰ Khan and Bhuyan *supra* Note 41 at 3; Murray, Michael, and Stevens, *supra* Note 177 at 10.

²¹¹ See Khan and Bhuyan, *ibid.* at 8-25.

²¹² Pelc and Fujita *supra* Note 81 at 479.

²¹³ Murray, Michael, and Stevens *supra* Note 177 at 21.

significant amount of financial capital, due to the expenses associated with research and development, the devices themselves, installation, keeping the devices on station, and keeping them connected to the main power grid.²¹⁴ They may also require significant maintenance and operation costs due to conditions in the marine environment; these include planned and unplanned maintenance, overhauls, re-fits, licenses and other regulatory costs, and monitoring of performance and environmental conditions.²¹⁵ The regular capital and maintenance and operation costs must be considered against the returns from energy produced in order for the system to remain economically viable.²¹⁶

2.2.4 Leadership in Ocean Energy Technologies

It is no surprise that, considering the characteristics of ocean energy technologies in the previous section, an assessment of renewable ocean energy technologies recently released by the International Energy Agency revealed that ocean-based renewable energy systems are currently being developed mostly by the industrialized countries of the North, led by the United Kingdom and the United States.²¹⁷ (See Figure 4) Substantial resources are required for the development of such incipient high technologies. Much of the scientific and engineering expertise and modern equipment needed for research and development reside in the leading academic institutions and private sector of the North. Sustained and purposive research and development of ocean energy technologies also require a significant amount of financial support from both private funds and government subsidies. From previous experience, State support has played a strategic role in

²¹⁴ John Callaghan, *Future Marine Energy: Results of the Marine Energy Challenge, Cost Competitive and Growth of Wave and Tidal Stream Energy*. (London: The Carbon Trust, 2006) at 10-12.

²¹⁵ *Ibid.*

²¹⁶ *Ibid.*

²¹⁷ See Murray, Michael, and Stevens *supra* Note 177 at 10; also Khan and Bhuyan *supra* Note 41 at 3.

underwriting renewable energy research and development²¹⁸ since they do not produce immediate profits and may even result in findings that certain devices are not feasible. The human, technical, and financial resources needed to develop new ocean energy technologies are more readily available in the industrialized countries. Figure 4 thus also indicates the relative extent to which some of the leading countries are investing resources to subsidize the development of ocean energy technologies.

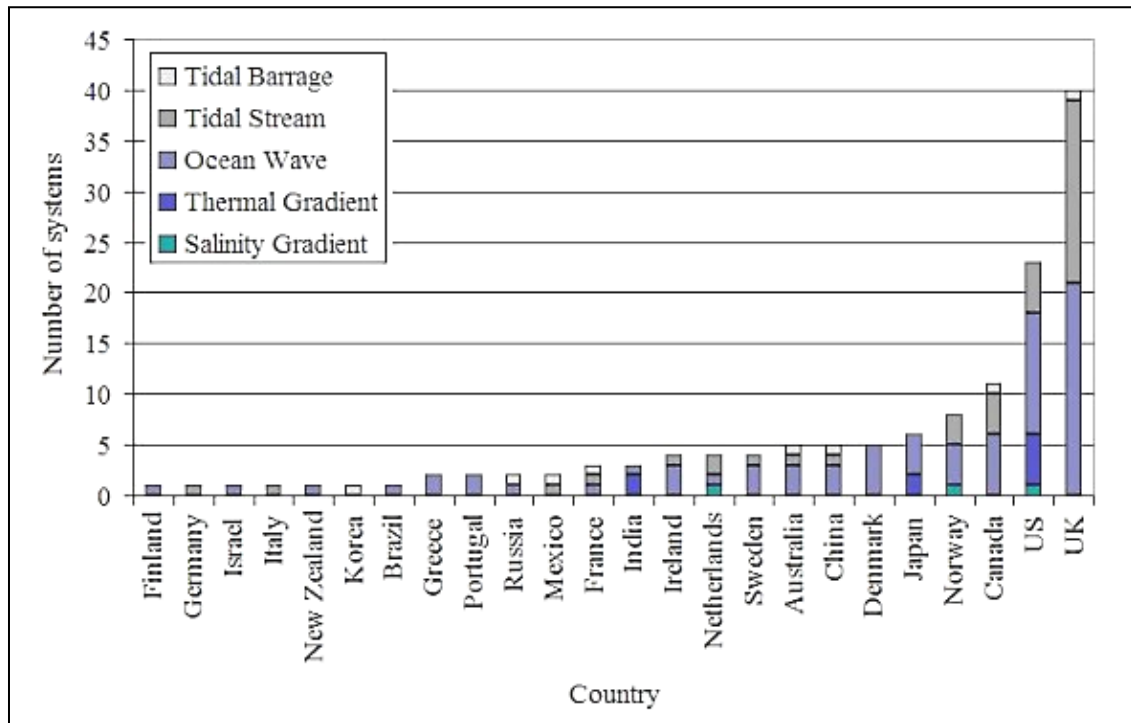


Figure 4. Countries leading in ocean energy technology development, from Khan and Bhuyan, *supra* Note 41 at 3.

²¹⁸ For an examination of the role of government financial subsidies and policy support to the development of wind energy technologies in windpower-leaders Denmark and Norway, for example, see Jorund Buen, "Danish and Norwegian Wind Industry: The Relationship Between Policy Instruments, Innovation and Diffusion" (2006) 34 Energy Pol'y 3887. A comparative study on the role of government support to research and development of wind power was also undertaken in Matthias Heymann, "Signs of Hubris: The Shaping of Wind Technology Styles in Germany, Denmark and the United States, 1940-1990" (1998) 39:4 Technology and Culture 641.

The motivation for taking leadership in these environment-friendly technologies is best articulated by the United Kingdom, which actively pursues an official policy to become the leader in marine renewable energy development.²¹⁹ The British government previously committed itself to be the forerunner in this technological frontier banking on the theory that success in the economy of the 21st century depends on this “innovation advantage.”²²⁰ In its proposed Renewable Energy Strategy, it is forthrightly stated that “innovation is essential to the UK’s economic prosperity and quality of life.”²²¹ The UK’s current leadership in research and development shows that it is pursuing this policy very seriously. There is indeed a powerful economic incentive; one joint government-private sector study asserted:

Wave and tidal streams could develop into significant global markets by 2050 which the UK, as current leaders in this emerging technology, would be well placed to exploit.²²²

²¹⁹ See George Marsh, "Energy From the Sea: UK Positions Itself to Lead Marine Renewables" (2005) 6:6 *Refocus* 30.

²²⁰ See Tim Foxon, Robert Gross, and Dennis Anderson, *Innovation in Long Term Renewables Options in the UK: Overcoming Barriers and 'System Failures'. Final Report 2003*. DTI Renewable Innovation Review (London: Imperial College London Centre for Energy Policy and Technology, 2003); also also Imperial College London Centre for Energy Policy and Technology and E4Tech Consulting, "The UK Innovation Systems for New and Renewable Energy Technologies," *Imperial College London Centre for Energy Policy and Technology* online: <<http://www.berr.gov.uk/energy/sources/renewables/policy/government/innovation-review/page15308.html>> (Date accessed: 15 June 2007) [UK Innovation Systems Report 2003] at 9-15.

²²¹ Department for Business Enterprise & Regulatory Reform, *UK Renewable Energy Strategy Consultation Document* (London: Department for Business, Enterprise, and Regulatory Reform, 2008) at 204.

²²² Department of Trade and Industry UK and The Carbon Trust, "The Renewables Innovation Review," *Department of Trade and Industry UK; The Carbon Trust* online: <<http://www.berr.gov.uk/energy/sources/renewables/policy/government/innovation-review/page15308.html>> (Date accessed: 15 June 2007) at 38.

No less than US President Barack Obama voiced a similar motivation for economic gain when he presented his economic recovery plan in his first address to the Joint Session of the US Congress in February 2009. Pointing to energy as the first of three critical areas for America's economic future, he stated:

We know the country that harnesses the power of clean, renewable energy will lead the 21st century. And yet, it is China that has launched the largest effort in history to make their economy energy efficient. We invented solar technology, but we've fallen behind countries like Germany and Japan in producing it. New plug-in hybrids roll off our assembly lines, but they will run on batteries made in Korea.

Well I do not accept a future where the jobs and industries of tomorrow take root beyond our borders – and I know you don't either. It is time for America to lead again.

...(T)o truly transform our economy, protect our security, and save our planet from the ravages of climate change, we need to ultimately make clean, renewable energy the profitable kind of energy. So I ask this Congress to send me legislation that places a market-based cap on carbon pollution and drives the production of more renewable energy in America. And to support that innovation, we will invest fifteen billion dollars a year to develop technologies like wind power and solar power; advanced bio-fuels, clean coal, and more fuel-efficient cars and trucks built right here in America.²²³

It is clear from the above excerpt that the US perceives renewable energy technologies as one of the most important markets to emerge in the 21st century. New industries built around such technologies may generate employment opportunities and products for both domestic and overseas markets. It is seen, however, that the call for development of renewable energy technologies is tied to an American agenda of "retaking the lead" and ensuring that the "jobs and industries of tomorrow" do not "take root" beyond US borders. Though peppered with patriotic rhetoric, one cannot dismiss out of the hand the

²²³ Barack Obama, "Remarks of President Barack Obama - as prepared for delivery, address to Joint Session of Congress, Tuesday February 24th, 2009," *White House Press Office* online: <http://www.whitehouse.gov/the_press_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/> Last updated: 24 February 2009.

truth that the US simply does not want to lose any degree of its status as a premier technological and economic power.

In addition to the obvious advantages of technological leadership, the most attractive aspect of leadership in the development of new technologies recognized by the UK is the phenomenon of “technological and institutional lock-in.” This refers to historical patterns technologies exhibit: the more a technology or institution is adopted, the more likely it is to be further adopted. Technology positively feeds back to itself, such that a technology with a better rate of adoption and usage can achieve complete market dominance at the expense of competitors (even if they are objectively better technologies), because users are ‘locked-in’ to the technology more popularly used. As technological systems lock-in, similar positive feedbacks take place with respect to the institutional structures that support them, such as market rules and policy frameworks.²²⁴ Particular forms and practices also tend to lock-in around the institutions that regulate the technologies. The lock-in phenomenon applies with just as much force with new renewable energy technologies.²²⁵

²²⁴ See UK Innovation Systems Report 2003 at 12. One interesting aspect of technological lock-in is that the technology that prevails need not be the *superior* technology; it may be that all that is required is that the technology have more popular or market support. The case of the “format war” between VHS and Betamax videocassettes is a well-known case of how factors such as technological and institutional lock-in contribute to the dominance of particular technologies on grounds other than their inherent merits. The ‘lock-in’ phenomena was postulated as economic theorem in W. Brian Arthur, “Competing Technologies, Increasing Returns and Lock-In By Historical Events” (1989) 99:394 *Economic Journal* 116. See also S.J. Liebowitz and Stephen E. Margolis, “Path Dependence, Lock-In, and History” (1995) 11 *J.L. Econ. & Org.* 205.

²²⁵ See Robin Cowan and David Kline, *The Implications of Potential “Lock-In” in Markets for Renewable Energy* (Golden CO: National Renewable Energy Laboratory, 1996). The study concludes that lock-in dynamics are involved in two ways with respect to renewable energy. First, conventional energy technologies are already locked-in, which hinders the adoption of renewable; and second, assuming that conventional energy technologies are dislodged, there is a potential for global markets for renewable energy to captured.

Thus, the race to develop new ocean energy technologies is driven not by a sense of responsibility and altruism, but perhaps even more urgently by the objective of creating, conquering, and controlling new and energy markets and their supporting institutional frameworks. This is fully in line with the pervasive free-market philosophy of the times; even global environmental frameworks (e.g., the UNFCCC and CBD) are increasingly subjected to market-based incentives and mechanisms.²²⁶ Although the industrialized countries of the world are invited by the UNFCCC “to take the lead in combating climate change and the adverse effects thereof” to comply with their common but differentiated responsibilities,²²⁷ they are probably more effectively motivated by the fact that leadership in ocean energy technologies is vital to capturing future positions of advantage in the global economy. These motivations to lead in the development of ocean energy technologies should therefore raise certain doubts, especially for developing countries.

²²⁶ See for example, discussions of market-based instruments in Richard B. Stewart, "Environmental Regulation and International Competitiveness" (1993) 102 Yale L. J. 2039; Eric W. Orts, "A Reflexive Model of Environmental Regulation" (1995) 5:4 Business Ethics Quarterly 779; Robert N. Stavins, "Policy Instruments for Climate Change: How Can National Governments Address a Global Problem?" (1997) University of Chicago Legal Forum 293; Jonathan Baert Wiener, "Global Environmental Regulation: Instrument Choice in Legal Context" (1999) 108 Yale L. J. 667; Jonathan B. Wiener, "Something Borrowed for Something Blue: Legal Transplants and the Evolution of Global Environmental Law" (2001) 27 Ecology Law Quarterly 1295; Perry Wallace, "Global Climate Change and the Challenge to Modern American Corporate Governance" (2002) 55 Southern Methodist University Law Review 493; Denée A. DiLuigi, "Kyoto's So-Called 'Fatal Flaws': A Potential Springboard for Domestic Greenhouse Gas Regulation" (2002) 32 Golden Gate University Law Review 693; Jolene Lin Shuwen, "Assessing the Dragon's Choice: The Use of Market-Based Instruments in Chinese Environmental Policy" (2004) 16 Geo. Int'l. Env'tl. L. Rev. 617; Jonathan B. Wiener, "Radiative Forcing: Climate Policy to Break the Logjam in Environmental Law" (2008) 17 N.Y.U. Env'tl. L. J. 210.

²²⁷ *United Nations Framework Convention on Climate Change*, art. 3, para. 1.

2.3 The Trojan Machines of Social Inequity

The Trojan Horse described at the beginning of this chapter is an archetypical myth that describes the common experiences of many societies throughout history, especially when dealing with new technologies.²²⁸ There are indeed indications that the adoption and proliferation of ocean energy technologies provide an opening for another kind of subordination, driven by the profit motive that has become a most powerful agent of change in today's global free market economy. But even without an intentional effort toward market domination, the introduction and distribution of technologies in itself may form the basis for the creation of social hierarchies.

2.3.1 A Sociological View of Technology

Up to this point, the discussion has used the term 'technology' in its most common sense, dictionary-definition. Webster's New World Dictionary defines technology as rooted in the Greek *teknologia* which means 'systematic treatment,' and meaning, among others, "a capability given by the practical application of knowledge," or "a manner of accomplishing a task especially using technical processes, methods, or knowledge."²²⁹ Anything 'technological' further means to be "of, relating to, or characterized by technology," or "resulting from improvements in technical processes that increase

²²⁸ For a fascinating account of the major role played by technology and its diffusion in either the ascendance or subjugation of human societies, see Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Societies*, 2003 ed. (New York: W.W. Norton & Company, 1997). Diamond argues that across the world, societies developed at different rates and either gained dominance or fell behind others due to differences in their continental environments, which influenced the development of political organizations and advanced technologies that in turn underpinned their respective rates of growth and expansion. He cites the role of food production technologies (agriculture), hand in hand with military technologies, as pivotal in "(t)he main process running through the history of the last 10,000 years: human groups with guns, germs, and steel, or with earlier technological and military advantages, spreading at the expense of other groups, until either the latter group became replace or everyone came to share the new advantages." *Ibid.* at 429.

²²⁹ Frederick C. Mish, ed., *Merriam-Webster's Collegiate Dictionary, Tenth Edition*, Philippines Reprint ed. (Mandaluyong City: National Bookstore, 1993) at 1210.

productivity of machines and eliminates manual operations or operations done by older machines.”²³⁰

These familiar definitions of technology, of course, refer to the materials, instruments, or hardware designed and used for a particular purpose;²³¹ many people would probably point immediately to specific gadgets like cellphones or spaceships when asked what technology is. Since such gadgets are often the product of deliberate scientific research and design, the ordinary person often connects technology inseparably to science, which in turn often connotes values like accuracy, precision, factuality, reliability, and impartiality: technology as the product of science.

For many people, though, technology is mainly about means and tools. Charles Susskind offers a definition of technology that coincides with this perception: “man’s efforts to satisfy his material wants by working on physical objects.”²³² W. Brian Arthur’s most recent and incisive exploration of the very nature of technology shows a similar focus, when he defines technology in three ways as “a means to fulfill a human purpose...an assemblage of practices and components...[and] as the entire collection of devices and engineering practices available to a culture.”²³³

However, the social sciences have long surpassed this limited scope, notably in the fields of anthropology, sociology, and political science. In anthropologist François Sigaut’s account, technologies are activities intended for social goals, not merely the tools used. These activities are distinct in that they are ‘intentionally material,’ or in which “the social goals have taken the form of material needs, and these needs become the agent’s true goal.” So for example, in the development of energy technologies, the social goal of acquiring useable fuel and electricity transforms into a goal of acquisition of energy

²³⁰ *Ibid.*

²³¹ John Street, *Politics and Technology*, ed. Steve Fuller. The Conduct of Science Series (New York: Guilford Press, 1992) at 7.

²³² Susskind, *supra* Note 34 at 1.

²³³ Arthur, *supra* Note 34 at 28.

production and distribution devices. Social and material goals combine and are inseparable in any given society. Every action (‘someone doing something’) is a technical act or ‘operation’ intended to transform one physical state, element, or condition into another. Operations are typically not isolated, but form part of a sequence of operations called a ‘path.’ All disparate paths of technology present and used in a society are part of a larger process in turn linked into the complex network which comprises the economy of that society.²³⁴

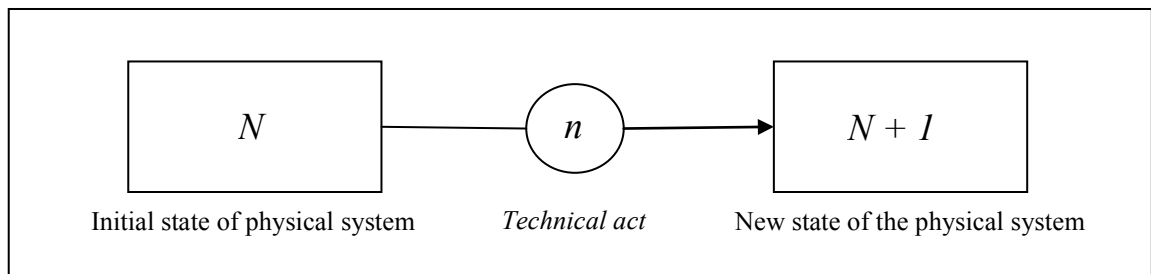


Figure 5. Francois Sigaut's representation of a technical act or 'operation' which comprises any technology. Source: Sigaut 1994 at 425.

Sigaut illustrates the ‘operation’ as a linear sequence of events in Figure 5.²³⁵

Technological paths and networks provide a means to both visualize and analyze some of the impact of a given technology on other technologies. Applying the notion of operations and paths to a given ocean energy technology, then, results in its description as a series of connected activities or nodes. When this path is imagined to traverse varied geographical spaces to which distinct legal regimes apply (what Law refers to as jurisdictions), then it is easy to visualize, identify, and understand the potential impact of a technology across any given social space, as in the example of the Malampaya natural gas project in Figure 6. Imagining a technological system as a series of paths crossing geographic space, it is easy to see that the path of any ocean energy technology may intersect with those of other technologies operating in the same ocean area. Consider the

²³⁴ Sigaut, "Technology." In *Companion Encyclopedia of Anthropology*, ed. Ingold (London: Routledge, 1994), 420-59 at 424-26.

²³⁵ *Ibid.* at 425.

path of offshore petroleum : first the petroleum is extracted by an offshore platform; then it is transported (by pipeline or ship) to a processing facility; then it is refined into a useable fuel (e.g. bunker fuel); then the fuel is transported to a power generating facility; then the power is distributed to its users. At any point within this sequence of operations, the path may coincide with the operations of another technology: for example, the extraction may intersect with the 'hunting' phase of fishing, or the transportation may coincide with the 'cultivation' stage of farming. Technological paths may connect, cut, supplant, short-circuit, or be independent of other technological paths, and how these intersections are made depend on the supporting framework that Law provides.

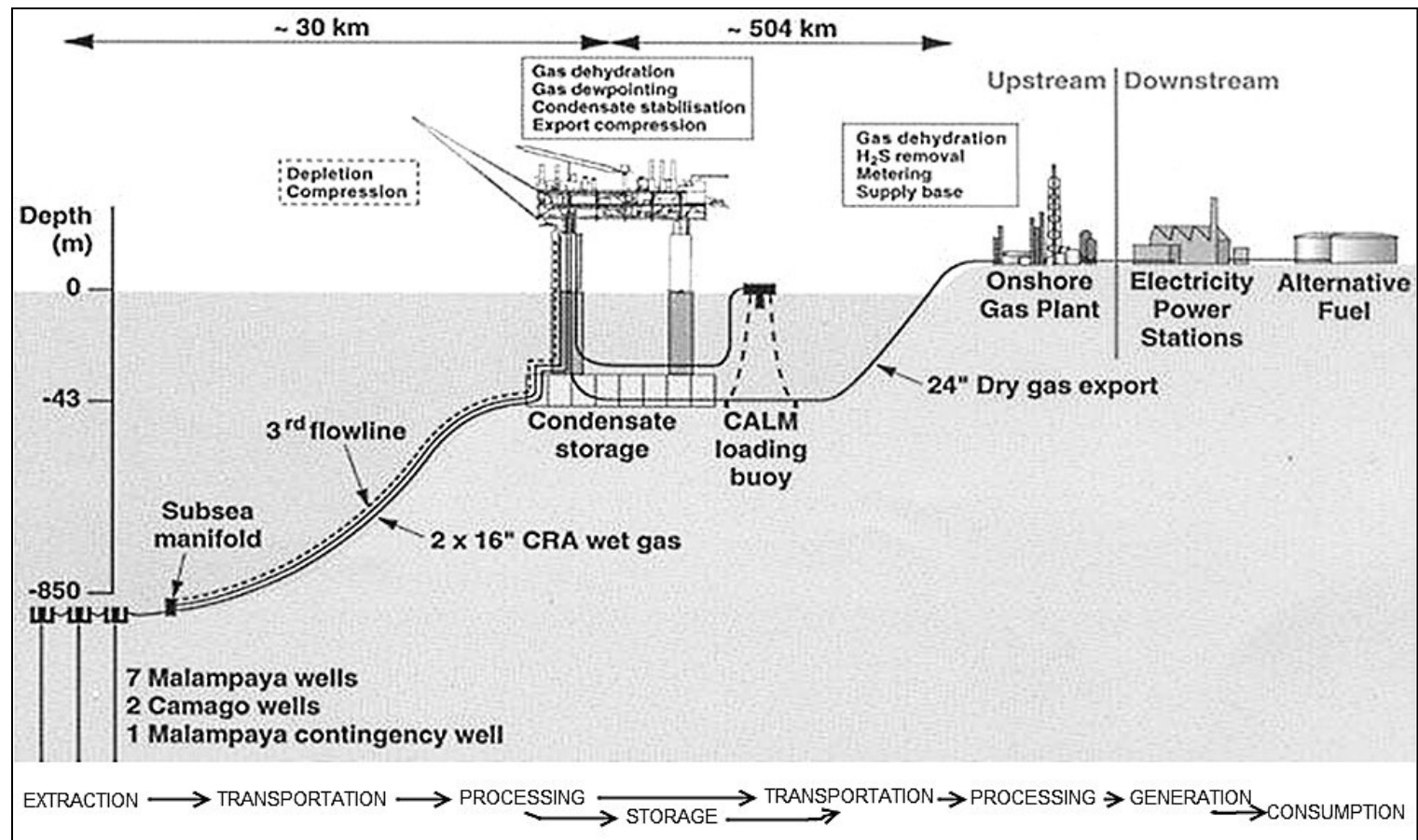


Figure 6. The Malampaya Deepwater Gas to Power Project, explained in greater detail in Chapter 7, seen as an extended series of technical operations per Sigaut. Diagram modified from original by Shell Philippines Exploration.

Political scientist John Street likewise sees technology as more than just “human-made objects with instrument value”²³⁶ and “the way in which parts are organized, through the application of knowledge, to realize their particular purpose,”²³⁷ but more importantly, also encompassing “a set of decisions about how that technology ought to work.”²³⁸ He notes that “people have to be organized, as well as scientific principles applied, for a technology to have a proper existence.”²³⁹ For this reason, Street sees a direct connection between technology and power: they may require new relationships between users, may reduce freedom as well as increase it, or play a key role in the organization of the political economy of a country.²⁴⁰ Thus, technology and politics are inter-twined: since Law is an outcome of a political process, it is important to determine how technology impacts upon Law as much as how Law affects technology.

Finally, in a footnote in *Das Kapital*, Karl Marx states offhand:

Technology discloses man’s mode of dealing with Nature, the process of production by which he sustains life, and thereby also lays bare the mode of formation of his social relations, and of the mental conceptions that flow from them.²⁴¹

This brief but profound insight informs this research,²⁴² and opens the door for inquiring into the social impact of ocean energy technologies. If technology indeed ‘discloses’ social relations, and the state of relations between different persons defines the presence

²³⁶ Street *supra* Note 231 at 7.

²³⁷ *Ibid.* at 8.

²³⁸ *Ibid.* at 9.

²³⁹ *Ibid.*

²⁴⁰ *Ibid.* at 10-12.

²⁴¹ Karl Marx, *Capital: A Critical Analysis of Capitalist Production*, ed. Frederick Engels, trans. Samuel Moore and Edward Aveling, 4th ed., 4 vols., vol. 1 (Moscow: Progress Publishers, 1887) at 352, n. 2

²⁴² This insight is even more remarkable when one considers that it is only 3 lines in one footnote out of the first 766 pages of his 3-volume *opus*.

or absence of justice, then it follows that a technology may establish relations of either justice or injustice.

2.3.2 Technology and Development

The question of whether technology leads to justice (or injustice) has been a question of global importance for some time. Even today, the adoption and use of ‘modern’ technologies are seen by laypersons as a key indicator of development. The average person equates the term ‘development’ with technological advancement; this underlies common perceptions of what constitutes ‘modernization.’ Yet this common perception often disjoins reality, especially in the so-called ‘developing’ world to which it is as like a panacea to the many problems they face.

On this account, a number of scholars from these countries have critically questioned and examined all manner of development concepts and terminologies.²⁴³ Arturo Escobar contends that the introduction and spread of all manner of ‘modern’ technologies as part of some overall ‘development’ strategy have actually played a key role in the assimilation, subordination, and destruction of entire cultures and ways of life, especially in the aftermath of the Second World War.²⁴⁴ He argues that since the 1950s,

²⁴³ For excellent references on the many facets of development, see Gilbert Rist, *The History of Development: From Western Origins to Global Faith*, 2004 ed. (London: Zed Books, 1997); Wolfgang Sachs, ed., *The Development Dictionary: A Guide to Knowledge As Power* (London: Zed Books, 1992); and Majid Rahnema and Victoria Bawtree, *The Post-Development Reader* (Halifax: Fernwood Publishing, 1997).

²⁴⁴ For a detailed discussion of this phenomenon, see Arturo Escobar, *Encountering Development: The Making and Unmaking of the Third World* (Princeton; New Jersey: Princeton University Press, 1995) and Arturo Escobar, "The Invention of Development" (1999) 98:631 *Current History* 382. Escobar traces the ‘nightmare’ and broken promises of development through technology to a policy doctrine enunciated by United States President Harry S. Truman in 1949, when he declared that “(g)reater production is the key to prosperity and peace. And the key to greater production is a wider and more vigorous application of modern scientific and technical knowledge.” Quoted in Escobar, *ibid.* at 3. He argues that this gave rise to the reconstruction of social realities by dividing human societies between the technologically-advanced countries and the less advanced “underdeveloped” or

...(d)development was conceived not as a cultural process (culture was a residual variable, to disappear with the advance of modernization) but instead as a system of more or less universally applicable technical interventions intended to deliver some “badly needed” goods to a “target” population. It comes as no surprise that development became a force so destructive to third world cultures, ironically in the name of people’s interests.²⁴⁵

Technology is thus a double-edged sword, but in a way not so obvious to most people. Any new technology, especially one that promises tangible benefits and conveniences, is regarded often as evidence of progress. This is an instrumental view of technological development, and implicitly assumes technology to have an essentially neutral and passive character: technology as efficiency or as improvement. By common experience, the conveniences and benefits offered by ever-advancing technology beguile people, who accept their assumed neutrality and passivity without a second thought. Technology is associated with lifeless machines and mechanisms having no inherent intentions or motivations. As such, one may dismiss them easily as harmless or inactive instruments whose effects are inseparable from those of their users. Conventional wisdom questions the users, rather than the technology itself.

However, as technology becomes ubiquitous and inseparable from daily life, the presumed neutrality and passivity of technological development has been challenged. Academic work to this end was begun by historians as early as the 1950s, although it was not until the 1980s when a wider range of disciplinary lenses and a broader scope of studies were brought to bear on the relationships between science and technology and

“developing” countries of the Third World. In so doing, it established and consolidated the role of industrialized countries as the ideal models of progress and modernity, and legitimated their dominant roles as the overseers and directors of the pervasive dream of “development.” This came at a heavy price: subordination through the implicit acceptance of the superiority of Western life and the re-ordering of Third World societies and economies to serve the interests of Western capitalism through “development assistance” and “technology transfer.” He concludes that *underdevelopment* in the Third World persists precisely because of this framework of development.

²⁴⁵ Escobar, “The Invention of Development,” *ibid.* at 384.

human society, and this included issues related to the environment.²⁴⁶ These critiques gave birth to a new and interdisciplinary stream of academic inquiry called 'science studies' whose main purpose was to question the very nature of science and its implications to society in general.²⁴⁷ The broader critique of science and technology during this period coincided with the appraisal of the technology-centred development paradigm that had dominated since the end of the Second World War and began to exhibit notable policy failures by the late 1960s.²⁴⁸

At the heart of this discussion was a critique of the industrial society (as well as the developed world) that was geared toward the mass production of goods and single-minded concern for growth. In *Tools for Conviviality*,²⁴⁹ Ivan Illich lamented industrial society's response to contemporary problems:

It has become fashionable to say that where science and technology have created problems, it is only more scientific understanding and better technology that can carry us past them. The cure for bad management is more management. The cure for specialized research is more costly interdisciplinary research, just as the cure for polluting rivers is more costly non-polluting detergents. The pooling of stores of information, the building up of a knowledge stock, the attempt to overwhelm present problems by the production of more science is the ultimate attempt to solve a crisis by escalation.²⁵⁰

Illich's critique might be perceived as being primitivist and anti-technological. But closer reading shows that it is not the existence of technology that he questions, but the way in

²⁴⁶ See Stine and Tarr, *supra* Note 22.

²⁴⁷ For a fascinating overview of the history of this field, its varied streams, and key contributors, listen to the radio series on science studies, presently available as podcasts, by David Cayley, "How to Think About Science," *Canadian Broadcasting Corporation* online: <<http://www.cbc.ca/ideas/features/science/index.html>>.

²⁴⁸ See Gustavo Esteva, "Development." In *The Development Dictionary: A Guide to Knowledge as Power*, ed. Wolfgang Sachs (London: Zed Books London, 1992); also Ullrich, *supra* Note 47.

²⁴⁹ Ivan Illich, *Tools for Conviviality*, 1990 ed. (London: Marion Boyars Publishers, 1973).

²⁵⁰ *Ibid.* at 9.

which society is adjusting and conforming to technology, instead of the other way around. Apart from generating addiction and dependence due to the convenience it offers, technology can also subtly and invisibly hinder society from exploring its own options for development without additional technology. It may tend to limit social choices in the search for solutions to those which rely likewise on technology.

2.3.3 Technology and Culture

Illich's questions on the transformation of a rural into urban society through industrialization have actually long been the subject of thoughtful inquiry since the dawn of the Industrial Revolution. Perhaps one of the most influential of these studies is Karl Marx's seminal *Das Kapital*, which devotes an entire chapter to the role of "machinery and modern industry" in the economic system.²⁵¹ Marx argued that machines and mechanical inventions were primarily a means of producing surplus value. He traced the development of the mass production of goods in three stages. He found its origins in handicraft, the first stage at which workers have and exercise all the necessary skills to carry out the production of a good.²⁵² As trade improved and the demand for more goods had to be met, handicraft evolved into organized manufacture, wherein cooperation between workers establishes a division of labour in order to increase the efficiency of production.²⁵³ Initially it is merely a combination of various handicrafts, but it eventually it is dis-aggregated into separate stages of work coordinated by the capitalist for purposes of efficiency and cost-reduction. Thereafter, the efficiency of production is improved by the introduction of machinery into the production process.²⁵⁴

²⁵¹ Marx, *supra* Note 241 at 351-475.

²⁵² *Ibid.* at 318-19.

²⁵³ *Ibid.* at 320.

²⁵⁴ *Ibid.* at 432-51; see also Robert J. Antonio, ed., *Marx and Modernity: Key Readings and Commentary, Modernity and Society* (Malden; Oxford; Victoria: Blackwell Publishing, 2003) at 131-34.

From the three stages Marx outlined, it may be seen that the development of technologies for economic production is characterized by the rise of efficiency as the dominant value in the productive process. This prioritization of efficiency transforms workers from individual autonomous units into parts of a larger production system. Machines are tools, and at first they only assist the workers in carrying out their assigned tasks. However, once machinery are established in order to perform manufacturing tasks on larger and larger scales, the workmen then become subordinated to the machines because

Manufacture itself furnishes, in a general way, the natural basis for the division, and consequent organisation, of the process of production. Nevertheless an essential difference at once manifests itself. In Manufacture it is the workmen who, with their manual implements, must, either singly or in groups, carry on each particular detail process. If, on the one hand, the workman becomes adapted to the process, on the other, the process was previously made suitable to the workman. This subjective principle of the division of labor no longer exists in production by machinery. Here, the process as a whole is examined objectively, in itself, that is to say, without regard to the question of its execution by human hands, it is analysed into its constituent phases; and the problem, how to execute each detail process, and bind them all into a whole, is solved by the aid of machines, chemistry, etc...²⁵⁵

Marx clearly viewed modern industry as requiring a form of organization “in which the laborer becomes a mere appendage to an already existing material condition of production.”²⁵⁶ This subordinating imperative is implemented at large scales within the factory as the center of the mode of production:

The technical subordination of the workman to the uniform motion of the instruments of labor, and the peculiar composition of the body of workpeople, consisting as it does of individuals of both sexes and of all ages, give rise to a barrack discipline, which is elaborated into a complete system in the factory, and which fully develops the before mentioned labor

²⁵⁵ Marx, *supra* 242 at 359.

²⁵⁶ *Ibid.* at 364.

of overlooking, thereby dividing the workpeople into operatives and overlookers, into private soldiers and sergeants of an industrial army.²⁵⁷

Marx, however, chose to maintain his focus on the role of this disciplinary imperative in the production of surplus value on the working class in the factory; he does not take this particular train of thought to explore beyond the factory walls.²⁵⁸ It may be argued that Marxist analysis views technology mainly as a passive instrument of capital whose main purpose is to increase efficiency by reducing the amount and cost of the effort exerted to produce a material good.²⁵⁹ It sees the transformation of the work process through technology as an outcome, rather than the cause, of changes in the class structure and property relations, and does not adequately scrutinize the ‘feedback’ effect it has on the integrity of culture and hierarchies of power. This is understandable considering that Marxist analysis is primarily a study in economics, not culture. However, it also recognizes that technology may be employed as a means of dominating the work-force; the mechanization of the factory is portrayed as “moving all intelligence and discretion from the worker to the “collective machine,” and making the factory workers mere adjuncts and subordinates of the machinery.²⁶⁰

Ursula Franklin examines this feedback loop in *The Real World of Technology*,²⁶¹ where she describes technology as a synergistic system that “involves organization, procedures,

²⁵⁷ *Ibid.* at 399-400.

²⁵⁸ Apart from the second footnote to “Chapter XV: Machineries and Big Industries” of *Capital* (previously quoted), Marx does not deal with specific technologies separately from the macro-level “means of production” that are subject of this work. It may, however, be strongly argued that *Capital* is, for a large part, a very detailed study of the technology of the factory and the mass production of goods that it permits.

²⁵⁹ Traditional Marxist analysis using historical materialism would hold that all technology is created merely in response to the economic needs and historical forces that move society from feudalism to communism. For an overview of traditional Marxist views of technology, see Susskind, *supra* Note 34 at 97-101.

²⁶⁰ See Antonio, *supra* Note 254 at 131-32.

²⁶¹ Ursula M. Franklin. *The Real World of Technology*, 1999 ed.. CBC Massey Lectures Series (Toronto: House of Anansi Press, 1990).

symbols, new words, equations, and most of all, a mindset.”²⁶² She argues that this results in the reordering and restructuring of all social relations between individuals, social groups, nations, and even the environment.²⁶³ Franklin regards technology as referring to the ways of doing things,²⁶⁴ not merely the tools or knowledge used.²⁶⁵ By encompassing the systems of practice that accompany or made necessary by devices, she is able to distinguish between two broad types of technology. The first are holistic technologies which organize work in a way that leaves an individual with control over what s/he is creating or doing from start to finish.²⁶⁶ These technologies allow the users to retain their individual autonomy as they work, which influences not only on *what* they do or produce but also directs *how* they are done or produced and more importantly, the *purpose* of the activity or production. Holistic technologies require users to maintain an extensive and integrated knowledge-base to enable them to independently control the entire technological process.

The second type are prescriptive technologies, that divide a process into clear and simple steps or tasks which confine the user's skill and autonomy to only that task which s/he is assigned.²⁶⁷ They tend to limit, if not eliminate, the ability for independent judgment and principled decision-making, since the goal of the technology is already incorporated into the design of the tasks or system.²⁶⁸ Prescriptive technologies require detailed divisions of labour coordinated through discipline, planning, or organization, and cannot work without the existence of some form of hierarchy. She contends,

²⁶² *Ibid.* at 3.

²⁶³ *Ibid.* at 24.

²⁶⁴ Earlier described in White, *supra* Note 22; also quoted in Sigaut, *supra* Note 48 at 420.

²⁶⁵ Ursula M. Franklin, "New Issues of Access to Justice Raised By Modern Technology." In *The Ursula Franklin Reader: Pacifism As A Map* (Toronto: Between The Lines, 2006) at 183.

²⁶⁶ Franklin *supra* Note 62 at 10-11.

²⁶⁷ *Ibid.* at 12-13.

²⁶⁸ *Ibid.*

Today's real world of technology is characterized by the dominance of prescriptive technologies. Prescriptive technologies are not restricted to materials production. They are used in administrative and economic activities and in many aspects of governance, and on them rests the real world of technology in which we live. While we should not forget that these prescriptive technologies are often exceedingly effective and efficient, they come with an enormous social mortgage. The mortgage means that we live in a culture of compliance, that we are ever more conditioned to accept orthodoxy as normal, and to accept that there is only one way of doing 'it'.²⁶⁹

The process in manufacturing a particular device, and the division of labour it requires, is only the starting point of Franklin's thesis. In line with other anthropological perspectives of technology,²⁷⁰ she moves the discourse beyond Marx by contemplating technology's influence outside the factory setting, i.e. upon those who are not part of the workforce. By distinguishing between holistic and prescriptive technologies, she appreciates technology as ways of doing something, or in other words, as practice:

Looking at technology as practice, indeed as formalized practice, has some quite interesting consequences. One is that it links technology directly to culture, because culture after all, is a set of socially accepted practices and values. Well laid down and agreed upon practices also define the practitioners as a group of people who have something in common because of the way they are doing things. Out of this notion of unifying practice springs the historical definition of "us" and "them." I think it is important to realize that the experience of common practice is one of the ways in which people define themselves as groups and set themselves apart from others.²⁷¹

Franklin therefore highlights the very close relationship between technology and culture, since technology can then be considered as a behaviour (the way things are done), and a

²⁶⁹ *Ibid.* at 17.

²⁷⁰ See Sigaut *supra* Note 234.

²⁷¹ Franklin *supra* Note 62 at 6.

web of behaviours form the foundations of culture.²⁷² This conforms with the anthropological sense of technology as a science of techniques.²⁷³

(T)echniques are one aspect of behaviour, or, better, they are at the same time a product, a part and a prerequisite of culture, just as Lévi-Strauss said of language.²⁷⁴

Culture in turn defines the social structure by establishing the relationships of social actors through those patterns of behaviour. Changes in technology cause the subtle modification of these patterns, which slowly destabilizes and reconstructs culture, and thereby redefines the relationship between the social and natural world. Franklin concludes that

(T)echnology has acted to reorder and restructure social relations, not only affecting the relations between social groups, but also the relations between nations and individuals, and between us all and our environment.²⁷⁵

2.3.4 Technology and Law

Much faith is placed upon Law as a means of defending society against the adverse impacts of human activities, since it is through Law that society seeks to establish limits and constraints. Whether through punitive sanctions or prescriptive regulations, Law is expected to act as an effective barrier against undesirable consequences. However, the efficacy of Law is directed largely against the foreseeable and the physical; it is not as well attuned to changes that are unexpected and incorporeal, such as the subtle and long-term changes in habits, behaviours, and cultures. Law is even more limited in its ability to anticipate technologically-induced cultural change, because quite often, Law itself

²⁷² *Ibid.* at 5-7.

²⁷³ Mauss defines a technique as “any set of movements or acts, usually and mostly manual, organized and traditional, combined to achieve a known physical, chemical or organic goal.” M. Mauss, “*Les techniques et la technologie*,” in I. Meyerson et al (eds), *Le Travail et les techniques*, P.U.F.: Paris, 1948, quoted in Sigaut 1994 at 423.

²⁷⁴ Sigaut, *supra* Note 234 at 422.

²⁷⁵ Franklin *supra* Note 62 at 4.

becomes part and parcel of the technology it seeks to control. Consistent with Franklin's perspective, Law is part of the web of behaviours that arise out of the technologies as they are adopted and implemented; it provides the cultural infrastructure that allows the technologies to continue to be used. Several theoretical perspectives on Law shed some light on its relationship with technology and that relationship's implications to society in general.

2.3.4.1 The View from Sociological Jurisprudence

From the perspective of Roscoe Pound's sociological jurisprudence, Law is a "a highly specialized form of social control in developed politically organized society," through which "the systematic and orderly application of the force of such a society is applied."²⁷⁶ This requires a organized collection of norms and practices accepted by society as valid and enforceable. As a form of social control, Law cannot be separated from its broader context among other societal phenomena,²⁷⁷ as well as the purposes for which Law has been devised for social control.²⁷⁸ Pound's description of Law clearly points to Law itself as a form of technology, particularly in its anthropological sense as a "science of techniques."²⁷⁹ One may reasonably describe Law as a technology of compliance and coercion, drawing upon a continuum of techniques from the covert to the overt, ranging from personal self-limitation to the use of forceful police power by the State. It either

²⁷⁶ Roscoe Pound, "Roscoe Pound." In *My Philosophy of Law: Credo of Sixteen American Scholars* (Boston: Boston Law Book and Julius Rosenthal Foundation, 1941) at 249. 'Force' here should be understood in the more general sense of compulsion. Although the State indeed is supposed to have a monopoly in the legitimate employment of force and coercion, compliance with the law need not always be secured through actual violence; the mere threat of certain adverse consequence (ranging widely from a mere inconvenience to the death penalty) is sufficient.

²⁷⁷ Roscoe Pound, *Jurisprudence*. (St. Paul MN: West Publishing, 1959) at 328.

²⁷⁸ "If, as lawyers must, we look at law, in all of its senses, functionally with respect to its end, as that end is at bottom the end of social control, our science of law cannot be self-sufficient." See Pound, *ibid.* at 16; also Pound *supra* Note 276 at 252.

²⁷⁹ Sigaut, *supra* Note 234 at 420-24.

deploys or inhibits other, more material, technologies, and in so doing, must necessarily incorporate the assumptions and requirements for the operation of such technologies.

2.3.4.2 Law as Power/Knowledge

Michel Foucault offers additional insights through two concepts: ‘discourse’ and ‘governmentality.’²⁸⁰ Foucault’s ‘discourse’ refers to identifiable sets of statements that together comprise a system of knowledge.²⁸¹ Due to these systems of knowledge, at any given point in time, people speak, write, or think about particular ideas and practices only in certain specific ways and not others.²⁸² A discourse (or a “discursive formation”) consists of objects (things studied or produced), operations (techniques and ways of treating objects), concepts (terms and ideas used by a discipline and possibly couched in a unique language), and theoretical options (the different ideas with which the discipline orders and analyzes knowledge).²⁸³ They are bound together by unstated rules of which define how objects and concepts are formed, the limits to which they can be modified while still remaining within the bounds of the accepted knowledge, and how one field of knowledge relates with other fields.

Clearly, Law is a form of discourse or a discursive formation. When Oliver Wendell Holmes spoke of Law as a science of prediction,²⁸⁴ he also spoke of “the operations of the law,”²⁸⁵ which could be taken to refer to a category of techniques composed not of materials, cogs, and gears, but in terms of rights, remedies, duties, and obligations around

²⁸⁰ Michel Foucault, *The Archaeology of Knowledge*, trans. A.M. Sheridan Smith (London; New York: Routledge Classics, 1989).

²⁸¹ *Ibid.* at 34-43.

²⁸² Andy McHoul and Wendy Grace, *A Foucault Primer: Discourse, Power and the Subject*. (New York: New York University Press, 1993) at 31.

²⁸³ McHoul and Grace, *ibid.* at 31, 44; Foucault, *The Archaeology of Knowledge*, *supra* Note 280 at 34-43.

²⁸⁴ Oliver Wendell Jr. Holmes, "The Path of the Law." In *Oliver Wendell Holmes, Collected Legal Papers* (1897); see 169-73.

²⁸⁵ *Ibid.* at 174.

which procedures and remedies are devised and form the structure of any legal system. From a Foucaultian perspective, the arcane jargon and incantations of Law, whether in ancient Latin terms (e.g., *sic utere tuo*) or modern “verbal formulae” (e.g., equal protection) , do not only represent norms and principles but are also the components of a technology of knowledge using special language.²⁸⁶ This technology is best accessed and manipulated by specially trained professionals such as lawyers and legislators who are often part of the social elite. But even such highly-placed professions may not offer enough protection with the march of technology; as Gibbons observed,

Power has jumped out of the hands of the generalist and into the hands of the specialist. Judges, legislators, generals, business managers, are being replaced by technocrats who run administrative agencies, consulting firms, computerized information centers.²⁸⁷

Laws that promote technologies protect and advance elite interests not only because those who make laws are members of the elite, but also because the particular discourse of Law itself is inherently elitist. The additional expertise required to master the art of regulating new or advanced technologies creates further differentiation within this elite. Mastery of both a technology and the Law relevant to it indubitably places one on a higher level in the social order. These only add to Foucault’s observation that Law, both as a system of right and as a judicial institution, is a “permanent vehicle for relations of domination, and for polymorphous techniques of subjugation.”²⁸⁸

‘Governmentality’ reconsiders the place of Law *vis-à-vis* government and refers to the latter’s pervasive regulatory activity, which focuses specifically on the control of the society through the ‘scientific’ techniques of modern economics and employment of a complex range of laws, regulations, and policies that secure and maintain social and

²⁸⁶ One of the most powerful and popular descriptions of how such a technology can work is the *doublespeak* of George Orwell’s classic *1984*. George Orwell, *1984* (New York: Penguin Group, 1950).

²⁸⁷ Gibbons, *supra* Note 31 at 54.

²⁸⁸ Michel Foucault, *Society Must Be Defended: Lectures at the College De France, 1975-1976*, trans. David Macey (New York: Picador, 2003) at 27.

economic practices.²⁸⁹ Again, this tends to cast Law as itself a form of technology. The problem is that this technology gains its own logic and purpose independently of society itself. In Foucault's view, governmentality tends to lose the ability to act deliberately and purposively for the common good, and instead seeks to ensure what is 'convenient' for each of the things governed.²⁹⁰ With this divergence between the presumed objectives of social life (the so-called 'common good') and the objectives of the things governed, the term 'Rule of Law' loses much of its liberative power:

(W)hereas the end of sovereignty is internal to itself and possesses its own intrinsic instruments in the shape of its laws, the finality of government resides in the things it manages and in the pursuit of the perfection and intensification of the processes which it directs; and the instruments of government, instead of being laws, now come to be a range of multiform tactics. Within the perspective of government, law is not what is important...²⁹¹

In other words, the objects of regulation may become the actual determinants of the purpose of regulation, rather than society. Instead of a "Rule of Law," Law might itself be the one ruled. Rules exist for compliance with rules, instead of whatever their original purposes were. One might imagine the common experience of bureaucratic 'red tape' as an example of how rules and regulations get in the way of the actual legal policy or objective. Significantly, one of the features of governmentality that Foucault expressly identifies is the tendency to develop a form of power based not only on the creation of specific government apparatuses, but also "a whole complex of *savoirs*," or knowledge.²⁹² This includes Law, as one of the instruments by which power is established, maintained, and exercised:

²⁸⁹ Foucault, *supra* Note 51 at 102. For a practical explanation of the concept of governmentality and the forms it takes, see William Walters and Jens Henrick Haahr, "Governmentality and Political Studies" (2005) 4 European Political Science 288 at 289-93.

²⁹⁰ Foucault, *supra* Note 51 at 95.

²⁹¹ *Ibid.* at 95.

²⁹² *Ibid.* at 102-03. Foucault uses *savoir* in a technical sense, referring specifically to a specific and accepted discourse that not only describes an abstract object

(W)ith government it is a question not of imposing law on men, but of disposing things: that is to say, of employing tactics rather than laws, and even of using laws themselves as tactics – to arrange things in such a way that, through a certain number of means, such and such ends may be achieved.²⁹³

Foucault thus refers to both the transformation of Law into the very tools of its subjects, and the incorporation of Law into the instruments of power. In this manner, Law becomes an extension of the technologies to which it relates.

2.3.4.3 The *Habitus* of Law

Part of the reason why Law turns inward on itself as described by Foucault is the nature of the discipline itself. Pierre Bourdieu sheds additional light on the nature of Law and its relationship to culture, which point toward the tendency of Law to become both self-contained and self-centered in practice. Bourdieu sees law as a “juridical field,” one of many social fields “organized around a body of internal protocols and assumptions, characteristic behaviors, and self-sustaining values... a legal culture.”²⁹⁴ The “juridical field” is the “structured, socially patterned activity or practice” that may be defined in

‘scientifically,’ but also contextualizes that description with social reality in a way that establishes the relationships of power. Foucault 1989 at 200-05. Foucault conceptualizes power as constituted by social knowledge, which in turn is made of intersecting discourses that have been accepted by society. In other words, power is created and maintained by the fact that people think and believe so, and thereby accept its exercise over them. This turns the concept of power into much more than the application or threat of brute force, thus explaining the compulsive compliance with or acquiescence to the exercise of power without need to be directly or overtly coerced. The exercise of power thus does not involve merely a simple and unilateral flow from ‘someone powerful’ against those who are ‘powerless,’ but instead involves a ‘meeting’ from top-down and bottom-up directions. Foucault’s writings tend to be dense because his analytical approach often involves the construction of new vocabularies and meanings even for words that have an ordinary, common definition. For an adequate, but eminently more readable, overview of Foucault’s complex political philosophy, see McHoul and Grace, *supra* Note 282.

²⁹³ Foucault, *supra* Note 51 at 95.

²⁹⁴ Richard Terdiman, "Translator's Introduction to "The Force of Law: Toward a Sociology of the Juridical Field"" (1987) 38 Hastings L. J. 805 at 806.

terms of disciplines or professions.²⁹⁵ All social fields are competitive arenas for control among its members, which creates unseen hierarchical structures as members vie for dominance.²⁹⁶ An elite gains and maintains dominance by establishing and presenting laws as distilled “universal,” “scientific,” and/or “rational” rules, even though such rules are actually devised for their own interests.²⁹⁷ At the same time, this shields law from political or social interests,²⁹⁸ a process Bourdieu calls “autonomization.”

Through the “autonomization of the juridical field,” Law become more detached, less reflective, and perhaps more often in conflict with its social and cultural context. This is consistent with Foucault’s view of governmentality detaching Law (and the legal discipline) from society; though Bourdieu further argues that this detachment results in a counter-intuitive backlash:

(P)aradoxically, the autonomization of the legal field implies, not the increasing withdrawal of a body devoted exclusively to the reading of sacred texts, but rather a growing intensity in the confrontation of texts and procedures with the social realities they are supposed to express or regulate. The increasing differentiation and competition within the juridical field, coupled with the increasing influence of dominated groups within it, which parallels the increasing strength of their representatives in the social field itself, helps to foster this return to social realities. (emphasis supplied)²⁹⁹

He attributes this mainly to the tendency of legal practitioners to turn a pragmatic social discourse into a competition of legal skills for positioning within the discipline’s hierarchy.³⁰⁰ Thus a very practical discussion to solve a relatively simple problem confronting a community, for example the emission of odorous smoke from factories,

²⁹⁵ *Ibid.* at 805.

²⁹⁶ *Ibid.* at 808.

²⁹⁷ Pierre Bourdieu, “The Force of Law: Toward a Sociology of the Juridical Field” (1987) 38 *Hastings L. J.* 805 at 843-49.

²⁹⁸ *Ibid.* at 850-51.

²⁹⁹ *Ibid.* at 851-52.

³⁰⁰ *Ibid.*

becomes a complicated battle of legal rights, standards, science, and procedures. This competition is a necessary outcome of what Bourdieu calls the *habitus* or the “legal culture,” the totality of specific behaviors that differentiate the discipline and profession from all others. Within the legal profession, the *habitus* focuses attention on how to make ‘better’ Law, where ‘better’ places a higher value on technical precision, enforceability, and stability of the social order. This distracts from the more important task of establishing better social relations and reform as a means of creating a better society. The problem is that the competition for better Law also implies a competition for domination and power. This has the counter-productive effect of increasing social division, perpetuating social hierarchies, and creating more potential social conflicts. Bourdieu therefore points to the Law becoming an arena for establishing and maintaining power:

Like the function of reproducing the juridical field within its internal divisions, and hierarchies, and the principle of vision and division which is at its base, the function of maintaining the symbolic order which the juridical field helps to implement is the result of innumerable actions which do not intend to implement that function and which may even be inspired by contrary objectives. Thus, for example, the subversive efforts of those in the judicial *avant garde* in the end will contribute to the adaptation of the law and the juridical field to new states of social relations, and thereby insure the legitimation of the established order of such relations. As demonstrated by such cases, in which the results produced simply invert what had been consciously intended, it is the structure of the game, and not a simple effect of mechanical addition, which produces transcendence of the objective and collective effect of accumulated actions. (emphasis supplied)³⁰¹

Bourdieu’s observation implicates the legal profession itself as complicit in detaching Law from society. He implies that the process of law-making and legal interpretation often leads less to the advancement of social ends and more to the advancement of careers or status in the professional hierarchy. In so doing, the Law becomes less and less accessible to the public it regulates, and transforms more and more the exclusive domain

³⁰¹ *Ibid.* at 852-53.

of only the regulator or the directly regulated. The increasing specialization of lawyers³⁰² and the higher complexity of legislation for specific social and economic sectors³⁰³ are clear evidence of this tendency.

2.3.4.4 Law and Society

Finally, one may see Law itself as a technology for the reason that it is indubitably an aspect of any society's culture,³⁰⁴ and is deeply implicated in the way that society is structured. According to one sociologist,

Law lays claim to a dual character: it furnishes the normative 'map' informing the life-world of a society's members as they experience it; and it provides one of the central means through which government exercises a steering role. Hence a sociology of law must be concerned with commonly accepted standards and with imposed regulation, with the domains of 'order' and of 'domination.'³⁰⁵

The normative functions of Law are essential to the maintenance of societies and their cultures. An anthropologist notes four ways to carry out this normative function:

- through the definition of obligatory relationships between members of society, so as to determine what is permissible and what is not and maintain the integrity of a collective as a society
- through the allocation and recognition of authority, including the legitimization of the employment of force to correct the violation of norms;
- the settlement of disputes so that society does not fall apart; and

³⁰² For example: tax lawyers, criminal lawyers, corporate lawyers, civil lawyers, etc.

³⁰³ A good example is petroleum legislation and regulations, which often involve such a very complicated mix of natural resource, contract, environment, public safety, and commercial laws, that no ordinary and untrained lawyer can be expected to fully grasp, let alone the average citizen.

³⁰⁴ E. Adamson Hoebel, *Anthropology: The Study of Man*, 4th ed. (New York: McGraw-Hill Book Company, 1958) at 500.

³⁰⁵ Simon Roberts, "Law and Dispute Processes." In *Companion Encyclopedia of Anthropology*, ed. Tim Ingold (London: Routledge, 1994) at 962.

- the redefinition of relations between individuals and groups as conditions for changing the way of life, in order for society to adapt and respond to changing values and new technologies.³⁰⁶

These normative functions all contribute to establishing and lending stability to individual and social behavior, which is essential for the reproduction of culture over time. Considering Rawls' description of society as "a fair system of social cooperation over time from one generation to the next,"³⁰⁷ one may surmise that such system can only be established and maintained in some form of Law. Law is indeed the 'glue' that holds society together and gives it form and structure, without which long-term, peaceful, and stable community life would be impossible.

2.3.5 Technology and the State

In *Politics and Technology*, John Street meticulously analyzes how the modern State ties closely with technology.³⁰⁸ The problems that a technology poses, and the relationship, structures, and principles with which each State reacts to it, also vary depending on the environmental, economic, and social context.³⁰⁹ But generally, the State promotes or facilitates the introduction of new technology, uses it to sustain national prestige, deploys it for internal and external security, and subsidizes research and development.³¹⁰ In doing so, it attempts to establish itself as a regulator, customer, or underwriter: roles which do not necessarily work together well and with which the State may be ill at ease.³¹¹ Due to the State's regulatory powers, political interests largely determine the fate of any technology.³¹² The State also often enthusiastically adopts and introduces new technology

³⁰⁶ Hoebel, *supra* Note 304 at 507.

³⁰⁷ Rawls, *Justice as Fairness: A Restatement*, *supra* Note 56 at 4.

³⁰⁸ Street, *supra* Note 231 at 46-69.

³⁰⁹ *Ibid.* at 47.

³¹⁰ *Ibid.* at 46.

³¹¹ *Ibid.* at 48-69.

³¹² *Ibid.* at 51. Street points to the adoption of nuclear power technology as a prime example. For a more incisive reflection on the relationship between politics and such

whenever it facilitates the exercise of its administrative and police powers, which impacts significantly on the availability and operation of the technology.³¹³

But technology is not only shaped by politics; politics may likewise be shaped by technology. When people become dependent upon technology, inequality inevitably results as between those who own or control the technology and those who use them. Street argues that enables the former to have power over the latter, by limiting the range

high technology, see Langdon Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology*. (Chicago and London: University of Chicago Press, 1986), particularly 19-39..

³¹³ Street, *supra* Note 231 at 52-53. Governments are 'strategic' customers because their adoption and acquisition of technology often have a major impact on the technology's market. A good example is the ongoing tug-of-war between the Linux open-source operating system software and the current market leader Microsoft Windows. The source code (one could think of it as the basic framework) of Windows is a commercial and proprietary software which cannot be used, distributed, or modified unless licensed by its owner Microsoft. Meanwhile, the source code of Linux is in the public domain, free, and 'open' to modification by anyone with the requisite programming skills without need for licensing. See World Intellectual Property Organization IP Services, "Open Source," *World Intellectual Property Organization* online: <http://www.wipo.int/patent-law/en/developments/open_source.html> Last updated: 24 March 2009 (Date accessed: 08 March 2010). Many governments have chosen to migrate from commercial Windows software to Linux for various considerations such as cost, security, flexibility, and control over the programming. See John Romeo, "Open source infiltrates government IT worldwide," *LinuxWorld.com* online: <<http://www.linuxworld.com/news/2008/030108-ossi.html?page=1>> Last updated: 03 January 2008 (Date accessed: 08 March 2010); Jason Hull, "Other governments adopt open source...Is the US government missing the boat?," *OpenSourceConnections.com* online: <<http://www.opensourceconnections.com/2008/02/01/other-governments-adopt-open-sourceis-the-us-government-missing-the-boat/>> Last updated: 01 February 2008 (Date accessed: 08 March 2010). The software programming community sees this as an important battleground for dominance in the operating system market, upon which all other markets for all other computer software. See Sean Silverthorne, "Microsoft vs Open Source: Who Will Win?," *Harvard Business School* online: <<http://hbswk.hbs.edu/item/4834.html>> Last updated: 06 June 2005 (Date accessed: 06 March 2010).

of decisions and actions they may take in order to continue using the technology.³¹⁴ Once the majority is dependent on a technology, then it is the minority that effectively decides their choices and “life chances” in relation to it.³¹⁵ As Street points out, pollution is a good example of how decisions of owners or controllers impact inequitably upon those choices and “life chances.”³¹⁶

2.3.6 Inequity from Technology

The perspectives presented in the previous section point to the integral and interactive relation between Law and culture: culture not only creates and influences Law, but Law also creates and influences culture. This dual normative role is pivotal to the establishment of social order, and accommodates the perception of law as a matter of technique for purposes of social control, as Pound asserts. Yet the Law’s purposes in turn cannot be detached from the machinery and techniques it regulates. As Langdon Winner says, “technologies are not merely aids to human activity, but also powerful forces acting to reshape that activity and its meaning.”³¹⁷ Nothing exempts Law and law-making from this subtle transformative influence of technology.

The views above each accord Law with a different characteristic as technology. The first is with reference to its objective of social control, the second to its character as an instrument of power, and the third with respect to its strategic influence over the culture of which it is also a part. Law itself is thus a unique and powerful form of technology, whose components are comprised of words and meanings that manipulate the intangible objects of human thinking for the purpose of maintaining social life. It is a science of linguistic techniques. The question that then arises is, how closely is Law integrated into the technology it seeks to regulate? Foucault and Bourdieu insights lead to the conclusion that Law itself can also be driven independently of society’s original intentions, and

³¹⁴ Street, *supra* Note 231 at 92-114.

³¹⁵ *Ibid.* at 94-95.

³¹⁶ *Ibid.* at 95.

³¹⁷ Winner, *supra* Note 312 at 6.

instead taken over by what in Franklin's perspective must be the technology itself. In that case, who is actually controlling whom and for what purpose?

2.3.6.1 The Law of the Machine

One might think that the 'dehumanizing' impact on Law might initially be limited to only the body of rules and regulations directly related to the technology. So it might be thought that to address nuclear power plant issues one need only look at nuclear power laws and regulations. But eventually, the effects come into contact with and influence other laws and their technologies. Recalling Sigaut's illustration of technological paths, it may be surmised that Law provides a supporting framework for the operations at each stage of the path. Law regulates the interaction between two or more technological paths by controlling the kind of interaction they have: isolation, linkage, interference, supplanting, short-circuiting. The problem that is raised, however, is that if Law becomes relatively autonomous of active and deliberate social control, and responds more to the technical requirements of the operations, then Law loses, or perhaps unknowingly abdicates, its function of ensuring equity and rendering justice among different social actors along the technological paths affected.

Gibbons asserts that behind science and technology is "a driving force that is unattached to human values."³¹⁸ He associates this force with "an objective form of utilitarianism...imported into law as cost-benefit analysis...that drives out other forms of value analysis."³¹⁹ A good example, recalling Illich, is traffic laws and regulations, all now meant to facilitate the flow of automobiles rather than human locomotion and communication, to the detriment of the pedestrian or bicycle-riding public.³²⁰ Prescribing

³¹⁸ Gibbons, *supra* Note 31 at 49.

³¹⁹ *Ibid.* at 60.

³²⁰ See Illich, *supra* Note 249 at 36-38. See also Ivan Illich, *Energy and Equity*.. Ideas in Progress (New York; San Francisco; London; Evanston: Harper & Row, 1974) and André Gorz, *Ecology As Politics*, trans. Patsy Vigderman and Jonathan Cloud

the construction of a freeway to decongest urban traffic, for example, may appear to be an eminently reasonable and laudable purpose; but it may also act to marginalize or impose burdens on certain districts, or displace and destroy particular communities.³²¹

Franklin notably asserts:

...as more and more of daily life in the real world of technology is conducted via prescriptive technologies, the logic of technology begins to overpower and displace other types of social logic, such as the logic of compassion or the logic of obligation, the logic of ecological survival or the logic of linkages into nature.³²²

It is the invisible subordination to mechanistic processes and subtle dehumanizing impacts of technology that significantly contribute to the creation and maintenance of a concealed hierarchy in society, defining the “haves and have-nots:” those whom technology allows to have wealth, power, privileges, opportunities, and those who do not. The dominant technology with an advanced but self-contained legal regime will more likely prevail over other technologies and laws that are much less developed, regardless of economic, environmental, social, or other justifications. Law will then function in the interest of and with the logic of the machine (figuratively speaking), and it then becomes an open question whether any kind of social equity can be pursued and protected. Unchecked technological development leads to social reorganization along a dangerous trajectory, foreseen in the 1970s by C. B. Macpherson:

(Boston: South End Press, 1980) at 69-77, for most thoughtful exposés on the social implications of the modern fixation with cars.

³²¹ A good and very interesting example of this clash is the experience (and resistance) of the immigrant Chinese community with respect to the proposed development of Vancouver’s freeway system in the of the 1950s-1970s. The originally-planned freeways would have effectively erected a barrier between the growing Chinatown and the rest of the city. The freeways were planned mainly in anticipation of growing traffic and automobile use (clearly a technological demand), but the protesting citizens demanded that social, economic, and aesthetic factors be given priority consideration in planning. See Ken MacKenzie, "Freeway Planning and Protests in Vancouver 1954-1972" (Master's Thesis, Simon Fraser University, 1985).

³²² Franklin, *supra* Note 62 at 92.

The technological revolution in Western nations, if left to develop within the present market structure and the present ideology would have the immediate effect of strengthening the image of man as infinite consumer, by making consumption more attractive. As technology multiplies productivity, profitable production will require the creation of new desires and new amounts of desire... Since profits will increasingly depend on creating ever more desire, the tendency will be for directors of the productive system to do everything in their power to confirm Western man's image of himself as an infinite desirer.³²³

Considering this trajectory within the current rubric of economic globalization which propagates both the technologies for increasing production of goods and the consumer culture necessary to support a corresponding increase in consumption, it then comes as no surprise that some see technology as the instrument of modern-day imperialism. Otto Ulrich points out,

For the cultures of other countries, the requisite psycho-social preparation of people and the cultural transformation looks much more traumatic because it confronts them with an essentially alien culture. Through technological 'development aid' more euphemistically called technical assistance, from industrialized countries, they receive 'trojan machines' (to use Robert Jungk's phrase), which conquer their culture and society from within. They are forced to gradually absorb an alien industrial work ethic, to subordinate themselves completely to unaccustomed time rhythms, to value objective relations higher than human relations, to experience increasing stress and to regard it as normal, and to accept jobs without regard for motivation or meaning. Wage labour and commodity fetishism expand, and they define the competitive struggle of all against all as the social synthesis. It becomes self-evident that everyone is to be a mechanical cog in a great production apparatus dominated by the world market.³²⁴

Though Ulrich's commentary refers again to the factory or agro-industrial setting, social impacts radiate from technological change. Eventually they influence the fabric of interpersonal relations that form the basis of community, and from there the inter-community relations that are the foundation of any society. So, the introduction of any "new"

³²³ C.B. MacPherson, *Democratic Theory: Essays in Retrieval*. (London: Oxford University Press, 1973) at 38.

³²⁴ Ulrich, *supra* Note 47 at 275.

technology into a community eventually affects even those with whom the technology is not directly in contact.

The social re-ordering that technology entails can be seen within the national and local spheres, manifesting itself as disproportional disparities in public infrastructure, available social services, access to public finances, levels of local economic growth, and the like. And it can also exist in the international realm, as economies with greater control over the technologies of production and consumption gain dominance over economies with less or no significant influence.

However, as Franklin observes, these changes often go unnoticed except in hindsight, by which time it may already be too late to question and undo them because the users no longer have any real choice in the matter.³²⁵ These are social impacts that must be guarded against as the spread of new high technologies is considered and promoted. Physical and technological changes in a given community's immediate environment (whether natural or artificial) imply social and cultural changes as well, and these latter alterations are often not more thoroughly considered because attention is diverted toward the former. Even less obvious are changes at a regional or global scale. Attention must therefore be turned to the question of how a society can defend itself from such unforeseen social impacts of any new technology that is introduced. This has to be considered in terms of the limits of currently prevailing regulatory techniques for the oceans and the means by which ocean energy technology may possibly impair the social fabric.

2.3.6.2 Eco-friendly as Machine-friendly

Of course, these arguments may be easy to accept when one imagines industrial technologies as factories. But while most people may easily imagine and reject a

³²⁵ Franklin *supra* Note 62 at 95, 100-01. See also Gibbons, *supra* Note 31 at 283.

technological dystopia in the likes of the 1927 film *Metropolis*,³²⁶ it is probably much more difficult to convince the same people that clean and green wave power and wind farms could have the same impact. The very common visual representation of the wind turbine as a clean white tower with idly turning turbine blades, standing on rolling green fields or pristine waters, under a clear blue sky, for example, is emblematic of the inherent assumptions made about renewable technologies. How could such a harmless-looking structure, by itself be bad to any society?

The answer lies at the very heart of the justification offered for such technologies, sustainable development, also described as “a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs.”³²⁷

Sustainable development relies upon technological solutions to energy issues; as such it is especially prone to the criticism that it merely puts another spin on the technology-centered development paradigm espoused by industrialized countries for the Third World. These criticisms tie the concept to an agenda of economic globalization that allows the First World to maintain its dominance over the world economy. Vandana Shiva argues eloquently that the Northern concept of sustainable development is a globalizing discourse that has co-opted environmentalism (originally rooted in local concerns and local movements) for the purposes of dominant global institutions:

The ‘global environment’ ... emerges as the principal weapon to facilitate the North’s worldwide access to natural resources and raw materials on one hand, and on the other, to enforce a worldwide sharing of the environmental costs it has generated, while retaining a monopoly on benefits reaped from the destruction it has wreaked on biological resources. The North’s slogan at UNCED and the other global negotiation fora seem to be: ‘What’s yours is mine. What’s mine is mine.’

... Solutions to the global environmental problems can come only from the global, that is the North. Since the North has abundant industrial

³²⁶ Thea von Harbou and Fritz Lang, "Metropolis," 2003 ed. (1927).

³²⁷ *Our Common Future* at 9.

technology and capital, if it has to provide a solution to environmental problems, they must be reduced to a currency that the North dominates. The problem of ecology is transformed into a problem of technology transfer and finance. What is absent from the analysis is that the assumption that the South needs technology and finances from the North is a major cause of the environmental crisis, and a major reason for the drain of resources from South to North.³²⁸ (emphasis added)

Banerjee forecast that sustainable development will follow the same pattern of technocentric development that consolidated the hegemony of the West over the rest of the world. He points out that “(t)he reliance on technology to solve all problems – the hallmark of the development era – continues today with the comforting *caveat* that technology use should be appropriate.”³²⁹ He warns that:

Sustainable development is to be managed in the same way development was managed: through ethnocentric, capitalist notions of managerial efficiency that simply reproduce earlier articulations of decentralized capitalism under the guise of ‘sustainable capitalism’. The macroeconomic criteria of sustainable development have now become corporatized: development is sustainable only if it is profitable, it is sustainable only if it can be transacted through the market. This notion of sustainable development packaged and sold by international agencies, governments, and transnational corporations needs to be unpacked and deconstructed...

Current discourses on sustainability ensure that economic rationality determines ecological rationality, resulting in even further erosion of alternate cultural and social values assigned to nature. In effect they extinguish the very cultural and social forces from which possible solutions to the present crisis might emerge.³³⁰ (emphasis added)

Along the same lines, Shiv Visvanathan sees sustainable development as yet another Northern homogenizing discourse that reduces the idea of ecology to no more than “a

³²⁸ Vandana Shiva, "The Greening of Global Reach." In *The Geopolitics Reader*, ed. Gearoid O Tuathail, Simon Dalby, and Paul Routledge (New York; London;: Routledge, 1998) at 233.

³²⁹ Subhabrata Bobby Banerjee, "Who Sustains Whose Development? Sustainable Development and the Reinvention of Nature" (2003) 24:1 *Organizational Studies* 143 at 172.

³³⁰ *Ibid.* at 173-74.

search for managerial efficiency” that prioritizes unity, order, and uniformity over plurality, or difference, or multiplicity.³³¹

To be sure, sustainable development is a contested concept³³² that has multiple facets and dimensions. The critical view described above is but one of a number of perspectives expressed in the ongoing debate about its practice. But it is a perspective forged from the skepticism of Third World scholars wary on account of common and collective colonial experiences of the past, and continuing frustration with the present.³³³ Given decades of disappointment, it should come as no surprise that new promises of development through technological advances may be questioned, regardless of whether they are presented as promising and ‘environment-friendly.’

³³¹ Shiv Visvanathan, "Mrs Brundtland's Disenchanted Cosmos." In *The Geopolitics Reader*, ed. Gearoid O Tuathail, Simon Dalby, and Paul Routledge (New York; London;: Routledge, 1998) at 239. For an example of a ‘managerial approach’ to sustainable development, see Thomas N. Gladwin, James T. Kennelly, and Tara-Shelomith Krause, "Shifting Paradigms for Sustainable Development: Implications for Management Theory and Research" (1995) 20:4 *The Academy of Management Review* 874.

³³² Dobson, *supra* Note 54 at 5; William M Lafferty and Oluf Langhelle, eds., *Towards Sustainable Development: On the Goals of Development - and the Conditions of Sustainability* (Houndmills, Basingtoke, Hampshire; London;: MacMillan Press, 1999) at 1-26; Bob Giddings, Bill Hopwood, and Geoff O'Brien, "Environment, Economy and Society: Fitting Them Together Into Sustainable Development" (2002) 10 *Sustainable Development* 187 at 187-88; Colin C. Williams and Andrew C. Millington, "The Diverse and Contested Meanings of Sustainable Development" (2004) 170:2 *The Geographical Journal* 99.

³³³ This is not to say, of course, that sustainable development does not have its critics in the First World. For example, Bill Willers describes sustainable development as “one of the most insidious and manipulable ideas to appear in decades.” Bill Willers, "Sustainable Development: A New World Deception" (1994) 8:4 *Conservation Biology* 1146 at 1148. makes the case that sustainable development and Agenda 21 “sells a vision of global ecology which defines the major problems of the Earth in Northern elite and scientific terms while largely ignoring the key environmental issues defined by the majority of the people, both in the North and South.” Timothy Doyle, "Sustainable Development and Agenda 21: The Secular Bible of Global Free Markets and Pluralist Democracy" (1998) 19:4 *Third World Quarterly* 771 at 771. See also Rist, *supra* Note 243 at 171-96.

Despite its “anti-South, anti-poor, and thereby, anti-ecological” face, as K.R. Nayar calls it,³³⁴ this research does not ask that sustainable development be abandoned. Sustainable development to date is currently the only framework accepted by the international community, and is the very foundation of the progress of international environmental law since the 1970s. It would be impractical and probably impossible to now call for a reversal of 30 decades of global effort. Its contested nature also holds the key to its redirection, away from the Northern concept of sustainable development as limits to growth, and toward the Southern concept of sustainable development as social justice.

2.3.7 Trojan Legal Regimes for Trojan Machines

Wolfgang Sachs compared technology with the Trojan Horse, and argued that “the introduction of technology in the Third World paved the way for the conquest of society from within.”³³⁵ These technologies were tied into the very concept of development that made the technologically-advanced industrialized countries the main standard of socio-economic progress. It becomes clear then how new technologies become “Trojan machines” that Jungk and Ulrich describe, and the part that Law plays in unleashing such machines on an unsuspecting public. Technologies become Trojan machines because of their ability to undermine and transform social behaviors and cultures. Not all behavioral changes and cultural transformations are intrinsically bad; change is after all the essential element of social evolution. But as Franklin contends, changes may create social inequity by altering culture in ways that reorder society to promote an unseen social hierarchy ingrained with a “culture of compliance.” The use of technology may itself require and create a particular social order (e.g., managers and rank-and-file workers in a factory setting), or be so pivotal and indispensable in people’s lives that they can create relations of dependence and subordination between users and owners (e.g., a people of an isolated mining town). Behaviors, habits, and attitudes ingrained in the use of such

³³⁴ K.R. Nayar, "Politics of 'Sustainable Development'" (1994) 29:22 *Economic and Political Weekly* 1327 at 1327.

³³⁵ Sachs, *supra* Note 243.

technologies may escape their original settings to apply in day-to-day life, and change the ways in which people relate with each other.

Law directly contributes to a technology's emergence as a Trojan machine through uncritical collaboration with the modification of behavior and culture, through the rules and norms it establishes around the use of the technology. It is uniquely and strategically suited for this role, because the regulation of behavior is one of the most important functions of Law in any society. This may take place even when laws are enacted or implemented for the best of intentions. As Gibbons observes, "technological development increases the amount of the world that is under intentional control," which control is formalized through Law;³³⁶ this begs the questions of who actually exercises such control and for what purpose. Gibbons further asserts aptly, "(l)aws become the job-descriptions of the citizen-components of the machine state."³³⁷

It would not be improper to consider laws enacted in support of technologies that have similar impacts as "Trojan legal regimes." These are laws and regulations enacted for reasonable, unobjectionable, and apparently attractive purposes, but whose actual effects are undesirable and inequitable for society or social groups. Trojan legal regimes are relatively easy to create, intentionally or not. Law's function as the means of social control, as observed by Pound, makes it the primary recourse of any social force intending to reorder social relations and institutions into something more suited to its own purposes and interests. But unintentional cooperation in this kind of endeavor is also possible. As Foucault indicates, when Law is made and enforced on the basis on a pre-existing set of assumptions about the world and how it works, it can establish, replicate, and perpetuate relations of domination. Or, when the implementation of Law becomes so attached to the object of its regulation that it becomes more important for the Law itself to be followed rather than for its social objectives to be attained, then it also creates and maintains relationships of power which the disempowered may not even be conscious of.

³³⁶ Gibbons, *supra* Note 31 at 52.

³³⁷ *Ibid.* at 61.

It is possible that not even well-intentioned lawyers and legal professionals may be aware of this, because as Bourdieu points out, the “professional culture” of Law is prone to a competitive tradition that may tend to place professional advancement and prestige, demonstrated through legal skills, over the more idealistic goal of contributing to the betterment of society. Legal regimes built around technology will be more likely to serve technology’s purposes rather than the society it is supposed to serve unless the legal professional has a critical perspective aware of the cultural implications of the behaviors that the law on a particular technology demands.

Another reason for Trojan legal regimes is the nature of the relationship between a technology and the State itself, which may take many different forms and for complementary or contrasting purposes. Street explains that in many ways, technology is linked to politics, which means in turn that technology is also linked to power in society. How this relationship emerges and is configured determines how the State uses Law (as one of the States primary instruments of governance) to govern any technology *vis-à-vis* the diverse social groups that comprise society. Law, after all, is also a creature of politics.

2.4 Social Impacts of Ocean Energy Technologies: A Starting Point

While new and emergent ocean energy technologies offer advantages, they may also hide undesirable consequences. While much has been written about the anticipated and generalized benefits of cleaner and greener ocean energy, little has been said about its potential social costs. The potential social costs of ocean energy technologies are difficult to anticipate at this point on account of their novelty and emergent status, as well as the high hopes placed upon them as cleaner and greener alternatives to conventional energy. But it is clear that the development and promotion of these technologies are not motivated only by the need for a cleaner and greener energy future, but also by a more concrete motive: profit. This makes it all the more important to subject them to critical inquiry.

Each type of ocean energy technology will have multiple impacts on its surrounding environment. At least some bio-physical changes will likely be produced on the living and non-living components of the surrounding environment, economic outcomes will certainly result from the use of the energy extracted. The natural and applied sciences provide many methods and techniques for assessing and estimating a wide range of bio-physical effects, although admittedly the complexity of elements that need to be considered may make any project impact assessment a challenge. Mathematics provides the basis for calculating and estimating economic consequences, even if such assessments (e.g. financial feasibility, profit projections) are more reliable with respect to the direct effects upon the project proponents and its clientele. Many of these methodologies are already very widely-used and well-established. But technology and its operation may also induce social changes through their influence on the cultural and political *status quo*. With respect to these social impacts, analytical techniques might not be as well-developed; they operate at both macro- and micro-levels, but most likely begin with the coastal communities within the vicinity of the technology itself.

The key proposition here is that, even if ocean energy technologies will be bio-physically benign and economically beneficial, they can still have negative social impacts. ‘Environment-friendliness’ and economic productivity do not necessarily result in favorable social conditions. In order to explore the possibilities, whether positive or negative, there is a need to examine ocean energy technologies from a critical perspective. A critical appreciation of technology’s relationship to society must be the basis for asking questions to understand the series of operations that comprise a technological path, and their effect on the integrity of local culture and the distribution of power. Guarding against the Trojan Machines requires one to first be aware of where they will be coming from, but defending against them requires that one to recognize them for what they are when they do arrive at the gates. But this begs the question, just what are these ‘gates’? It has been implied that these gates must have something to do with culture and power, but precisely what aspects of these broad areas must be examined to recognize the possible impact on social equity? To answer these questions, it is necessary

to reconsider *in extenso* the concept of social justice in the context of the environment and the technologies meant to protect it. This is the means by which the ‘gates’ may be identified, and shall be done in the succeeding chapter.

2.5 Moving Forward

As discussed in the first section of this chapter, the primary response to the problem raised by energy is the development and advanced of new technologies, some of which are described in the second section. But as shown by the discussion in the preceding sections, new technologies can have significant negative implications for the social fabric and create social inequities of their own independently of conscious and deliberate control by any specific social group or interest. Technology may indeed provide all the modern conveniences and advance the frontiers of human abilities, but at the cost of the transformation of nature, the standardization of thought and culture, and the subjugation of peoples. It is partly for this reason that the technology-centered development paradigm has contributed to successfully dividing the world into industrialized and developing countries. There is nothing new about this thought; it has long been known, yet still so little seems to be done to stop it.

If it happened before, then it can happen again, sustainable development notwithstanding. As noted by Sigaut,

Technology cannot hope to develop without engendering conflict. The future of technology, as a social science, is as unpredictable as the future of technics and society today.³³⁸

There is little doubt that ocean energy technologies have their particular merits, especially for the fact that they do promise reductions in GHG that remain a pivotal condition for mitigating and adapting to climate change. But States’ and environmental advocates’ fixation with the technological solution, at least as far as energy is concerned, must be tempered by an appropriate and relevant conception of social justice that is

³³⁸ Sigaut, *supra* Note 48 at 452.

entirely consistent with and integrated into the realm of sustainable development. Avoiding the road to social inequity that is created by technology requires a reconsideration of the nature of social justice, its relationship to sustainable development, and the role that Law plays in mediating that relationship.

CHAPTER 3

SUSTAINABLE DEVELOPMENT AS SOCIAL JUSTICE: TOWARD AN ALTERNATIVE APPROACH TO OCEAN ENERGY TECHNOLOGIES

In the modern world, so much faith is invested in science and technology as it is seen as the means to solve most, if not all, the problems and challenges of modern life. The technological response to the issues presented by energy consumption and climate change, as described in the previous chapter, is but one small example of this faith in technology and the science that comes with it. It is because of this faith that numerous ocean energy technologies are now on the horizon, all built of innovative and cutting-edge designs, materials, and techniques. These technologies advance for the purpose of environmental sustainability, encouraged by international environmental law on climate change and energy.

But while the emergence of these environment-friendly high technologies are undoubtedly backed by good intentions, a healthy skepticism and critical perspective raises very important doubts about their future impacts on social justice. If all the countries of the world indeed fulfilled their commitments to reduce GHG emissions by adopting “cleaner and greener” energy production technologies, including those for the ocean, would the world really be a better place, or could we actually end up worse off? In what way, and for whom? Assuming it is true that ocean energy technologies have both environmental and economic benefits, how do they relate to the core value of social equity that should be integral to sustainable development?

This chapter elaborates upon these doubts by first reviewing the role of social justice in the international law on sustainable development. It begins with a critique: despite its importance to sustainable development, social justice in environmental law has been

relatively under-theorized to date.³³⁹ Although the idea of ‘environmental justice’ has been portrayed as its practical manifestation representing the convergence of social justice with environmental advocacy, it exhibits distinct shortcomings that limit its ability to deal with the potential adverse social impact of environmentally-friendly technologies. To address this shortcoming, an alternative approach to inquiry will be proposed.

3.1 Environmental Justice: A Critique

“Environmental justice” is the term most commonly associated with environmental issues that involve questions of social justice, arising when an identified group or community opposes some unwanted disadvantage from the impact of an undertaking affecting its immediate environment. Nicholas Low and Brendan Gleeson describe the core of environmental justice to be “the distribution of environmental quality... with the emphasis on distribution.”³⁴⁰ Since the issue of social equity and/or justice is invoked, the question immediately comes to mind: should the issue of the future social impacts of ocean energy technologies not be considered as simply a problem of environmental justice? Does environmental justice hold the key to addressing the issue of social inequities that arise from technological change? The answer to both these questions appear to be ‘no,’ because the concept of environmental justice seems too limited and vague to be used as an analytical framework for the purposes of this research. The way in which the problem of inequity arises from the adoption of apparently benign environment-friendly technologies, and how these technologies implicate Law, is beyond the scope of the conventional notion of environmental justice.

³³⁹ Schlosberg, “Reconceiving Environmental Justice: Global Movements and Political Theories,” *supra* Note 54 at 517-18.

³⁴⁰ Low and Gleeson, *supra* Note 54 at 133.

3.1.1 An Uneasy Marriage

Most literature identifies the origin of environmental justice in a collision between American traditional environmentalists and civil rights advocates in the 1980s.³⁴¹ This collision was triggered by protest actions against toxic waste dumps made by low-income African-American groups, calling attention to the disproportionate effects of pollution on racial minorities in the US,³⁴² and initially casting the concept as a foil against “environmental racism.”³⁴³ Environmental racism referred to the process by which environmental decisions, actions and policies resulted in racial discrimination, arising from prejudicial behavior, possession of personal or institutional power to enact policies and actions that reflected one’s prejudices, and having an unfair advantage over others and ability to promote one group over another.³⁴⁴ In 1987, the United Church of Christ’s Commission for Racial Justice released a report entitled *Toxic Waste and Race in the United States* that argued the existence of a definite pattern that communities of color were much more likely to be the sites of commercial hazardous waste sites and uncontrolled toxic waste sites, unlike white communities.³⁴⁵

³⁴¹ See Sandler and Pezzullo, *supra* Note 54 at 1-11; Sze and London, *supra* Note 54 at 1333-35; Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*, *supra* Note 54 at 18-21. See also Bullard, “Confronting Environmental Racism,” *supra* Note 54, and Cole and Foster, *supra* Note 54.

³⁴² The most prominently cited instance is a protest by residents of Warren County, North Carolina against the establishment of a toxic polychlorinated biphenyl (PCB) dump in their community. See Melosi, *supra* Note 54; Sarokin and Schulkin, *supra* Note 54 at 122.

³⁴³ Sze and London, *supra* Note 54 at 1332-34. Bullard defines environmental racism as ‘any policy, practice, or directive that differentially affects or disadvantages (whether intended or unintended) individuals, groups, or communities based on race or color;’ it ‘combines with public policies and industry practices to provide benefits for whites while shifting costs of people of color,’ and ‘is reinforced by government, legal, economic, political, and military institutions.’ Bullard, “Symposium: The Legacy of American Apartheid and Environmental Racism,” *supra* Note 54 at 451.

³⁴⁴ Taylor, *supra* Note 54 at 536.

³⁴⁵ Commission for Racial Justice, *supra* Note 54.

Despite the documented disparities, the mainstream environmental movement still did not pay adequate attention to race and class issues, eventually causing community-based activists to send two public letters addressed to the heads of the ten most prominent US environmental organizations in the first quarter of 1990. The letters charged the mainstream environmental organizations with racism, equal fault for the disruption of communities, lack of accountability, ignorance, ambivalence, and complicity in perpetuating the environmental exploitation of communities of color and the Third World. The letters called for the organizations to review and address their own culpability for environmental racism and undemocratic processes.³⁴⁶

A year later, the First National People of Color Environmental Leadership Summit was held. This event is often characterized as the ‘founding’ of the environmental justice movement, on account of the adoption of a document entitled *The Principles of Environmental Justice* at the end of the summit.³⁴⁷ The term ‘environmental justice’ was used because activists felt it was a more inclusive term that incorporate the concepts of equity and impartiality, and reflected the concern for distributive justice and corrective or commutative justice.³⁴⁸ It has been described as the defining document of the environmental justice movement, calling for a detailed activist agenda and a wide range of commitments toward environmental protection and social equity.³⁴⁹ The *Principles* focus on environmental issues between humans, nature, and rural and urban areas at multiple levels from local to global.³⁵⁰ Six broad themes appear in the document, dealing with ecological principles, justice and environmental rights, autonomy and self-

³⁴⁶ For a more detailed account, see Sandler and Pezzullo, *supra* Note 54 at 3-4.

³⁴⁷ *Ibid.* at 5.

³⁴⁸ Of particular interest were the need to identify past injustices and seek future remedies, and to adjust corporate-worker-community relations and government-local community interactions accordingly. Taylor, *supra* Note 54 at 537.

³⁴⁹ Sandler and Pezzullo, *supra* Note 54 at Appendix A.

³⁵⁰ Taylor, *supra* Note 54 at 538.

determination, corporate-community relations, policy and political/economic processes, and social movement building.³⁵¹

But while it obviously laid the movement's requirements and ultimate goals on specific issues, the *Principles* still did not provide a specific definition of "environmental justice." The burden of providing a definition shifted to the government regulatory agencies. In 1994, then-President Clinton issued EO 12898 that mandated US federal agencies to "make achieving environmental justice part of its mission," and establish their respective environmental justice strategies.³⁵² To provide guidance, the US National Environmental Justice Advisory Council and Inter-agency Working Group on Environmental Justice formulated a policy definition as follows:

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. In sum, environmental justice is the goal to be achieved for all communities and persons across this Nation. Environmental justice is achieved when everyone, regardless of race, culture, or income, enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.³⁵³

The positive definition remains largely intact in its current iteration by the US EPA, though in shorter form.³⁵⁴ But it suffers from an over-generalization: it seems to equate

³⁵¹ *Ibid.*, see 566-67 for the full document. Also in Sandler and Pezzullo, *supra* Note 54 at Appendix A.

³⁵² Executive Order No. 12898, Environmental Protection Agency online <http://www.epa.gov/compliance/resources/policies/ej/exec_order_12898.pdf> Last updated: 11 February 1994 (Date accessed: 05 May 2009).

³⁵³ Cited in DeLuca, *supra* Note 53 at 29.

³⁵⁴ Environmental Protection Agency, "Environmental Justice," *Environmental Protection Agency* online: <<http://www.epa.gov/oecaerth/environmentaljustice/>> Last updated: 13 February 2009 (Date accessed: 05 May 2009).

environmental justice with “fair treatment” too simply.³⁵⁵ Environmental justice in this form is a basic problem of law enforcement. It translates meaningful involvement into equal protection from harm and equal access to decision-making processes. But these rights may be considered as basic rights under any liberal democratic regime, which begs the question of how environmental justice can be any different from other forms of justice. The answer may be found in one EPA officer’s more detailed explanation:

Environmental justice revolves around the notion that some populations – in the United States, blacks, native Americans, Hispanics, poor people – are (1) at greater risk than others from environmental contamination; (2) suffer more from environmental nuisance – whether or not risk is a factor – such as having to live adjacent to waste management facilities; and (3) are excluded from access to the policy-making and decision-making process.³⁵⁶

This definition is a bit more enlightening because it focuses attention on the distribution of environmental risks or burdens, and exclusion from the decision-making process for such distribution, to the detriment of the poor and marginalized. This highlights the main argument of environmental justice advocacy that not everyone suffers equally from detrimental environmental impacts; on the contrary, the greater proportion of that suffering is borne by those least capable of protecting themselves against it.³⁵⁷ It should be noted that the definition is essentially negative, in that it speaks only of the distribution of risks and harms, and takes no position with respect to benefits and advantages.

In a more recent publication, Agyeman used a more positive definition formulated by the Commonwealth of Massachusetts:

³⁵⁵ Fair treatment’ has been further defined to mean ‘that no group of people, including racial, ethnic, or socio-economic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local and tribal programs and policies.’ Environmental Protection Agency, *supra* Note 54 at 2.

³⁵⁶ Sarokin and Schulkin, *supra* Note 54 at 121.

³⁵⁷ Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*, *supra* Note 54 at 19-20.

Environmental justice is based on the principle that all people have a right to be protected from environmental pollution and to live in and enjoy a clean and healthful environment. Environmental justice is the equal protection and meaningful involvement of all people with respect to the development, implementation and enforcement of environmental laws, regulations and policies and the equitable distribution of environmental benefits.³⁵⁸

The foregoing description ascribes very familiar legal concepts to environmental justice, such as individual rights, equal protection of law, and democratic participation. Agyeman notes that description has substantive, procedural, and distributive justice aspects.³⁵⁹ The substantive component consists in the recognition of the right to a clean and healthful environment, which includes the corollary right for protection against pollution. The ‘meaningful involvement’ in the related legal and policy processes implies the procedural component. Finally, the equality in favor of all persons to these substantive and procedural rights describes the distributive component, i.e., the distribution of environmental benefits that result from them. It is thus fair to describe environmental justice as focusing mainly on ‘the distribution of environmental quality.’³⁶⁰ Though changes in decision-making processes are included within its sphere of concern, such ‘better’ processes are for the purpose of distribution.

One interesting feature of ‘environmental justice’ is that while it has suffered from a long-drawn struggle over definitions,³⁶¹ most people have an intuitive understanding of the meaning of the term when it is used. The amorphous definition of environmental

³⁵⁸ Quoted in Julian Agyeman, *Sustainable Communities and the Challenge of Environmental Justice*. (New York: New York University Press, 2005) at 26.

³⁵⁹ *Ibid.*

³⁶⁰ See David Miller, "Social Justice and Environmental Goods." In *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*, ed. Andrew P. Dobson (Oxford; New York;: Oxford University Press, 1999); Low and Gleeson, *supra* Note 54 at 49 to 71; Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*, *supra* Note 54 at 10 to 30; and Brian Barry, *Theories of Justice*, vol. 1. A Treatise on Social Justice (Berkeley; Los Angeles: University of California Press, 1989), particularly 179-212.

³⁶¹ Sze and London, *supra* Note 54 at 1332; see also Melosi, *supra* Note 54 at 43-44.

justice and its broad coverage allow Taylor to describe it as an ‘environmental justice paradigm,’ one that she argues to be most clearly articulated in the *Principles* document.³⁶² Taylor contends that environmental justice is an effective means of framing social issues and problems, calling it a versatile “master frame” that uses discourses about injustice as a mobilizing tool for social movements.³⁶³ By describing it as a paradigm, Taylor also asserts that environmental justice is an “ideological package” that “express(es) bodies of thought that change over time and according to the actors developing the paradigms.”³⁶⁴ She concludes that the strength of the environmental justice paradigm has been to link formerly separate perceptions of environment, labor, and social justice into one master frame, and thereby recruit new supporters and adherents such as people of color and working-class backgrounds.³⁶⁵ This paradigm is a very powerful tool capable of encompassing a very broad range of issues and advocacies which draws a more diverse audience into the environmental discourse. She observes that it links together racial oppression, labor issues, environmental degradation, and health in a single system of understanding for the lay-person, and amplifies the issues by emphasizing how environmental policies, corporate behavior, and racial prejudice result in negative environmental impacts being disproportionately borne by the communities of color and the poor, on account of racial, gender, and class discrimination.³⁶⁶

³⁶² Taylor, *supra* Note 54 at 537.

³⁶³ *Ibid.* at 508. According to Taylor, “(f)raming refers to the process by which individuals and groups identify, interpret, and express social and political grievances. A central feature of the framing process is the generation of diagnostic attributions, that is, the identification of problems and the imputation of blame or causality. Framing can also be viewed as a scheme of interpretations that guides the way in which ideological meanings and beliefs are packaged by movement activities and present to would-be supporters. Frames organize experiences and guide the actions of the individual or the group.” *Ibid.* at 511.

³⁶⁴ *Ibid.* at 508.

³⁶⁵ *Ibid.* at 566.

³⁶⁶ *Ibid.* at 523-24.

Brulle and Pellow note that in the US, the environmental justice movement had significant impacts in three areas: local politics, litigation, and state-national politics.³⁶⁷ Local issues have resulted in their most prominent successes, making it extremely difficult for firms to place 'locally-undesirable land uses' anywhere near local communities owing to the political controversy they generate.³⁶⁸ Litigation has not resulted in similar victories, but at least indicate extensive reliance upon environmental justice as the basis for making claims before judicial and quasi-judicial offices.³⁶⁹ Exposure of local issues have at least captured the attention of US national leaders in both the state and federal levels, but seem to have stalled.³⁷⁰

Sze and London discern the environmental justice movement to have moved beyond its 'first-generation' focus on particular social contexts in America (mainly racism-related) and expanded rapidly into the rest of the world.³⁷¹ They note a rapid growth in academic research and their associated methodologies from the late 1980s and into the 1990s, and proliferating after 2000.³⁷² At first environmental justice was primarily an interest of sociology, natural resource policy, and environmental law, but then studies were conducted increasingly within various other social sciences and humanities disciplines, such as human geography, history, literature, philosophy and environmental ethics, political theory, and radical political economy.³⁷³ They believe that this 'second-generation' environmental justice benefits from a significant growth in methodological tools for applied research, and is broadening its theoretical scope and spatial horizon. Citing growing literature using the environmental justice paradigm in other countries, and

³⁶⁷ Robert J. Brulle and David Nanguib Pellow, "Environmental Justice: Human Health and Environmental Inequalities" (2006) 27 Annual Review of Public Health 103 at 114-15.

³⁶⁸ *Ibid.* at 114.

³⁶⁹ *Ibid.* at 114-15.

³⁷⁰ *Ibid.* at 115.

³⁷¹ Sze and London, *supra* Note 54 at 1335-42.

³⁷² *Ibid.* at 1332-35.

³⁷³ *Ibid.* at 1335-40.

applying it in studies of international political ecology,³⁷⁴ they note that environmental justice calls into question the relationship between the local and the global.³⁷⁵

Perhaps the most prominent focal point for the articulation of this expanded conception of environmental justice is the issue of climate change due to the realization of many that the energy- and resource-intensive economies of the North are underwritten by the disaster-vulnerability and risk-exposure of the poorest countries of the South. This later led to the calls for “climate justice” by international activist coalitions of non-government organizations and the formulation of the Bali Principles of Climate Justice in the course of preparations for the 2002 WSSD at Johannesburg.³⁷⁶ “Climate justice” appears to have reached its greatest prominence to date within the global environmental movement due to the recent Copenhagen talks.³⁷⁷ It should be noted, though, that as early as 1987, *Our*

³⁷⁴ *Ibid.* at 1331-32.

³⁷⁵ *Ibid.* at 1336.

³⁷⁶ *Ibid.* at 1343. Endorsed by organizations such as Friends of the Earth International and Greenpeace International, the Bali Principles for Climate Justice are expressly patterned after *The Principles of Environmental Justice*, the document similarly does not define ‘climate justice’ explicitly, but describes it as insisting that ‘communities have the right to be free from climate change, its related impacts and other forms of ecological destruction.’ See “The Bali Principles of Climate Justice,” India Resource Center online: <<http://www.indiaresource.org/issues/energycc/2003/baliprinciples.html>> Last updated: 28 November 2003 (Date accessed: 5 May).

For more information on the climate justice as a concept, see Jouni Paavola and W Neil Adger, *Justice and Adaptation to Climate Change*. Tyndall Centre Working Paper No. 23 (Norwich UK: Tyndall Centre for Climate Change Research, 2002); M. Cazorla and M. Toman, *International Equity and Climate Change Policy*. Climate Change Issue Brief No. 27 (Washington DC: Resources for the Future, 2000); James Garvey, *The Ethics of Climate Change: Right and Wrong in a Warming World* (London: Continuum International, 2008).

³⁷⁷ See for example, “Thousands Protest in Copenhagen, Demand ‘Climate Justice’.” *GMANews.TV* (12 December 2009), online: <<http://www.gmanews.tv/story/179218/thousands-protest-in-copenhagen-demand-climate-justice>>; Lauren Carroll Harris, “Copenhagen Eyewitness: The Rising Tide of Climate Justice,” *The Asia-Europe People's Forum* (14 December 2009), online: <<http://www.aepf.info/news/news/85-copenhagen-eyewitness-the-rising-tide-of->

Common Future had already called attention to climate justice by recognizing that “(g)lobally, wealthier nations are better placed financially and technologically to cope with the effects of possible climate change.”³⁷⁸

The extension of environmental justice to a multiplicity of situations other than those related to racial, gender, or class discrimination prompted David Schlosberg to write in 1999 that the main challenge to the US environmental justice movement was to develop a ‘critical pluralist politics’ that moved environmental justice beyond conventional interest-group politics, because “the major groups in the US environmental movement, in taking on the role of interest groups...have also excluded and marginalized many positions, and limited what counts as a valid environmental perspective.”³⁷⁹ The latter are marginalized from the ‘mainstream’ environmental causes in their struggle for dominance of the political agenda, which contributes to “a lack of diversity and attention to environmental inequities” despite its notable successes.³⁸⁰ Yet, there was clearly a very wide diversity in

climate-justice.html>; Louise Gray, "Copenhagen Climate Summit: Desmond Tutu Calls for Climate Justice," *Telegraph.co.uk* (15 December 2009), online: <<http://www.telegraph.co.uk/news/6817258/Copenhagen-climate-summit-Desmond-Tutu-calls-for-climate-justice.html>>; Juliet Eilperin, "Protesters Demand 'Climate Justice'," *Washington Post* (13 December 2009), online: <<http://www.washingtonpost.com/wp-dyn/content/article/2009/12/12/AR2009121200641.html>>. A Google Trends inquiry shows a sudden surge and spike in online searches for the term “climate justice” in the last quarter of 2009, tapering off by the first quarter of 2010.

³⁷⁸ *Our Common Future* at 49.

³⁷⁹ David Schlosberg, *Environmental Justice and the New Pluralism: The Challenge of Difference in Environmentalism* (New York: Oxford University Press, 1999) at 4.

³⁸⁰ *Ibid.* at 9. He notes that ‘mainstream’ environmental causes are typically white middle-class concerns that avoid issues of color and urbanization. This was previously noted previously by Benjamin A. Goldman, "What Is the Future of Environmental Justice?" (1996) 28:2 *Antipode* 122, which opened with the line, “White men have me thinking,” and observed:

...increased public awareness of toxic hazards may contribute perversely to even greater environmental disparities by race and class. As more communities try to block sites and prevent pollution in their backyards, those with the least political

issues, interests, and affected groups that demanded attention and an equally diverse practice in advocacy. Schlosberg observed that the main challenge for a movement that arose out of the intent to protect marginalized and excluded groups was, rather ironically, to itself develop and observe an internal politics of inclusiveness and pluralism against its own practices of exclusion.

Five years later in 2004, Schlosberg considered the global scope of environmental justice, and noted that despite the passage of nearly two decades, “very little attention” had been paid to exactly what ‘justice’ (in environmental justice) referred to.³⁸¹ The movement’s proliferation created its own crisis: diverse practical meanings of environmental justice held by various advocates and groups generated the problem of political and theoretical reconciliation. Schlosberg observed that liberal theories of justice, which environmental justice drew from, were inadequate to address this because the focus on distributive justice greatly neglected the claims to political recognition and public participation that were equally, and sometimes even more, important than the resulting environmental quality.³⁸² Environmental justice advocates elsewhere in the world demanded not just the redistribution of goods, but inseparably also the recognition of cultural identity and full participatory democratic rights.³⁸³ These, he argued, were greatly ‘under-theorized’ and greatly muted by the insistence on universalism and uniformity for the sake of the movement’s unity across the globe at the expense of local concerns and issues.³⁸⁴

David McDonald corroborates this by noting that the literature on environmental justice “is far from homogenous and is in fact riven with deep ideological splits on foundational

and economic power will be left with an even greater share of the toxic residues from our modern society. *Ibid.* at 128.

³⁸¹ Schlosberg, "Reconceiving Environmental Justice: Global Movements and Political Theories," *supra* Note 54 at 518, 522-29.

³⁸² *Ibid.* at 529-32.

³⁸³ *Ibid.* at 537.

³⁸⁴ *Ibid.* at 532-36.

questions such as race, class, and gender.”³⁸⁵ He observed that so many institutions, movements, and objectives may claim to be about environmental justice, even the much-criticized World Bank and its international lending programs and development projects.³⁸⁶

The expansion and broad application of the environmental justice paradigm thus led to questions about its long-term efficacy as an organizing concept. Sze and London concluded that the paradigm is at a crossroads,³⁸⁷ it is experiencing tension due to the divergent demands of its application. Although much of the environmental justice literature is grounded specifically in local contexts, issues, and struggles, it offers a framework that can be accommodated into multiple political viewpoints, bring together disparate disciplinary fields and perspectives, and bring focus to common points of

³⁸⁵ David A. McDonald, "Introduction: What is Environmental Justice?" In *Environmental Justice in South Africa*, ed. David A. McDonald (Athens & Cape Town: Ohio University Press & University of Cape Town Press, 2002) at 5. This view contravenes Taylor's analysis that the environmental justice paradigm possesses "a significant ideological core." Taylor *supra* Note 54 at 538. See for example three divergent views about the relationship between the environmental justice movement and mainstream environmentalism in the same book, in Pellow and Brulle, *supra* Note 54. The differences in opinion revolve around the question of priorities between human welfare and Nature. DeLuca pushes for a bio-centric view oriented around the supreme value of wilderness, impliedly repudiating the anthro-centric social justice values. DeLuca, *supra* Note 53. Wenz on the other hand argued that there is no inherent conflict, but perfect congruence between the two movements is impossible. Peter Wenz, "Does Environmentalism Promote Injustice for the Poor?" In *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, ed. Ronald Sandler and Phaedra C. Pezzullo (Cambridge MA: MIT Press, 2007). Jamieson meanwhile holds that even traditional environmentalism has justice as its very core. Dale Jamieson, "Justice: The Heart of Environmentalism." In *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, ed. Ronald Sandler and Phaedra C. Pezzullo (Cambridge MA: MIT Press, 2007).

³⁸⁶ McDonald, *supra* Note 54 at 5.

³⁸⁷ Sze and London, *supra* Note 54 at 1346.

struggle between diverse issues, places, and peoples.³⁸⁸ At the same time, though, this broad applicability is a possible weakness, because as a panacea for nearly all environmental issues, it risks “a dilution and even loss of meaning and purpose.”³⁸⁹

3.1.2 A Problematic Paradigm

Environmental justice as currently defined is not adequate for assessing the social justice impacts of ocean energy technologies. The generality of its definitions do not provide enough bases for building an analytical framework that is distinct from a political or ideological orientation, or even personal morality. As noted in the previous section, the definitions of environmental justice have been in a state of flux, and its only constant and discernible elements have basically been claims to equal treatment or protection (depending on whether one is considering benefits or burdens) and to participation in environmental decision-making.³⁹⁰ However, environmental justice *per se* offers no underlying explanation for how or why these two elements related, or whether they have an inherent connection to a ‘just’ distributive outcome. Nor are these two elements necessarily conjoined. One may imagine that in a given environmental issue, it is possible to have social groups believe that they have been treated or protected equally without having actually participated in the key decisions: is this environmental justice? What if they fully participated in such decisions, and yet find the outcome to be unfair or unequal: is there environmental justice? In the absence of a clear foundation, environmental justice issues become more ideologically-driven and subjectively-defined. Taylor’s characterization of the environmental justice paradigm as an “master frame”³⁹¹ implies the existence of a unifying framework of values, principles, and aspirations that represent an ideal society. But, it begs the questions of what philosophy underlies those systems of ideas; how they define the more basic concepts of the environment and society; how

³⁸⁸ *Ibid.* at 1347.

³⁸⁹ *Ibid.*

³⁹⁰ See for example, the US EPA’s definition quoted previously.

³⁹¹ Taylor, *supra* Note 54.

environment and society relate to each other; and in light of that relation, how society's members in turn relate with each other.

If there is any one unique property that may be attributed to the idea of environmental justice, it is its focus on race and/or class, and in some cases, gender as the recipients of disproportionate burdens. Yet a mere disproportionate distribution of the negative impact experienced may not be enough. There must also be a credible pattern that establishes a discriminatory intent or outcome. Otherwise, it would be difficult to differentiate between random environmental impacts and those correlated with particular social groups.³⁹²

While the beneficiaries of environmental justice (marginalized groups absorbing disproportionate environmental burdens) may be identifiable, the identification is dependent on the context of the environmental issue at hand. Stating that a group suffers a 'disproportionate' burden implies that there is more or less clear totality within which one can perceive proportions; but the appropriate scale of this totality is beyond the scope of available definitions. Often this is a demographic or geographical scale. For example, does a given issue involve only a small village, a township, a county, a province, a State, a region, or the world? The justice of the issue may change depending on the appropriate scale because it also implies the appropriate stakeholder membership.³⁹³ Thus, the specific scale and context may define whether any particular groups among many are receiving a disproportionate share of benefits or burdens from a controversial activity.

Any number of political or ideological conceptions may claim equal treatment and participation in decision-making as motherhood statements; they are not exclusive to

³⁹² This is not to say that there can then no longer be any liability or responsibility attached to such impacts. All that this implies is that the remedies for such impacts may be based on grounds other than environmental justice.

³⁹³ In philosophical terms, the selection of appropriate geographic and demographic scale to consider is covered by the issue of proper identification of the "community of justice", considered more closely in Andrew P. Dobson, "'Critical Natural Capital' and Social Justice (Part I)." In Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*, *supra* Note 54.

environmental justice, and thus cannot attribute distinctive theoretical properties with one may construct a proper analytical framework. The need for specific context in order to define the proportionality of shares in benefits and burdens makes the existence (or absence) of environmental justice case-specific. Combined with a lack of distinctive definitional properties, this makes it difficult to conduct a consistent analysis across different situations. This imparts upon environmental justice a highly localized and perhaps parochial character; this could be one reason why the movement's successes have concentrated largely in local struggles, and why sometimes it is difficult to say whether an outcome is really just or merely an outcome of the NIMBY syndrome.³⁹⁴ The problem is that if environmental justice were to justify NIMBY-ness, very soon there will be no more backyards.

Tinkering with the various available definitions of environmental justice is not likely to address these shortcomings. Authors argued early on that environmental justice required a 'fundamental' re-conceptualization to take it beyond the dominant framework of racial discrimination in an American setting.³⁹⁵ This re-conceptualization must recognize that modern economies require the unprecedented transformation of Nature, creating social inequalities and negative impacts that fall unevenly according to the divisions of wealth/poverty, power/powerlessness in present societies.³⁹⁶ It must trace the roots of environmental inequality and environmental justice to the dawn of the Industrial Age, not

³⁹⁴ For more information on the NIMBY and associated Locally Undesirable Land Use (LULU) phenomena, see Carissa Schively, "Understanding the Nimby and Lulu Phenomena: Reassessing Our Knowledge Base and Informing Future Research" (2007) 21:3 *Journal of Planning Literature* 255; also Vicki Been, "What's Fairness Got to Do With It? Environmental Justice and the Siting of Locally Undesirable Land Uses" (1993) 78 *Cornell L. Rev.* 1001 and Michael Dear, "Understanding and Overcoming the Nimby Phenomenon" (1992) 58 *Journal of the American Planning Association* 288.

³⁹⁵ A. Szasz and M. Meuser, "Environmental Inequalities: Literature Review and Proposals for New Direction in Research and Theory" (1997) 45:3 *Current Sociology* 99 at 115-17.

³⁹⁶ *Ibid.* at 116.

just the protests against toxic dumps in the US in the 1980s, and call for a complete re-examination of the concept of industrial modernization and progress itself.³⁹⁷

There have been attempts at either an expansion or a re-conceptualization, notably those of Low and Gleeson,³⁹⁸ Julian Agyeman³⁹⁹ and David Schlosberg.⁴⁰⁰ Low and Gleeson attempt to rethink environmental justice into ‘ecological justice,’ which goes beyond distribution and considers “the sense of our moral relationship with the non-human world.” They propose two key principles as the basis for ecological justice that recognize all life forms’ entitlement to life and their interdependence with one another,⁴⁰¹ but establish a hierarchy of moral precedence in which places individuals above communities and ‘individualized humans’ above all other life forms.⁴⁰² It is clear from the structure of the principles and sub-principles, that Low and Gleeson’s ‘ecological justice’ is an attempt to extend the liberal philosophy to non-human components of Nature. It is nothing less than the anthropomorphization and then moral subordination of all life forms to the individual person, with all nobility and caprice. The first principle recognizing each natural entity’s entitlement to its own form of life is no more than a reformulation of the

³⁹⁷ *Ibid.*

³⁹⁸ Low and Gleeson, at 133-68.

³⁹⁹ Agyeman, “Sustainable Communities and the Challenge of Environmental Justice,” *supra* Note 358.

⁴⁰⁰ Schlosberg, *Defining Environmental Justice: Theories, Movements and Nature*, *supra* Note 54 .

⁴⁰¹ Low and Gleeson at 156, 199. The principles are formulated as follows:

- A. Every natural entity is entitled to enjoy the fullness of its own form of life, and
- B. All life forms are mutually dependent and dependent on non-life forms.

⁴⁰² *Ibid.* at 156-57, 200. These qualifying principles are:

- 1. Life has moral precedence over non-life,
- 2. Individualized life forms have moral precedence over life forms which only exist as communities, and
- 3. Individualized life forms with human consciousness have precedence over other life forms.

familiar human right to life, liberty and pursuit of happiness; and it is clear from the qualifying principles that ultimately, human individual life forms take precedence over all other components of Nature. Together with the sub-principle that life is more important than non-life (e.g. natural resources), it is difficult to see how these can substantially contribute to an idea of “ecological justice,” other than to inject the idea of interdependence between all life-forms as well as with their environment. It is rather odd to note that in any case, the application of the sub-principles plainly may disregard such interdependence.

Agyeman, meanwhile, focuses on the local level and the problem of establishing sustainable communities. He views the environmental justice paradigm as being limited in reach, and proposes as an alternative a ‘just sustainability paradigm.’ This framework focuses on the idea of sustainability; where “(a) truly sustainable society is one where wider questions of social needs and welfare, and economic opportunity are integrally related to environmental limits imposed by supporting ecosystems.”⁴⁰³ Agyeman argues that this new paradigm emphasizes the development of sustainable communities based on the promotion of a ‘new economics’ predicated on the notion of sufficiency and quality of life, and inclusive and participatory political processes, rather than the profit-maximization and exclusionary practices under the prevailing market framework.

Schlosberg on the other hand takes a slightly different track by keeping a global perspective and proposes to move current thinking from ‘environmental justice’ to his own brand of ‘ecological justice.’ Building upon his previous work on critical pluralism

⁴⁰³ Julian Agyeman, Robert D. Bullard, and Bob Evans, eds., *Just Sustainabilities: Development in an Unequal World* (Cambridge Massachusetts: The MIT Press, 2003) at 157; Julian Agyeman, Robert D. Bullard, and Bob Evans, "Exploring the Nexus: Bringing Together Sustainability, Environmental Justice and Equity" (2002) 6:1 *Space and Polity* 77 at 78.

within the environmental justice movement,⁴⁰⁴ he argues for a multi-dimensional conception of justice that extends beyond society and into the natural world. Schlosberg asserts that American environmentalism has spanned a far greater diversity of issues and concerns that conventional liberal pluralist politics is able to accommodate, so much so that environmental advocacy in practice is little different from interest-group politics, and the traditional power struggles that are associated with it.⁴⁰⁵ He contends that this fall back into traditional politics should be arrested by a ‘critical pluralism’ that “offers a way of understanding the construction of diverse understandings of and reactions to the reality of environmental degradation,” and a political process that can accommodate such diversity.⁴⁰⁶ This involves the appreciation of justice as the product of interdependence between distribution of goods, recognition of group difference, and participation in the decision-making process, in addition to the realization that global society is interdependent with ecological systems.⁴⁰⁷ Thus, Schlosberg’s concept of ecological justice puts emphasis on claims to cultural and political rights as well as to environmental quality, highlighting the relationship of the socio-political to the bio-physical realms.

However, a point needs to be made about these re-conceptualizations. The conclusions about how environmental justice needs to change reveals that what is actually needed is not an additional ‘environmental’ or ‘ecological’ element in the equation in the way Low and Gleeson attempted, but a return to the *social* and *political* aspects of justice. Both Agyeman and Scholsberg actually zero in on enhancing participatory political processes of the State: the former for local communities, and the latter for social forces beyond

⁴⁰⁴ See Schlosberg, *Environmental Justice and the New Pluralism: The Challenge of Difference in Environmentalism*, *supra* Note 54; also Schlosberg, "Reconceiving Environmental Justice: Global Movements and Political Theories," *supra* Note 54.

⁴⁰⁵ Schlosberg, *Environmental Justice and the New Pluralism: The Challenge of Difference in Environmentalism*, *supra* Note 54 at 5-10.

⁴⁰⁶ *Ibid.* at 10.

⁴⁰⁷ See Schlosberg, *Defining Environmental Justice: Theories, Movements and Nature*, *supra* Note 54. Schlosberg’s three processes shall be dealt with in more detail in the penultimate section of this chapter.

interest-groups. Even Low and Gleeson actually do come to the realization that there is something much more than their attempt to encompass all of Nature into human morality:

The challenge of the new century, the challenge of ecological and environmental justice is nothing less than the transformation of the global institutions of governance, the reinstatement of democracy at a new level, the democratization of both production and its regulation.⁴⁰⁸

Ultimately, then, there is nothing inherently and exclusively ‘environmental’ in the professed objective of these re-conceptualizations: the transformation of governance through widening political participation is one of the recurring elements of the political discourse of justice itself. It is not limited to ‘environmental’ problems but permeates all social issues. In political philosophy, the question of participation is inherently a question of *social* justice. In this respect, it seems that the solution to the shortcomings of ‘environmental justice’ is to drop ‘environmental’ from the term!

3.1.3 An Ineffective Defense

The underlying source of problems with attempting to use environmental justice as a tool for analyzing the social justice of environmentally-friendly technologies is that ironically, it does not actually incorporate a definitive perspective on society’s relationship with Nature. While Schlosberg dwells on the question of what ‘justice’ means in environmental justice, it is also proper to ask, what does ‘environmental’ mean?⁴⁰⁹ The word assumes some understanding of the relationship between society and its institutions on the one hand and Nature on the other. This vital relationship appears to be glossed over in the most common and prevalent definitions of environmental justice; the emphasis is on protection from risks and access to decision-making, and does not go so far as to question *why* risks are generated and *why* decisions about them are to be made in

⁴⁰⁸ Low and Gleeson at 213.

⁴⁰⁹ Possible interpretations about the term “environmental” in “environmental justice” include environmentally-friendly justice, or justice for the environment, or justice from environmental rules, or justice made for the environment, or a particular species of justice drawn out of the environment.

the first place. Without an explicit understanding of the society/Nature relationship, it is impossible to idealize its features and use them to evaluate the established social practices and techniques for harnessing Nature's productive capacities. Analysis will be superficial and limited to the external effects and outcomes, and may not probe into underlying causes entrenched in social institutions.

The various definitions of environmental justice that give prominence to equal treatment and democratic participation indicate that it is, at heart, founded on classic liberal theory relying upon an individualist account of human nature or 'social atomism,' and an emphasis on finding an ideal distribution of goods among individuals.⁴¹⁰ If the environmental justice paradigm indeed does have a "significant ideological core," as attributed by Taylor,⁴¹¹ it is that of liberalism within the market society.⁴¹² This

⁴¹⁰ This is the same critique directed by Iris Marion Young against liberal theories of justice, to be discussed in Chapter 3.2.

⁴¹¹ Taylor, *supra* Note 54 at 538-45.

⁴¹² The political philosophy of liberalism accords priority to the individual and views the State and its institutions as instruments for maximizing individual welfare. In its classic form, liberalism associates such welfare with personal liberty and freedom, market autonomy or non-regulation by the State of private economic transactions, and the ordering of government, politics, and society through rational principles rather than traditions or customs. These mean minimizing the role and intervention of the State in private affairs, and according full recognition to individual rights. Liberalism originally emerged in the 17th century to counter medieval feudalism. Larry Johnston, *Politics: An Introduction to the Modern Democratic State*. (Petersborough ON: Broadview Press, 2001) at 122-25.

Modern 'universal' liberalism is the engine that drives post-cold war economic globalization. Barry K. Gills, "Democratizing Globalization and Globalizing Democracy" (2002) 581 *Annals of the American Academy of Political and Social Science* 158. Critical literature on liberalism and globalization point to a specific form called 'neo-liberalism' which assumes that the common good can be promoted through laissez-faire and open competition, minimal intervention by the State, minimal support for welfare, individualistic self-interest, utilitarianism, and comparative advantage in free trade. In the international arena, it manifests as the pressure for market liberalization of national economies, exclusive appropriation by limited interests of resources previously held in common, and the mobility of capital throughout national borders using global financial markets. See M. Shamsul Haque,

individual-centered account overlooks the influence of differences based on ethnicity, culture, and social or economic class, and uncomfortably accommodates issues of common, community-based interests mainly as an aggregation of individual members' preferences.

It is for this reason that, as Schlosberg observed, major environmental groups have acted as 'interest groups among many,'⁴¹³ similar in form and function to any other political lobby or interest group (e.g., the automotive industry, the labor unions, etc.) seeking to influence decisions and policies in their favor. Environmental issues, like the use of ocean energy technologies, present some of the most difficult questions to modern democracies because of the possible number and diversity of interests that could be involved in establishing even just one facility on any coastline. Often, these diverse interests coordinate or clash within a modern political system working under some form of liberalism and liberal government structure.⁴¹⁴

"The Fate of Sustainable Development Under Neo-Liberal Regimes in Developing Countries" (1999) 20:2 International Political Science Review 197 at 203-04; Elaine Hartwick and Richard Peet, "Neoliberalism and Nature: The Case of the Wto" (2003) 590 Annals of the American Academy of Political and Social Science 188 at 188-89; William K. Carroll, "Hegemony and Counter-Hegemony in a Global Field" (2007) 1:1 Studies in Social Justice 36 at 36-38. For a succinct discussion of the many dimensions of neo-liberal globalization, see Banerjee, *supra* Note 329.

In contemporary times, liberalism has evolved into two major streams. The first is 'reform liberalism' which has accepted that the State still has a role to play, particularly in preserving and enhancing personal rights and liberties against social and economic inequalities. This gave rise to the concept of the welfare State. The second is 'liberal conservatism' that still holds to classic liberalism's priority for minimal government and *laissez-faire*, but also believes that inequality in wealth and economic class is entirely 'natural' in a market economy. Liberal conservatism is often closely associated with traditional moral values and religious conservatism. Johnston, *ibid.* at 135-40.

⁴¹³ Schlosberg, "Reconceiving Environmental Justice: Global Movements and Political Theories," *supra* Note 54 at 7.

⁴¹⁴ Iris Marion Young notes that two general types of liberal government systems describe modern democracies as a legal continuum. On one end is the classic liberal State that offers minimal regulation of market transactions through which goods are

Modern liberalism therefore has much to do with the environmental issues of today; it is a source of both the inherent problems and the potential solutions. It has allowed the emergence of a concept of environmental justice, which is useful in framing problems when they emerge, yet distracting and possibly counter-productive in offering solutions. It is mated with another ideological construct that is one of the most prominent drivers of the over-exploitation and depletion of natural resources and the degradation of Nature: the market society. At the same time, it also limits the extent to which environmental justice can resolve problems related to the allocation and distribution of natural resources, environmental goods and services, and the institutional mechanisms that control them.

3.1.4 The Limits of Environmental Justice

Liberalism and the market society are closely-allied ideological systems, on account of the value that the former places upon economic liberty or market autonomy.⁴¹⁵ Since the 19th century, the market society has gained dominance as an economic system by riding

distributed; the State uses its police power to enforce or protect such transactions while courts strike down as *ultra vires* any regulations that would allow the distribution of goods through any means other than the free market. The United States is an example of a State that tends more closely toward this model. On the other end is the social democratic State which maintains and provides a wide range of social goods such as healthcare, education, basic income support, etc. as minimal entitlements of every citizen; these are provided directly by the State and public enterprises or by regulated private institutions. An 'activist' State still enforces and protects market transactions, but must also regulate them to ensure consistency with a system of minimum entitlements for citizens that the State must maintain. Prominent European Community members such as Germany and France tend to fall within this category. Between the two extremes are most of the societies of today, as States try to find the right balance of rules to regulate the market economy to a greater degree than the classic liberal State but are not fully social democratic States. See Iris Marion Young, "Between Liberalism and Social Democracy: A Comment on Tushnet" (2002) 3:2 Chicago J. Int'l. L. 471 at 471-72, commenting on Mark Tushnet, "State Action, Social Welfare Rights, and the Judicial Role: Some Comparative Observations" (2002) 3 Chicago J. Int'l. L. 435.

⁴¹⁵ Johnston *supra* Note 412 at 124.

the wings of liberal democratic reforms.⁴¹⁶ This has serious implications that determine the outer limits of environmental justice.

First, at a fundamental level, a liberal ideology sets the individual apart from and against the collective, and presumes that the latter exists only as an aggregation of individual choices. This assumes that individual rights in the first instance have priority over common interests: the latter cannot exist without prior coincidence of individual interests. As early as 1907, Roscoe Pound, considered the possible effect of the idea of social justice on American common law, and noted:

The conception that rights should belong or duties attached to a person of full age and natural capacity because of the position he occupies in society or of the occupation in which he is engaged is repugnant to the spirit of the common law... When the standard is equality of freedom of action, all classes, other than those few and simple ones based on so-called natural incapacities, such as infancy and lunacy, are repugnant to the idea of justice...⁴¹⁷

Low and Gleeson's proposed principles of ecological justice (and its resulting shortcomings) described in the previous section are emblematic of this tendency to hold and maintain individual above collective interests.

Second, the market society's operational needs such as full freedom of contract, unregulated market prices, and mobility of labor, among others, are conditions consistent with liberal ideals of maximum personal individual freedoms and minimal State intervention. Since liberal democratic ideology eschews State controls on individual freedoms, it also tends to restrain pro-active and pre-emptive protection of the collective against the impacts of activities of individual entrepreneurs and corporations, who benefit

⁴¹⁶ *Ibid.* For a more comprehensive view of the development of market society in Europe, see Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time*. (Boston: Beacon Press, 1944)

⁴¹⁷ Roscoe Pound, "The Need of a Sociological Jurisprudence" (1907) 19:10 *The Green Bag* 607; reprinted in Roscoe Pound, "The Need of a Sociological Jurisprudence" (1964) 10 *Crime Delinquency* 385 at 396.

the most from the market economy. When individual rights *a priori* reign over social goods such as the environment and its natural resources, it is more difficult to establish and justify the existence of collective rights that appertain to often-amorphous groups, communities or social forces through State action such as legislation.⁴¹⁸

Both ideological underpinnings therefore tend to limit the vision of environmental justice to hindsight rather than foresight. By espousing the expansion of individual rights and freedoms, the liberal ideology of the market society hinders the acceptance of the need for socially-defined and -imposed restraints established for common interests and benefits, such as safeguards for environmental quality in a community. The environmentalism of environmental justice may thus be characterized as being similiary market-based, i.e., defined by forces of supply and demand for particular aspects of environmental quality, and dependent entirely on the competition between the bargaining strength of the individually-affected market players. Actions to protect collective interests are placed in a passive and reactive mode by default, invoked only after they have been challenged and affected by an individual's interest. This explains why environmental justice tends to be outcome-oriented and rearward-looking. As a paradigm, it requires the existence of burdens that can be observed, assessed, compared, and determined to be disproportionately placed upon a social group.

Environmental justice is thus a primarily remedial framework of analysis, not an anticipatory one. Until after the establishment of a particular distributive pattern, it is easy to cast attempts to forecast negative impacts and design protective measures as actual constraints to individual freedom, interference with market forces, restrictions upon economic growth, or impediments to social progress as conventionally defined. These are formidable arguments against what could be portrayed as premature and

⁴¹⁸ This is not only confined to environmental law, but permeates the entire range of goods that could be subject to individual appropriation and/or State regulation. See Tushnet, *supra* Note 414 at 438-40, for a more general discussion of its manifestation in contract, property, and tort law issues.

speculative fears. Environmental justice thus provides a relatively weak justification for precautionary and anticipatory actions and reforms when faced with economic arguments and cost-benefit analyses.

Further, three problems arise: (a) the need for agreement among individuals upon particular environmental interests or conditions; (b) how to reach such an agreement; and (c) how to preserve such an agreement among individuals over time. The first two may be seen as familiar problems of democratic governance, which to a certain extent may be addressed by efforts toward democratic reforms. The last is much more difficult to address: unless held together by a common personal perspective, the aggregation of opinions of individuals lasts only as long as it is held by them. Individual opinions would necessarily change depending on myriad factors and conditions affecting individual choices and preferences.

Environmental justice on any issue is therefore more likely to be based on a mere ‘snapshot’ of public opinion at a particular point in time. This implies that any situation perceived to be in accord with environmental justice is potentially unstable or easily alterable once the conditions for public opinion or the relevant population holding the opinions have changed. Since mass media communications can influence and shape public opinion, this makes the presence or absence of environmental justice prone to being a media creation rather than a principled conclusion. If populations themselves can be directly altered (e.g., if they are resettled elsewhere), then the issue of environmental justice may not immediately arise for the simple reason that the people to whom injustice is inflicted are no longer present.

The liberal account also divorces society from its environment. It assumes that society exists completely separate from Nature, and the latter has a purely instrumental purpose as a ‘thing’ that society uses to satisfy all its requirements. This is consistent with Dobson’s observation that the environmental justice movement regards the environment

mainly as a particular form of goods or bads to be distributed.⁴¹⁹ But since society exists within Nature, they are inseparable. Viewing Nature as subject to distribution implicitly accepts the idea that Nature is divisible and containable, subject to human control and manipulation. Certainly, this assumption is problematic, although it is true that some natural processes may indeed be subject to human intervention. Human control definitely extends only over human activities and their immediate, direct, and anticipated impacts on the environment, not Nature itself. Beyond the initial contact, the complex systems of Nature take over and may eventually result in the unpredictable and unforeseeable. These effects are beyond the scope of environmental justice, for the same reason that natural disasters and accidents of Nature cannot be proper subjects of justice.⁴²⁰ This is very important since the Law tends to rely on causality as the means of establishing responsibility, accountability, and liability for actions.

The various definitions of environmental justice thus far offered reveal that it is conceptually silent on the relationship of society to Nature. This indicates that environmental justice lacks a definitive grounding in a particular environmental ethic or philosophy. Instead, it is malleable and transposable across different perspectives and worldviews. Perhaps it is this absence of a theoretical perspective that makes it so attractive and easily adaptable to any number or shades of movements and advocacies. But this is precisely environmental justice's problem of over-extension: if practically any issue with an environmental aspect falls within the scope of these alternative theories,

⁴¹⁹ Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*, *supra* Note 54 at 19.

⁴²⁰ As Miller observes,

Not every state of affairs can properly be described as just or unjust. It must, first of all, involve sentient beings, and paradigmatically it involves beings who are both sentient and rational...It must also be a state of affairs in which at least one of the sentient beings is enjoying a benefit or suffering a burden...It must, thirdly, be a state of affairs which has resulted from the actions of sentient beings, or is at least capable of being changed by such actions...As long as a state of affairs is regarded simply as a product of natural causes, questions about its justice or injustice do not arise. Miller, *Social Justice*, *supra* Note 32 at 18.

then it may be asked whether they are really distinct theories at all. As aptly observed by Pellow and Brulle, “there are limits to how much plurality a movement can embrace. On that question, the (environmental justice) movement has yet to find a balance.”⁴²¹

In the end, if environmental justice is, to use computer parlance, some kind of ‘plug-in’ or ‘extension’ module that can be attached to any ethical or philosophical program, then its utility as an analytical tool is largely dependent on the master program to which it is attached. One can determine whether or not environmental justice exists whether using a liberal, neo-Marxist, utilitarian, or any other perspective. It is not actually a separate systematic analytical framework but rather a specialized filter through which environmental effects on particular groups may be claimed, identified, or portrayed. In other words, environmental justice is a tool for description and depiction, rather than a tool for investigation and anticipation.

Given the limitations of ‘environmental justice’ as an analytical tool, it is necessary to go back and reconsider the role of social justice vis-à-vis environmental issues, and derive a different approach that may be adapted for application to technological solutions to environmental issues. An alternative review of the legal history and role of social justice in international environmental law is necessary.

3.2 Recalling Social Justice

“Social justice,” according to David Miller, “is about how the good and bad things in life should be distributed among the members of a human society.”⁴²² The major social institutions⁴²³ that form the foundations of all societies carry out this distribution. It is on

⁴²¹ Pellow and Brulle, *supra* Note 54 at 16.

⁴²² Miller, *Principles of Social Justice*, *supra* Note 56 at 1.

⁴²³ John Rawls defines institutions as “a public system of rules which defines offices and positions, with their rights and duties, powers and immunities, and the like...An institution may be thought of in two ways: first as an abstract object, that is, as a possible form of conduct expressed by a system of rules; and second, as the

account of the main objective of distribution that social justice is most commonly associated with the term ‘distributive justice.’⁴²⁴ Much has been written about social justice as distributive justice, most notably by the American political philosopher John Rawls’ influential *A Theory of Justice*,⁴²⁵ which became the touchstone of contemporary liberal democratic discourse about justice.⁴²⁶ The phrase “justice as fairness” symbolizes his full theory, which advocates two rules comprised of three fundamental principles:

Each person has the same inalienable claim to a fully adequate scheme of equal basic liberties, which scheme is compatible with the same scheme of liberties for all; (*the principle of greatest equal liberty*) and

Social and economic inequalities are to satisfy two conditions: first, they are to be attached to offices and positions open to all under conditions of fair equality of opportunity (*the principle of fair equality of opportunity*); and second, they are to be to the greatest benefit of the least-advantaged

realization in the thought and conduct of certain persons at a certain time and place of the actions specified by these rules.” He is particularly concerned with the ‘major social institutions’ which distribute fundamental rights and duties and determine the division of advantages and disadvantages within society. These institutions include “the political constitution and the principal economic and social arrangements,” such as guaranteed freedoms under a constitution’s Bill of Rights, property regimes, the concept of the family, the form of government, etc. See Rawls, *A Theory of Justice*, *supra* Note 32 at 7, 55.

⁴²⁴ Barry, *supra* Note 360 at 355; Miller, Principles of Social Justice, *supra* Note 56 at 2.

⁴²⁵ Rawls, *A Theory of Justice*, *supra* Note 32.

⁴²⁶ Many regard Rawls’ theory to be a major influence upon theories of distributive justice fundamentally based on individualism and respect for individual rights. Allen Buchanan, “A Critical Introduction to Rawls’ Theory of Justice.” In *John Rawls’ Theory of Social Justice: An Introduction*, ed. H. Gene Blocker and Elizabeth H. Smith (Athens: Ohio University Press, 1980) at 5; Charles Lockhart, “Socially Constructed Conceptions of Distributive Justice: The Case of Affirmative Action” (1994) 56:1 *The Review of Politics* 24 at 29-31; Wolfgang Merkel, “Social Justice and the Three Worlds of Welfare Capitalism” (2002) 43:1 *European Journal of Sociology* 59 at 61; Amartya Sen, *The Idea of Justice*. (Cambridge MA: Harvard University Press, 2009) at 52.

members of society (*the difference principle*). (nomenclature in italics added)⁴²⁷

Of the three principles denominated above, it is the Difference Principle that is of primary interest to this research, deviating as it does from the evidently classic liberal framework of the first two. Like Rawls, other writings have been concerned specifically with the search for ideal principles to govern the social institutions responsible for allocating and distributing the benefits and burdens to the members of society.⁴²⁸ Miller, for example, would rather replace the Difference Principle with two of his own principles:

The first is that of a guaranteed social minimum, understood in the set of needs that must be met to give every citizen a decent life...this minimum is not fixed, and may change over time. The second is a principle of desert: inequalities of income and wealth should be proportional to the relative contributions different people make, measured by their success in producing goods and services that other people need and want (emphasis supplied).⁴²⁹

Miller's alternative principles are not necessarily inconsistent with Rawls' ideas. The guarantee of social minimums may even be considered as complementary to the Difference Principle. It is not difficult to imagine how unavoidable and pre-existing inequalities may be harnessed to provide social minimums: taxation systems that draw resources from the higher earners in society to directly subsidize welfare programs such as food, shelter, and health services for the poor would neatly encapsulate both principles. The principle of desert appears to be a variation of the ancient Justinian definition of

⁴²⁷ This particular version of the principles reflects the adjustment made by Rawls since their original publication in *A Theory of Justice* back in 1971. According to Rawls, the revision is merely stylistic, and better reflects the lexical order in which the principles are to be understood and applied. Rawls, *Justice as Fairness: A Restatement*, *supra* Note 56 at 42-43. See also Rawls, *A Theory of Justice*, *supra* Note 32 at 60.

⁴²⁸ Miller, *Principles of Social Justice*, *supra* Note 56 at 2-7.

⁴²⁹ David Miller, *Political Philosophy: A Very Short Introduction* (Oxford: Oxford University Press, 2003) at 90.

justice as “giving every one his due,” by allowing people appropriate rewards commensurate to their efforts.⁴³⁰ In any case, like Rawls, Miller is fully and clearly also an advocate of social justice as distributive justice.

However, this conception of social justice has not been immune to critique. Iris Marion Young contests the ‘distributive paradigm’ for concentrating too much on the distribution of easily identifiable material or non-material ‘goods.’⁴³¹ She argues that it fails to account adequately for intangible and indivisible concepts that impact on justice, such as social relationships or institutional processes, which are not subject to distribution.⁴³² She contends that some ‘goods’ like power, rights, opportunities, and self-respect are misleadingly labeled because in reality they are not objects that can actually be distributed. They are aspects of social relationships and institutional structures that cannot be manipulated in same way as divisible objects.⁴³³ For Young, social justice

...concerns the degrees to which a society contains and supports the institutional conditions necessary for the realization of... two very general values: (1) developing and exercising one’s capacities and expressing one’s experience, and (2) participating in determining one’s action and the conditions of one’s action.⁴³⁴

In negative terms, it is the absence of conditions of institutionalized oppression and domination.⁴³⁵ Young therefore equates social justice to a significant degree with the

⁴³⁰ Miller, *Principles of Social Justice*, *supra* Note 56 at 33.

⁴³¹ Iris Marion Young, *Justice and the Politics of Difference*. (Princeton: Princeton University Press, 1990) at 24.

⁴³² *Ibid.* at 25-32.

⁴³³ *Ibid.* at 25-26.

⁴³⁴ *Ibid.* at 37. Young describes the first condition as the principle of ‘self-development,’ and the second as the principle of ‘self-determination.’

⁴³⁵ *Ibid.* at 38. ‘Oppression’ refers to “systematic institutional processes which prevent some people from learning and using satisfying and expansive skills to socially recognized settings, or institutionalized social processes which inhibit people’s ability to play and communicate with others or to express their feelings and perspective on social life in contexts where others can listen.” ‘Domination,’ on the other hand, “consists in institutional conditions which inhibit or prevent people from

existence of either personal or collective autonomy and self-determination, which are essential conditions for self-realization or self-development. This implies that in any given situation, there can be no social justice for any social group unless that social group consciously and deliberately chose to put itself in that situation.

Contemporary social justice literature is spread across a very wide field of social issues and concerns. Reflecting the ‘distributive’ vs. ‘institutionalist’ paradigms of justice exemplified above, they may be divided into either writings that seek appropriate means of determining norms that define the ideal distribution of goods and bads, or those that are aimed at model mechanisms for deciding on such distributions.⁴³⁶ John Rawls and David Miller exemplify the former type of discussion; their theories seek universal norms and rules to direct distributive choices.⁴³⁷ The latter type are exemplified by those such as Iris Marion Young and Jurgen Habermas, who are concerned less with the substance of distributive norms, and more with the ideal institutional structures and processes that lead

participating in determining their actions or the conditions of their actions.” Also described as such by Miller, *Principles of Social Justice*, *supra* Note 56 at 15.

⁴³⁶ See Schlosberg, “Reconceiving Environmental Justice: Global Movements and Political Theories,” *supra* Note 54, at 518-22; Miller, *Principles of Social Justice*, *supra* Note 56 at 14 to 17; Young, *supra* Note 431 at 15-38. It has also been suggested, however, that social justice conceptions can also be distinguished as being either ‘monist’ or ‘pluralist,’ depending it seems on the extent that a theory can provide either only one or more than one reason, justification, or criteria on a particular issue. See Sharon Gerwitz and Alan Cribb, “Plural Conceptions of Social Justice: Implications for Policy Sociology” (2002) 17:5 Journal of Education Policy 499 at 500-01.

⁴³⁷ See Miller, *Social Justice*, *supra* Note 32; Miller, *Principles of Social Justice*, *supra* Note 56; Rawls, *A Theory of Justice*, *supra* Note 32; John Rawls, “Justice As Fairness: Political Not Metaphysical.” In *Justice: Key Concepts in Critical Theory*, ed. Milton Fisk (Atlantic Highlands NJ: Humanities Press, 1993); Rawls 2003; and also Barry, *supra* Note 361. For an overview of notable theories of justice that have been proposed throughout history, see D.D. Raphael, *Concepts of Justice*. (New York: Oxford University Press, 2001), and Ben Jackson, “The Conceptual History of Social Justice” (2005) 3 Political Studies Review 356.

to distributive decisions.⁴³⁸ These writers concentrate on the conditions of public processes that tend to establish social justice, such as political inclusiveness, access to information, and participation in decision-making. For the practical intents and purposes, this research treats these two approaches as complementary rather than competitive. This attitude is best suited to dealing with two of the fundamental categories of Law familiar to all legal professions in most legal systems, *substantive* and *procedural*. Each approach can offer guidance for the analysis of the social impacts of technology and its supporting legal regimes.

Recently in *The Idea of Justice*, Nobel-prize winning economist Amartya Sen challenged both the distributive and institutionalist approaches from an Eastern perspective.⁴³⁹ Sen does not see a substantial difference between these two types of discourses because both seek to develop universal standards or criteria of justice, whether substantive or procedural in nature.⁴⁴⁰ Instead, he perceives discourses on justice to employ mainly two approaches to reasoning. The first is the predominant ‘transcendental institutionalism’ that attempts to identify a perfect and universal model of justice and just institutions that would apply to all societies regardless. The second is the less-known and less-used “realization-focused comparison” concerned with comparing actual institutions and behavior, and then removing injustice as they are actually seen and experienced through adoption of appropriate solutions learned from such comparison.⁴⁴¹

⁴³⁸ See Habermas, *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy*, *supra* Note 57; Jurgen Habermas, *The Inclusion of the Other: Studies in Political Theory*, ed. Ciaran Cronin and Pablo De Greiff. Studies in Contemporary German Social Thought (Cambridge MA: The MIT Press, 1998); Young, *Justice and the Politics of Difference*, *supra* Note 57; and Iris Marion Young, *Inclusion and Democracy*, ed. Will Kymlicka, David Miller, and Alan Ryan, 2002 ed.. Oxford Political Theory (Oxford; New York: Oxford University Press, 2000). Young draws upon Habermas’ theory of communicative ethics to elucidate her own view of institutional justice.

⁴³⁹ Amartya Sen, *The Idea of Justice*. (Cambridge MA: Harvard University Press, 2009).

⁴⁴⁰ *Ibid.* at 43, 45.

⁴⁴¹ *Ibid.* at 5-8.

Sen argues that most conventional discourses on justice fall under the first category, whether the outcome is a model idea of justice or a model procedure. While this approach is not inherently invalid and in fact has actually contributed to a more detailed investigation of the nature of justice,⁴⁴² Sen believes that it has also distracted from the more urgent and eminently practical task of removing concrete injustices as they already exist in the world. He argues that focusing on actual events and experiences and thereby learning the ways to enhance justice, rather than trying to identify ideal and perfectly just institutional arrangements, would better serve the ends of justice.⁴⁴³ Sen therefore calls attention to the study of concrete cases of justice and injustice, and the derivation of clear lessons from actual experiences with the promotion of the former and elimination of the latter.

This research is an attempt to contribute to sustainable development discourse using the second approach. Instead of seeking a universal theory of social justice, Chapter Four examines a particular concept of social justice, and looks at its relationship to specific environmental laws in Chapter Five and Six. Chapters Seven and Eight each provide examples of application in practice. By providing the analysis, it contributes a basis for comparison with other cases or experiences, or even existing ‘transcendental’ theories, to add to a broader understanding of social justice, sustainable development, and Law.

⁴⁴² *Ibid.* at 62-65. Sen acknowledges that, among others, Rawls’ transcendental institutionalist approach has properly determined the significance of the idea of fairness to justice, as well as the role of reason and deliberation in forming objective standards of justice. He also sees Rawls’ difference principle as highlighting the notion of equity in social arrangements and drawing attention to the least-fortunate sectors of the public.

⁴⁴³ *Ibid.* at 410.

3.3 Social Justice and the Principles of Sustainable Development

3.3.1 Sustainable Development from a Third World Perspective

“Sustainable development” is most commonly known by the definition given by the Brundtland Commission in *Our Common Future*, the basic document of contemporary international environmental law, “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”⁴⁴⁴ Implicit in the definition is the idea that ‘overriding priority’ should be given to the ‘essential’ needs of the world’s poor, and that there are limitations to the environment’s ability to meet present and future needs on account of the state of technology and social organization.⁴⁴⁵ By providing the backdrop for the first World Summit on Sustainable Development in 1992, *Our Common Future* led to the creation of a globally-accepted international policy framework for the management of the environment and its resources,⁴⁴⁶ one of the most important of which is energy. Philippe Sands perceives four recurring legal elements in the concept of sustainable development:⁴⁴⁷

1. The need to preserve natural resources for the benefit of future generations (the principle of intergenerational equity);⁴⁴⁸
2. The aim of exploiting natural resources in a manner which is ‘sustainable’, or ‘prudent’, or ‘rational’, or ‘wise’ or ‘appropriate’ (the principle of sustainable use);⁴⁴⁹
3. The ‘equitable’ use of natural resources, which implies that use by one state must take account of the needs of other states (the principle of equitable use, or intragenerational equity); and⁴⁵⁰

⁴⁴⁴ *Our Common Future*, Chapter 2, para. 1.

⁴⁴⁵ *Ibid.*

⁴⁴⁶ United Nations, "Declaration on Environment and Development," in *United Nations Conference on Environment and Development*. 31 I.L.M. 814 (1992).

⁴⁴⁷ Philippe Sands, *Principles of International Environmental Law*, 2nd ed. (Cambridge: Cambridge University Press, 2003) at 253.

⁴⁴⁸ *Ibid.* at 253, 256-57.

⁴⁴⁹ *Ibid.* at 253, 257-61.

4. The need to ensure that environmental considerations are integrated into economic and other development plans, programmes and projects, and that development needs are taken into account in applying environmental objectives (the principle of integration).⁴⁵¹

However, in his view these elements do not yet have “a well-established, or agreed, legal definition or status.”⁴⁵² To date, not even the ICJ has been able to provide satisfactory guidance either procedural or substantive aspects of the concept.⁴⁵³ This reflects the contested nature of sustainable development, which has generated one of the most controversial philosophical debates in recent times since it came to worldwide prominence. A myriad views and perspectives have put their own spin on sustainable development in the course of its evolution.⁴⁵⁴ The fragmentation arises from the fundamental clash in the discourses of sustainable development between the developing and industrialized countries: equitable sharing v. limits to growth.

⁴⁵⁰ *Ibid.* at 253, 261-63.

⁴⁵¹ *Ibid.* at 253, 263-66.

⁴⁵² *Ibid.* at 254.

⁴⁵³ *Ibid.* at 255, citing *Case Concerning the Gabčíkovo-Nagymaros Project (Hungary v. Slovakia)*, [1997] ICJ Reports 7. In this case, both Parties invoked the concept against each other's positions, offering contrasting interpretations of sustainable development. While the Court agreed that sustainable development was a relevant concept, it did not give a specific opinion as to its proper definition and implementation.

⁴⁵⁴ See Bill Hopwood, Mary Mellor, and Geoff O'Brien, "Sustainable Development: Mapping Different Approaches" (2005) 13 *Sustainable Development* 38; Desta Mebratu, "Sustainability and Sustainable Development: Historical and Conceptual Review" (1998) 18 *Environmental Impact Assessment Review* 493; Timothy W. Luke, "Neither Sustainable Nor Development: Reconsidering Sustainability in Development" (2005) 13 *Sustainable Development* 228; Michael Redclift, "Sustainable Development (1987-2005): An Oxymoron Comes of Age" (2005) 13 *Sustainable Development* 212.

3.3.1.1 Sustainable Development as Equitable Sharing

The roots of sustainable development may be traced to the convergence of global discourses on the impact of technology on humanity, society and Nature in the late 1960s. Among them at the time was the discussion of the ethics of rapid advances of science and technology and their impact on global social justice, held through a series of conferences organized by the World Council of Churches (WCC).⁴⁵⁵ The discourse generally criticized how the industrialized societies of the West created, advanced, and maintained their economic prosperity at the cost of the natural and human resources of the the Third World.⁴⁵⁶ This coincided with the developing countries' articulation and pursuit of own perspectives of the relationship between development and environment, eventually crystallizing during preparations for the United Nations Conference on the Human Environment held in Stockholm in 1972.

⁴⁵⁵ Ronald H. Preston, ed., *Technology and Social Justice: An International Symposium on the Social and Economic Teaching of the World Council of Churches From Geneva 1966 to Uppsala 1968* (Valley Forge, Pennsylvania: SCM Press, 1971). This was also referred to in Simon Dresner, *The Principles of Sustainability*, 2004 ed. (London; Sterling VA;: Earthscan, 2002) at 1. The World Council of Churches is an umbrella organization of 340 churches in 122 countries that sees a clash between globalization and environmentalism, because "the new global institutions consistently preempt local efforts to control pollution or create sustainable societies." Roger S. Gottlieb, "Saving the World: Religion and Politics in the Environmental Movement." In *Liberating Faith: Religious voices for justice, peace, and ecological wisdom*, ed. Roger S. Gottlieb (Lanham ML: Bowman & Littlefield Publishers, 2003).

⁴⁵⁶ Erich Hoffman, "The Challenge of Economic and Social Development." In *Technology and Social Justice: An International Symposium on the Social and Economic Teaching of the World Council of Churches from Geneva 1966 to Uppsala 1968*, ed. Ronald H. Preston (Valley Forge, Pennsylvania: SCM Press, 1971) at 103. See also World Council of Churches, "The Report of Section III on World Economic and Social Development." In *Technology and Social Justice: An International Symposium on the Social and Economic Teaching of the World Council of Churches from Geneva 1966 to Uppsala 1968*, ed. Ronald H. Preston (Valley Forge, Pennsylvania: SCM Press, 1971).

In the run-up to the 1972 Stockholm Conference, there was polarization over the issue of whether the environmentalism being espoused for international action would lead to either an equitable sharing of environmental costs and more responsible development of the South with assistance from the North, or merely an environmental agenda dominated by Northern interests and growth.⁴⁵⁷ There was a possibility that the South would stage a boycott.⁴⁵⁸ To address the threat that this posed to the success of the conference, Secretary General Maurice Strong organized the Founex Seminar, a seminar-conference that dealt specifically with the issue of the relationship between environment and development.⁴⁵⁹

The result, the Founex Report on Environment and Development,⁴⁶⁰ was pivotal to persuading the South to join the movement for international environmental reform, because it fully ventilated the South's position that poverty and underdevelopment, and the very process of development itself, were the causes of environmental degradation.⁴⁶¹ This position was articulated formally in UN GA Res. No. 2849 (XXVI) on Development and Environment.⁴⁶² Notably, it held the industrialized world responsible for "pollution

⁴⁵⁷ The Founex Conference, *Manitou Foundation* online: <http://www.mauricestrong.net/20100213146/founex/founex/founex-environment-conference-1971/all-pages.html> Last updated: 06 March 2010 (Date accessed: 30 January 2010).

⁴⁵⁸ *Ibid.*

⁴⁵⁹ *Ibid.*

⁴⁶⁰ *Manitou Foundation* online: <http://www.mauricestrong.net/20100228149/founex/founex/founex-report-environment-development.html> Last updated: 06 March 2010 (Date accessed: 30 July 2010). See also Daniel Barstow Macgraw and Lisa D. Hawke, "Sustainable Development." In *The Oxford Handbook of International Environmental Law*, ed. Daniel Bodansky, Jutta Brunnée, and Ellen Hey (Oxford UK: Oxford University Press, 2007) at 614.

⁴⁶¹ The Founex Report on Environment and Development, particularly para. 2.1 to 2.4.

⁴⁶² *Development and Environment*, GA Res. 2849 (XXVI), UN GAOR, UN Doc Res. No. 2849 (XXVI) (1971) . The text of the resolution received 62 favorable votes, 4 against, and 31 abstentions. (Lars-Goran Engfeldt, *From Stockholm to Johannesburg and Beyond: The Evolution of the International System for*

of world-wide impact” and accountable for financing “corrective measures” therefor.⁴⁶³ Especially strong was the assertion of sovereignty and the need to respect each country’s context, which emphasized that the developing countries did not wish to be imposed upon by the industrialized world on the pretext of environmental law.⁴⁶⁴ This is directly relevant because it reflects the developing countries’ struggle against inequitable resource access, distribution, and consumption in the post-colonial era, a situation directly attributed to the North.⁴⁶⁵ The latter’s new-found environmentalism after a long history of neglect was understandably viewed with suspicion as a new form colonialism,⁴⁶⁶

Sustainable Development Governance and Its Implications. (Stockholm: Government Offices of Sweden/Ministry for Foreign Affairs, 2009), excerpted in The Founex Conference, *supra* Note 457.)

⁴⁶³ *Ibid.*, Preamble 17: “Cognizant that, aside from environmental disturbances provoked by human settlements and ecological problems related to nature itself, pollution of world-wide impact is being caused primarily by some highly developed countries, as a consequence of their own high level of improperly planned and inadequately co-ordinated industrial activities, and that, therefore, the main responsibility for the financing of corrective measures falls upon those countries,”

⁴⁶⁴ *Development and Environment*, Res. 2849 (XXVI), UN GAOR, UN Doc Res. No. 2849 (XXVI) (1971), Preamble 21-23:

Emphasizing that, notwithstanding the general principles that might be agreed upon by the international community, criteria and minimal standards of preservation of the environment as a general rule will have to be defined at the national level and, in all cases, will have to reflect conditions and systems of values prevailing in each country, avoiding where necessary the use of norms valid in advanced countries, which may prove inadequate and of unwarranted social cost for the developing countries,

Stressing that each country has the right to formulate, in accordance with its own particular situation and in full enjoyment of its national sovereignty, its own national policies on the human environment, including criteria for the evaluation of projects,

Stressing further that in the exercise of such right and in the implementation of such policies due account must be taken of the need to avoid producing harmful effects on other countries, (emphasis added)

⁴⁶⁵ Gregory F. Maggio, "Inter/intra-Generational Equity: Current Applications Under International Law for Promoting Sustainable Development of Natural Resources" (1996) 4 Buff. Envtl. L. J. 161 at 176-79.

⁴⁶⁶ Evidence of this suspicion is also marked in GA Res. 2849 (XXVI) at Paragraph 4:

especially since the former colonies were caught in Cold War politics and the struggle against vestiges of colonial policies in the foreign domination and control of natural resources through multi-national companies.⁴⁶⁷

The WCC discussions reflected these concerns and very clearly framed the problem of development as the result of the concurrence of rapidly advancing technology and globalization steeped in inequity:

We live in a new world of exciting prospects. For the first time in history we can see the oneness of mankind as a reality. For the first time we know that all men could share in the proper use of the world's resources. The new technological possibilities turn what were dreams into realities. Just as today we have the knowledge about the conditions of men throughout the earth, and the means, we are without excuse. It is one world and the

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4. Stresses that both the action plan and the action proposals to be submitted to the United Nations Conference on the Human Environment must, inter alia:
 - (a) Respect fully the exercise of permanent sovereignty over natural resources, as well as the right of each country to exploit its own resources in accordance with its own priorities and needs and in such a manner as to avoid producing harmful effects on other countries;
 - (b) Recognize that no environmental policy should adversely affect the present or future development possibilities of the developing countries;
 - (c) Recognize further that the burden of the environmental policies of the developed countries cannot be transferred, directly or indirectly, to the developing countries;
 - (d) Respect fully the sovereign right of each country to plan its own economy, to define its own priorities, to determine its own environmental standards and criteria, to evaluate its own social costs of production, and to formulate its own environmental policies, in the full understanding that environmental action must be defined basically at the national level, in accordance with locally prevailing conditions and in such a manner as to avoid producing harmful effects on other countries;
 - (e) Avoid any adverse effects of environmental policies and measures on the economy of the developing countries in all spheres, including international trade, international development assistance and the transfer of technology; (emphasis added)

⁴⁶⁷ Rist, *supra* Note 243 at 140-43.

gross inequalities between the peoples of different nations and different continents are as inexcusable as the gross inequalities within nations.⁴⁶⁸

Continuing and widening inequality between the developed and developing world was seen as the result of seeking progress through investments and technology transfer without structural social changes that were instilled with 'a new dynamic of human solidarity and justice.'⁴⁶⁹ In his keynote at the fifth WCC Conference in Nairobi in 1975, biologist Charles Birch pointed to the impact of this relationship on Nature and introduced ecology into the equation with the idea of a 'sustainable global society' that had the following main objectives:

Our minimal goals must be the removal of the threat to sheer survival and to the deterioration of the quality of life of the inhabitants of this earth, especially the poor. So a prior requirement of any global society is that it be so organized that the life of man and other living creatures on which his life depends can be sustained indefinitely within the limits of the earth. A second requirement is that it be sustained at a quality that makes possible fulfilment of human life for all people. A society so organized to achieve both these ends we can call a sustainable global society in contrast to the present unsustainable global society (emphasis supplied).⁴⁷⁰

For Birch, this required society to move toward appropriate technologies,⁴⁷¹ self-reliance,⁴⁷² and inter-dependence. Notably of the three, Birch casts the last requirement as a condition of justice:

⁴⁶⁸ Ronald H. Preston (ed.), *Technology and Social Justice: An International Symposium on the Social and Economic Teaching of the World Council of Churches From Geneva 1966 to Uppsala 1968* (Valley Forge, Pennsylvania: SCM Press, 1971) at 1.

⁴⁶⁹ *Ibid.* at 3.

⁴⁷⁰ Charles Birch, "Creation, Technology and Human Survival: Called to Replenish the Earth" (1975) 28 *Ecumenical Review* 66 at 73.

⁴⁷¹ Drawing upon Schumacher's *Small is Beautiful*, Birch defined 'appropriate technology' as referring to techniques that derived greater goods for humanity at less costs in terms of human resources, energy, materials, and ecological destruction. This equates appropriateness with high efficiency. He criticized as inappropriate the technologies being transferred by developed countries to the developing countries because they also brought about high consumption patterns, used great amounts of

The nations of the world have not yet decided they want interdependence. The myth is still widely accepted that each nation is a separate lifeboat. There is only one lifeboat with all humanity on board, albeit with first-class passengers at one end and third-class passengers at the other. If one end goes down the whole boat sinks. Survival and distributive justice require a reallocation of resources on the lifeboat by some means that is more equitable than the international marketing system allows. The ultimate challenge of resource reallocation is to the concept of ownership of resources by the nations that by accident happen to have them. We abuse resources because we regard them as commodities belonging to us. When we come to see land and minerals and oil and coal as part of a community to which we belong, we may begin to use them with a little more respect and a lot more justice (emphasis supplied).⁴⁷³

The sustainable society therefore proceeded from a premise of *justice in sharing*. Simon Dresner lauds the concept for relying upon the principle of equitable distribution linked to democratic participation.⁴⁷⁴ In fine, the WCC saw the sustainable society as one marked by equitable distribution, consuming food and energy well below available supplies and global productive capacity, and insulated from climate variations.⁴⁷⁵ Robert Stivers later elaborated that the sustainable society was actually based on six ethical principles that flowed from the basic idea of “care for persons, nature and God.”⁴⁷⁶ These principles were the awareness of social and physical limits to economic production,⁴⁷⁷

energy, and had built-in obsolescence. Birch, "Creation, Technology and Human Survival: Called to Replenish the Earth" (1975) 28 Ecumenical Review 66 at 74.

⁴⁷² Self-reliance is described as “the development of the capacity for autonomous goal-seeking and decision-making,” especially in countries that had the potential and resources to address poverty and other sources of human misery. This clearly reflected the values placed by the WCC on self-determination and anti-colonialism for the Third World. Birch, "Creation, Technology and Human Survival: Called to Replenish the Earth" (1975) 28 Ecumenical Review 66 at 75.

⁴⁷³ *Ibid.*

⁴⁷⁴ Simon Dresner. *The Principles of Sustainability*, 2004 ed. (London; Sterling VA;: Earthscan, 2002) at 29-30.

⁴⁷⁵ *Ibid.*

⁴⁷⁶ Robert L. Stivers, "The Sustainable Society: Religious and Social Implications" (1979) 21:1 Review of Religious Research 71 at 75.

⁴⁷⁷ *Ibid.* at 75-77.

‘smallness’ and appropriate size of human activity in relation to the ecology and society,⁴⁷⁸ holism or a sense of collectivism and sharing of Nature,⁴⁷⁹ distributive equity and political freedom,⁴⁸⁰ cultural diversity that reflects natural diversity,⁴⁸¹ and stewardship of Nature on behalf of future generations.⁴⁸² Clearly, the WCC’s concept of the ‘sustainable society’ was an advocacy for tempering development with justice. It was not opposed to development *per se*, but the definition and mode with which the world carried it out.

The religious ethical approach employed by the WCC in its analysis is remarkable for its scope and insight⁴⁸³ because it immediately focused on the relationship between technological progress and inequity.⁴⁸⁴ It also more closely represented the Third World

⁴⁷⁸ *Ibid.* at 77-78.

⁴⁷⁹ *Ibid.* at 78-79.

⁴⁸⁰ *Ibid.* at 79-81.

⁴⁸¹ *Ibid.* at 81-82.

⁴⁸² *Ibid.* at 82-83.

⁴⁸³ It is useful to note that despite the reference to God, the principles Stivers described are generally secular in nature.

⁴⁸⁴ The ethical dilemma was best described by theologian Charles West as follows:

We are back with the problems of distributive justice, unmitigated by the illusion that human avarice can be reconciled with social equality by the indefinite expansion of human productivity. For a while we thought we had transcended it. It was assumed by capitalists and socialists alike that there is no end to the expansion of man's capacity to harness nature to meet human needs and therefore to raise standards of living by expanding the economic product of the society. Justice was therefore understood only as sharing control of the process, of empowering the poor so that they might feed their needs and desires into the decision-making process and have a part in the promise. Today we have lost this promise. We face each other once again with the stark realization that in a finite world one man's wealth is another's poverty. The economic question that faces us is also a spiritual question: how should the limited material gifts of God — the raw materials, the sources of energy, water, air and fertile earth — be distributed among his creatures both now and in future generations? (emphasis added) Charles West, "Justice Within the Limits of the Created World" (1976) 27:1 Ecumenical Review 57 at 57-58.

perspective of the issue, as clergymen from the developing world heavily influenced the WCC's debate.⁴⁸⁵

3.3.1.2 Sustainable Development as Limits to Growth

While this conversation was taking place among clergy immersed in communities of the developing world, a parallel but slightly different discourse of sustainability had taken shape in the developed world. Rachel Carson's *Silent Spring* highlighted the unintended and unpredicted effects of the pesticide DDT on Nature,⁴⁸⁶ likewise challenging the idea of technological progress.⁴⁸⁷ Riding on interest in the Space Age, *Spaceship Earth*⁴⁸⁸ became the symbol of concern over the magnitude of increasing human technological

Indeed, the ethical approach had much to commend to the discourse on sustainable development, which unfortunately seems to have been completely ignored in contemporary legal academic literature. See for example French theologian André Dumas, who in 1975 already identified six dimensions of the ecological crisis to be the limited extent of resources, breach of natural rhythms or bio-physical cycles, industrial pollution, disparity of economic production and consumption curves, comparison of human and non-human life systems, and the dehumanizing impact of industrialization. André Dumas, "The Ecological Crisis and the Doctrine of Creation" (1975) 27 *Ecumenical Review* 24. This reasoning predates *Our Common Future* and is more incisive in its analysis, and as contemporary and applicable to today as it was over 30 years ago.

⁴⁸⁵ Dresner, *supra* Note 474 at 30. This in no way passes judgment on the issue of whether or not religion should be the basis of environmental advocacy, however, as it has also been posited that religion may also be the cause of the world's ecological problems. A seminal article on this view is Lynn Jr. White, "The Historical Roots of Our Ecologic Crisis" (1967) 155:3767 *Science* 1203. While this may be a reasonable conclusion for the West and Judeo-Christianity, the opposite conclusion may be reached in other cases. See for example, J. Stephen Lansing, *Perfect Order: Recognizing Complexity in Bali*. (New Jersey: Princeton University Press, 2006), where it is argued that the Balinese religion is an integral part and performs an essential function in a complex adaptive system that effectively balanced the social and environmental requirements of life in Bali for over a thousand years.

⁴⁸⁶ Rachel Carson, *The Silent Spring*. (New York: First Mariner Books, 2002)

⁴⁸⁷ Dresner, *supra* Note 474 at 21.

⁴⁸⁸ Barbara Ward, *Spaceship Earth*.. George B. Pegram Lecture Series (New York: Columbia University Press, 1966)

activities in industry and agriculture, the growth of the world population, and the unknown limits of the planet's capacity to support them.⁴⁸⁹ In 1968, the UN also decided to consider the issue of how modern scientific and technological developments were changing man's relationship with Nature by convening the United Nations Conference on the Human Environment at Stockholm.⁴⁹⁰ The Stockholm Declaration itself contained the seeds of the Brundtland Commission's definition, particularly in Principle 2 that formally established the responsibility to safeguard the natural resources and ecosystems for the benefit of present and future generations. The publication of *The Limits to Growth* by the Club of Rome that same year warned of severe shortages in food and non-renewable resources by the middle of the 21st century if population growth and demand for non-renewable energy resources continued unchecked;⁴⁹¹ however, it concluded that it was possible to stabilize resource use to an indefinite "equilibrium state."⁴⁹² This sparked discussions and studies for alternative economic models to restrain excessive economic growth, such as Herman Daly's steady-state economics,⁴⁹³ in the hope of avoiding the impending breach of ecological limits.⁴⁹⁴

⁴⁸⁹ Dresner, *supra* Note 474 at 22-24.

⁴⁹⁰ *Problems of the Human Environment*, Res. 2398 (XXIII), UN GAOR, UN GA Res. 2398 (XXIII) (1968).

⁴⁹¹ Dresner, *supra* Note 474 at 24.

⁴⁹² Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, and William III W. Behrens, *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. (New York: Universe Books, 1972) at 156-84. The findings of the report were mostly confirmed and refined in Donella Meadows, Jorgen Randers, and Dennis L. Meadows, *Limits to Growth: The 30-Year Update*. (White River Junction VT: Chelsea Green Publishing Company, 2004), though the authors clearly expressed pessimism as to the viability of the 'equilibrium state' as new data and subsequent developments indicated that the world had already 'overshot' the planet's carrying capacity.

⁴⁹³ See Herman E. Daly, "Sustainable Development: From Concept and Theory to Operational Principles" (1990) 16:Supplement Population and Development Review 25.

⁴⁹⁴ Dresner, *supra* Note 474 at 26.

This stream of the discourse came to pre-dominate the UN's international environment agenda in the run-up to *Our Common Future*. The term 'sustainable development' specifically had already appeared a few times in the documents of international and non-government organizations with reference to either one or both economic development and the environment, and discussed within the UN Environment Program as early as 1975,⁴⁹⁵ although its various constituent elements had already been hinted even earlier by

⁴⁹⁵ For example, the International Council of Scientific Unions held a colloquium in 1979 to discuss ways and means for the scientific community to apply science and technology to address the problems of 'sustainable development' ahead of the UN Conference on Science and Technology for Development. Uno Svedin, "One Year Until the 1979 UN Conference on "Science and Technology for Development"" (1978) 7:4 *Ambio* 180. The Executive Director of the UNEP issued a report which identified the satisfaction of immediate requirements at the expense of long-term ones as one of the major threat to environmental quality; to address this, the Report proposed 'sustainable development' which means that "the needs of the present and future generations must be appropriately reconciled." To achieve this, the 'ecodevelopment' strategy was proposed, a form of decentralized, democratic, and localized ecosystem-based management that relied heavily on scientific knowledge of the ecosystem, ecosystem processes, social demands thereon, and resources available to satisfy them. It was intended to sustain the yield of renewable resources and control the depletion of non-renewable resources for the benefit of a local community. "Review of Environment-Development" (1979) 8:2/3 *Ambio* 114. Later in 1981, the 9th Session of the Governing Council of the UNEP considered a report on the interrelationships between people, resources, environment and development in which included a recommendation to identify "appropriate integrated policies and programmes to start cycles of positive impacts that will promote sustainable development." United Nations Environment Programme, "Appendix to Annex II. Summary of the recommendations of the high-level group of experts on the interrelationships between people, resources, environment and development," in *UN Doc A/36/25* (New York: United Nations, 1981). That same year, the Caribbean Action Plan was inaugurated to help the governments of the Caribbean island-States prevent and control environmental degradation by promoting policies seeking "environmentally sound development" through the "management of the resources on a sustainable basis;" this required consideration of the environment's carrying capacity, development goals defined by national authorities, and economic feasibility. United Nations Environment Programme, "Action Plan for the Caribbean Environment Programme," in *UN Doc UNEP/CEPAL/IG.27/3, Annex IV* (1981) at para. 12; see also Patricia Bliss-Guest and Arsenio Rodriguez, "The Caribbean

the UN.⁴⁹⁶ “Sustainable development’ gained greater exposure five years later with its inclusion in the IUCN World Conservation Strategy,⁴⁹⁷ which defined it as development that “take[s] account of social and ecological factors, as well as economic ones; of the living and non-living resource base; and of the long term as well as the short term advantages and disadvantages of alternative actions .”⁴⁹⁸ The satisfaction of human needs and improvement of the quality of life was to be achieved primarily through

Action Plan: A Framework for Sustainable Development" (1981) 10:6 *Ambio* 346. The UNEP Governing Council at its 10th Session issued the 1982 Nairobi Declaration which lamented the inadequacy of implementation of the Stockholm Declaration and asserted that the complex interrelationship between environment, development, population and resources required a comprehensive and regionally integrated approach that can lead to environmentally sound and “sustainable socio-economic development.” United Nations Environment Programme, "Nairobi Declaration on the State of the Worldwide Environment," in *UN Doc UNEP/GC.10/INF.5* . 21 I.L.M. 676 (1982); see also William Dampier, "Ten Years After Stockholm: A Decade of Environmental Debate" (1982) 11:4 *Ambio* 215.

⁴⁹⁶ See for example, *Economic Development and the Conservation of Nature*, GA Res. 1831 (XVII), UN GAOR, UN GA Res. 1831 (XVII) (1962) (need for “sound self-sustaining economic growth”); *United Nations Conference on the Human Environment*, GA Res. 2657 (XXV), UN GAOR, UN GA Res. 2657 (XXV) (1970) (“environmental policies should be considered in the context of economic and social development, taking into account the special needs of development in developing countries”); *Cooperation in the Field of the Environment Concerning Natural Resources Shared By Two Or More States*, GA Res. 3129 (XXVIII), UN GAOR, UN GA Res. 3129 (XXVIII) (1973) (co-operative management of shared natural resources); *Report of the Governing Council of the United Nations Environment Programme*, GA Res. 3326 (XXIX), UN GAOR, UN GA Res. 3326 (XXIX) (1974) (intergenerational responsibility for conserving and protecting the environment, the need to mitigate pollution and lower consumption of resources, as well as inequity and social injustice related to the environment, among others); and *Research on the Interrelationships Between Population, Resources, Environment and Development*, GA Res. 3345 (XXIX), UN GAOR, UN GA Res. 3345 (XXIX) (1974) (official study on the relationships between population, resources, environment, and development).

⁴⁹⁷ International Union for the Conservation of Nature, United Nations Environment Programme, and World Wildlife Fund, *World Conservation Strategy: Living Resource Conservation for Sustainable Development*. (Gland, Switzerland: IUCN, 1980).

⁴⁹⁸ *Ibid.*, s. 1.3.

conservation, or “the management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations.”⁴⁹⁹ It highlighted three objectives: the maintenance of essential ecological processes and life-support systems, preservation of genetic diversity, and sustainable utilization of resources.⁵⁰⁰ But the issue of social equity, while acknowledged in the Strategy, was clearly subordinated to those three primary objectives. The IUCN’s catchphrase of sustainable development and sustainability had very quickly filtered into the language of mainstream environmental non-government organizations of the West, international development organizations, and academe.⁵⁰¹ It was this view of sustainable development that also filtered into the World

⁴⁹⁹ *Ibid.*, s. 1.4.

⁵⁰⁰ Don Hinrichsen, "At Last... A Plan to Save the World" (1980) 9:2 *Ambio*; also Luther J. Carter, "Marriage of Conservation and Development" (1980) 207:4437 *Science* 1328 at 1329.

⁵⁰¹ As early as 1980, the World Bank’s President Robert S. McNamara issued a statement in support of the World Conservation Strategy committing the bank to the principle of sustainable development through prudent resource management and protection of vital ecological systems, because “economic growth on the careless pattern of the past century poses an undeniable threat to the environment and ultimately to the very ecological foundations of development itself.” Quoted in Carter, "Marriage of Conservation and Development" (1980) 207:4437 *Science* 1328 at 1329. However, McNamara actually viewed sustainable development as a form of sustained economic growth. William Clark, "Robert McNamara at the World Bank" (1981) 60:1 *Foreign Affairs* 167 at 183. Meanwhile, the Sierra Club also advocated changes in public policy and attitudes, as well as major institutions, including a move toward global resource management through the World Conservation Strategy in order to achieve “equitable and sustainable development.” Patricia Scharlin, "The United Nations and the Environment: After Three Decades of Concern, Progress Is Still Slow" (1982) 11:1 *Ambio* 26 at 29. The designation of more parks and protected areas were presented as important contributors to both biological conservation and sustainable development by the IUCN Commission on Natural Parks and Protected Areas. Kenton Miller, "Parks and Protected Areas: Considerations for the Future" (1982) 11:5 *Ambio* 315 at 316-17. To this end, a global network of protected areas was proposed with a central monitoring system that was thought to contribute to development agencies’ efforts to design projects to enhance sustainable development and avoid adverse impacts on sensitive areas. Jeremy Harrison, Kenton Miller, and Jeffrey McNeely, "The World Coverage of

Charter for Nature.⁵⁰² So by the time the Brundtland Commission undertook to flesh out the term for the guidance of governments, in accordance with its express mandate to do so,⁵⁰³ this particular view of “sustainable development” was actually more than ten years old for the industrialized countries and already cast in the official language of conservation, protection, and management. The notion of equity receded to the background.

3.3.1.3 Sustainable Development as Contested

The subtle difference between the ways in which the concept of sustainable development emerged in the developing and developed world are the historical roots of its nature as a

Protected Areas: Development Goals and Environmental Needs." (1982) 11:5 *Ambio* 238 at 244. See also R.D. Munro, "Environmental Research and Management Priorities for the 1980s" (1983) 12:2 *Ambio* 60. But even within the West, differences about sustainable development had already begun to appear. One perspective linked sustainable development with the ability of environment and resources to recover from damage in the case of forest and mountain ecosystems, instead of production. Jack D. Ives and Bruno Messerli, "Stability and Instability of Mountain Ecosystems: Lessons Learned and Recommendations for the Future" (1984) 4:1 *Mountain Research and Development* 63. Another saw it as a balance between the natural productive capacity of ecosystems and needs of the population depending on it, emphasizing the cultural and political dimensions of the solution. See Maurice F. Strong, "Mountain Development 2000: Challenges and Opportunities" (1984) 4:1 *Mountain Research and Development* 83; Michael Thompson and Michael Warburton, "Knowing Where to Hit It: A Conceptual Framework for the Sustainable Development of the Himalaya" (1985) 5:3 *Mountain Research and Development* 203. Nevertheless, a common thread that ran through this view of sustainable development was the belief in the possibility of continued economic growth. See Lani Sinclair, "World Economy Can Expand Without Destroying Natural Resources" (1986) 15:1 *Ambio* 45; Lani Sinclair, "Contribution of Biotechnology to Sustainable Development in the Third World" (1986) 15:5 *Ambio* 290.

⁵⁰² *World Charter for Nature*, Res. 37/7, UN GAOR, UN Doc A/RES/37/7 (1982). See also Peter Jackson, "A World Charter for Nature" (1983) 12:2 *Ambio* 133

⁵⁰³ *Process of Preparation of the Environmental Perspective to the Year 2000 and Beyond*, Res. 38/161, UN GAOR, UN Doc A/RES/38/161 (1983), para. 10.

‘contested’ concept.⁵⁰⁴ In the developed world, the discourse on sustainability emerged as a reaction to warnings of future catastrophe, rather than immediate misery, and the solution sought was limitation, instead of justice.⁵⁰⁵ While the former placed priority on essentially optimizing economic growth within the limits of the resource base, the latter was more concerned with ensuring equitable human and social progress. Neither side at the time accepted the clear implications of resource consumption and its restrictive effect on any country’s living standards and economies.⁵⁰⁶ These essentially describe the North-South divide on the relationship between environment and development.

The Brundtland Commission did a very good job of incorporating these opposing perspectives in its report, although it was unable to settle all the differences. By not settling the issue one way or the other, it allowed the North-South debate to continue and be articulated and refined. There has been severe fragmentation of thought on the meaning and implementation of the sustainable development. Hopwood, Mellor and O’Brien’s attempt to map the various approaches to the concept (reproduced in Figure 7) visually and immediately attests to the enormous range and scope of its possible applications and interpretations.⁵⁰⁷ They discern two distinct schools of thought about sustainable development: a reform-oriented but ultimately *conservative* perspective that depends heavily on top-down, incremental, and managerial solutions, and a *transformational* perspective that requires radically changing political structures from

⁵⁰⁴ See Michael Jacobs, "Sustainable Development: A Contested Concept." In *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*, ed. Andrew P. Dobson (Oxford: Oxford University Press, 1999) at 25-30.

⁵⁰⁵ This actually the situation at the Stockholm Conference in 1972, where the West took a similarly negative approach to environmental problems vis-à-vis developing countries’ view that environmental considerations should be part of national development strategies. See Margaret K. Biswas and Asit K. Biswas, "Environment and Sustained Development in the Third World: A Review of the Past Decade" (1982) 4:3 *Third World Quarterly* 479 at 482-88.

⁵⁰⁶ Dresner, *supra* Note 474 at 34-37.

⁵⁰⁷ Bill Hopwood, Mary Mellor, and Geoff O’Brien, "Sustainable Development: Mapping Different Approaches" (2005) 13 *Sustainable Development* 38 at 41.

within and outside through a central and crucial emphasis on justice and equity, whatever may be the approach taken to respond to environmental challenges.⁵⁰⁸

These reflect the original equitable-sharing/growth-within-limits divide at the birth of sustainable development in international law. There is actually a wide gulf between the two schools in terms of the vision of the world future that they imply. For the conservatives, it is a vision of a rich and powerful ‘gated community’ insulated from the extremes of adverse environmental quality and the less- unfortunate majority, in line with the “lifeboat ethics” advocated by Garrett Hardin.⁵⁰⁹ For the transformationists, however, it is a dream of a society that guaranteed equitable access to natural resources and an environment free from environmental degradation, injustice, and poverty.

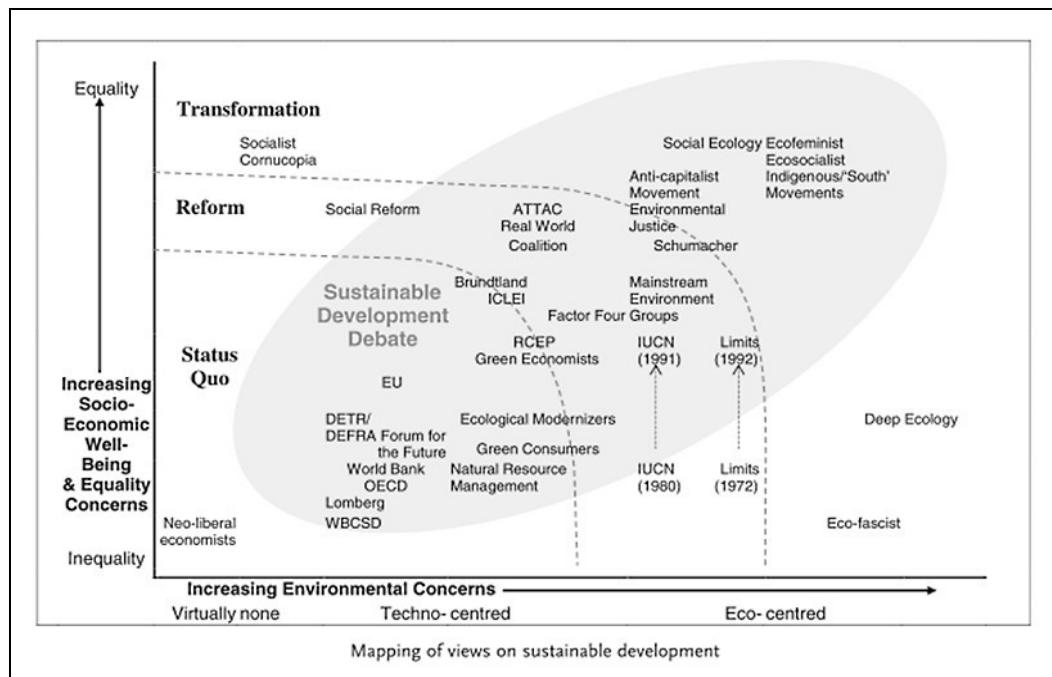


Figure 7. Map of the many different perspectives about sustainable development, developed by Hopwood, Mellor and O’Brien.

⁵⁰⁸ *Ibid.* at 47-50.

⁵⁰⁹ *Ibid.* at 49. For the technically-interesting, if rather morally-disturbing, insights of the well-known author of *The Tragedy of the Commons*, see Garrett Hardin, "Living on a Lifeboat" (1974) 24 *BioScience* 10.

3.3.2 Sustainable Development as Social Justice

It is interesting to note that, despite the background of the concept of sustainable development in the 1970s, particularly the emergence of the idea of “sustainable society,”⁵¹⁰ and the role and influence of social justice, there has been uncertainty about the precise relationship between social justice and sustainable development. *Our Common Future* does not mention the specific term “social justice” at all, and instead uses a very closely-related term ‘social equity,’ which often also used inter-changeably with social justice since ‘justice’ and ‘equity’ can have the same meaning.⁵¹¹ Even this term appears only once in one paragraph in the introductory chapter of the entire report that evinces how the Brundtland Commission understood social justice,⁵¹² to wit:

Development involves a progressive transformation of economy and society. A development path that is sustainable in a physical sense could theoretically be pursued even in a rigid social and political setting. But physical sustainability cannot be secured unless development policies pay attention to such considerations as changes in access to resources and in the distribution of costs and benefits. Even the narrow notion of physical sustainability implies a concern for social equity between generations, a concern that must logically be extended to equity within each generation. (emphasis added)⁵¹³

Nonetheless, at least it has been recognized that “redressing the imbalance between the developed and developing worlds and giving priority to the needs of the poor are important policy components of sustainability.”⁵¹⁴ Despite the ambivalence, *Our*

⁵¹⁰ See Section 3.3 above.

⁵¹¹ Dinah Shelton notes that the term “equity” in international law is used synonymously with “justice” and “fairness.” Dinah Shelton, “Equity.” In *The Oxford Handbook of International Environmental Law*, ed. Daniel Bodansky, Jutta Brunnée, and Ellen Hey (Oxford UK: Oxford University Press, 2007) at 640.

⁵¹² Jon Wetlesen, “A Global Ethic of Sustainability?” In *Towards Sustainable Development: On the Goals of Development - and the Conditions of Sustainability*, ed. William M Lafferty and Oluf Langhelle (Houndmills, Basingtoke, Hampshire; London;: MacMillan Press, 1999) at 32.

⁵¹³ *Our Common Future* at 43.

⁵¹⁴ Birnie, Boyle, and Redgwell, *supra* Note 125 at 122.

Common Future does in fact include certain fundamental ideas that establish the elements of a problem of social justice. The Commission identified the integral distributive dilemma when it acknowledged that the economic growth required to meet essential needs must be accompanied by “an assurance that [the poor majority] get their fair share of the resources required to sustain that growth.”⁵¹⁵ Economic distribution was not its only concern either, since it also recognized that “the distribution of power and influence within society lies at the heart of most environment and development challenges,”⁵¹⁶ thus binding the issues of democratization and political decentralization into the concept of sustainable development. There is little doubt as to the kind of democratization that the Commission contemplated, as it declared:

The law alone cannot enforce the common interest. It principally needs community knowledge and support, which entails greater public participation in the decisions that affect the environment. This is best secured by decentralizing the management of resources upon which local communities depend, and giving these communities an effective say over the use of these resources. It will also require promoting citizens’ initiatives, empowering peoples’ organizations, and strengthening local democracy.⁵¹⁷

Sustainable development therefore involves the decentralization and distribution of economic and political power, which undoubtedly reframes the discourse as a problem of social justice. Indeed, it would do well to consider the Commission’s description of sustainable development as a long-term progression to a better way of life, to wit:

In essence, sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations.⁵¹⁸

⁵¹⁵ *Our Common Future* at 8.

⁵¹⁶ *Ibid.* at 38.

⁵¹⁷ *Ibid.* at 63.

⁵¹⁸ *Ibid.* at 46.

In this respect, it becomes clear that sustainable development at every turn involves questions of social justice because it requires choices in allocation, benefits, expectations, activities, and practices that may benefit some and disadvantage others depending on relative time, place, and positions of various groups. It is impossible, after all, to respond always to all needs of all people at the same time.

It is apparent that the issue of equity in sustainable development concerns at least two issues: access to resources, and distribution of benefits and costs. Although the Commission's reference to these issues appear to cast them merely as examples and by no means an exclusive listing, these two issues seem to reflect minimum criteria by which the idea of equity should be framed. Instead of asking *how much* resources/what kind of environmental quality should be left to *X* generation, it would seem that the more appropriate question is *who* among *X* generation should get a certain status of resources/environmental quality. These are qualitatively different questions that result in very different contexts for the question of social equity in sustainable development. While the first speaks of a question of savings (i.e., setting aside reserves for future use), the second deals with a question of entitlement (i.e. determining who has the right to make certain decisions).

The difference in perspectives between these two frames is very significant. In the first, the question of what savings should be made effectively can be decided only a 'present' and existing generation; thus, its decisions practically (even if not morally) bind all future generations. In the second, the question of entitlement cannot be made effectively without those to whom the decisions might pertain; thus, it requires that decisions of the 'present' should not deprive future generations of their own rights to make the same kind of decisions in their time. The practical approach to problem-solving that these two different questions imply is that in the first, the problem revolves around *what to leave behind*, while the second deals with *how not to take too much*. There is a significant difference in these two approaches, while the first is based on the objective to maximizing one's 'take,' the second is based on principle of self-restraint.

Second, the way in which the term ‘social equity’ is used above allows two interpretations, which may be either restrictive or expansive. It might be a narrower type of social justice, that specifically dealing with the state of equity between groups of people separated by time (generations). Or, it might also refer to two different types of social justice: that between present and future generations (inter-generational), and that within the present generation (intra-generational). Whether one takes the first or the second, however, there is a common focus on distribution, particularly of ‘costs and benefits’ as well as access to natural resources among generations.

Authors often point to the principle of intergenerational equity when considering the how equity relates to sustainable development.⁵¹⁹ Edith Brown Weiss argues that intra-generational equity is included in the principle of inter-generational equity.⁵²⁰ However, this view seems to subsume social justice in the present to that in the future, and implies that intra-generational equity is but one of many choices and outcomes that should be

⁵¹⁹ See for example Birnie, Boyle, and Redgwell, *supra* Note 125 at 119-23; Sands, *supra* Note 447 at 253, 256-57.

⁵²⁰ Edith Brown Weiss, *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity, Innovation in International Law* (The Hague: Brill Academic Publishers, 1989). The Brundtland Commission itself, though, seemed reluctant to over-emphasize this intra-generational component. Although the Report called attention to the inequitable allocation of/access to natural resources, in the list of legal principles it recommended to the international community to govern environmental protection and sustainable development, it only suggested Principle 2 entitled “inter-generational equity” by which States were charged to conserve and use natural resources and the environment “for the benefit of present and future generations” but not a norm for a more equitable division and allocation of such resources within the present generation of each State. The closest it came to this was Principle 9 for “reasonable and equitable use” of transboundary natural resources, and Principle 13 on “non-discrimination” between a State’s own citizens and foreigners in the application of environmental standards. Clearly these spoke of only equity between States, not between social sectors within. So, while it gave due regard to the poor and disadvantaged in the main body of the Report, the Commission did not give the same kind of attention to them in the recommended legal principles to guide States. See World Commission on Environment and Development, Annex 1.

included in considering sustainability.⁵²¹ In contrast, Oluf Langhelle and William Lafferty take a different view from Weiss, asserting that social justice is an inherent condition of sustainability, not a mere “component” as other authors suggest, and that the entire concept of sustainable development endorsed by the international community is actually an attempt to achieve global social justice by establishing distributive rules.⁵²² They argue that as presented by the Brundtland Commission in the paragraph quoted above,

Whether a certain development is physically sustainable will depend on both of these considerations, that is, changes in access to resources and in the distribution of costs and benefits form part of the process in determining the level of physical sustainability. For example, under a situation where resources are scarce, a distribution in which a small minority of the world’s population controls most of the resources will be possible to maintain over a longer period of time than one where scarce resources are distributed equally among the world’s population. Consequently, the question of what is physically sustainable cannot be answered without taking into consideration the question of distribution and what one wishes to maintain and develop.⁵²³

Langhelle further notes that most authors who quote the Brundtland Commission definition of sustainable development too often omit the Commission’s qualification that the development that meets the needs of both present and future generations must prioritize the satisfaction of the essential needs of the world’s poor.⁵²⁴ They also forget that such development must consider the limitations imposed upon the environment’s

⁵²¹ See for example, the very brief discussion of intra-generational equity in Birnie, Boyle, and Redgwell, *supra* Note 125 at 122-123.

⁵²² See William M. Lafferty and Oluf Langhelle, "Sustainable Development As Concept and Norm." In *Towards Sustainable Development: On the Goals of Development - and the Conditions of Sustainability*, ed. William M Lafferty and Oluf Langhelle (Houndmills, Basingtoke, Hampshire; London;: MacMillan Press, 1999) at 223-25; also Oluf Langhelle, "Sustainable Development and Social Justice: Expanding the Rawlsian Framework of Global Justice" (2000) 9 *Environmental Values* 295.

⁵²³ Lafferty and Langhelle, *ibid.* at 6-7.

⁵²⁴ Oluf Langhelle, "Sustainable Development: Exploring the Ethics of Our Common Future" (1999) 20:2 *International Political Science Review* 129 at 133.

ability to meet present and future needs by the current state of technology and social organization.⁵²⁵ There is thus a need for prioritization and limitation. Incorporating both these considerations essentially turns sustainable development into a problem of allocating limited resources among numerous stakeholders *in the present*: a problem of acting justly in ways that fairly and equitably fulfill the requirements of them all.

Langhelle also asserts that *Our Common Future* reconciles social justice advocacy with the environmentalist movement by providing the ethical framework for the key conditions of ecological inter-dependence, historical inequality of past resource use, and the approach to or breach of ecological limits as essential contextual conditions within which decisions about development must be made.⁵²⁶ Therefore, social justice is the concern not only of intergenerational equity, but of the entirety of sustainable development itself.

Given the previous review of the relationship between social justice and the development of international environmental law, it is appropriate to state that Lafferty and Langhelle offer the better perspective. This view is supported by the review of the principles for the preservation, enhancement, and development of the human environment as enunciated by the international community in 1972 at Stockholm⁵²⁷ and two decades later in 1992 at Rio de Janeiro,⁵²⁸ which show that social justice *a priori* is a key component of sustainable development.

Rather than merely listing political statements and compromises, the Stockholm and Rio Declarations articulate a globally-accepted and fundamental framework of inter-related

⁵²⁵ *Ibid.* at 132-33.

⁵²⁶ *Ibid.*; also Langhelle, "Sustainable Development and Social Justice: Expanding the Rawlsian Framework of Global Justice," *supra* Note 522.

⁵²⁷ United Nations, "Declaration of the United Nations Conference on the Human Environment," in *U.N. Doc A/CONF.48/14 Corr.1*. 11 I.L.M. 1416 (1972). [Stockholm Declaration]

⁵²⁸ United Nations. "Declaration on Environment and Development." In *United Nations Conference on Environment and Development*. 31 I.L.M. 814 (1992). [Rio Declaration]

principles for environmental governance that establish a coherent and self-contained system of the ways in which human societies should act with respect to each other and to Nature. Although the different parts of the documents overlap in many respects, and may differ in terms of whether they exhibit greater or lesser normative language, ultimately what matters is the guidance they provide for the actual practice and implementation of States.⁵²⁹ There is no doubt that despite their non-binding status, these documents have nevertheless exerted an unmistakable normative influence on national policies pertaining to the environment and economic development since their signature.⁵³⁰ The accelerated pace of environmental law-making on the global arena, particularly after 1972, would have encouraged countries to take action for implementation.

While the Rio Declaration is seen as ‘the most significant and universally endorsed statement of general rights and obligations of States affecting the environment’ and is credited for being written in a somewhat more obligatory sense than the Stockholm Declaration,⁵³¹ it should not be overlooked that the former was expressly intended to

⁵²⁹ For example, the Rio Declaration’s omission of a stronger statement of principle regarding conservation may be seen as a weakness, leaving it stated in the more directory manner of the Stockholm Declaration. But, this has not prevented the substantial amount of conservation laws and regulations and conservation-related international agreements since the 1970s. The truth of the matter is that particularly with regard to soft law instruments, there is great difficulty in consistently and reliably predicting the subsequent practice of States. The ambiguous and ‘political’ characterization attributed to soft law declarations is an implicit recognition of the reality that States signing on to such declarations do so with the acceptance of uncertainty as to whether or not they can or cannot actually implement those declarations subsequently. However, this need not necessarily be due to an intention of evade compliance, and can be on account of any number of factors perceived only by the signing State, such as political conditions back home, national priorities, capacity and capability, time, or even considerations of fairness. The fact that they do sign on, however, indicates that there is at least a nascent commitment to act in accordance with the declarations when favourable opportunities or conditions present themselves.

⁵³⁰ See Weiss, *supra* Note 84.

⁵³¹ Patricia Birnie and Alan Boyle, *International Law and the Environment*, 2nd ed. (Oxford: Oxford University Press, 2002) at 82.

reaffirm and build upon the latter.⁵³² Not only one, but both documents should therefore be always considered together and read as an integrated whole.⁵³³ This would be in keeping with the intention of the parties to the Declarations to integrate the needs of economic development with environmental protection into a coherent statement of relevant principles.⁵³⁴

Analysis of the principles through a concept map⁵³⁵ visually represents these principles as a constellation built around four fundamental, interlocking values of Responsibility, Cooperation, Integration, and Social Equity. (See Figure 8) The clustering of principles and norms around the core value of Social Justice or Equity (whether inter-generational or intra-generational) and the distinct branch they form indicate their organic significance.

⁵³² Rio Declaration, Preamble 3: "Reaffirming the Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 June 1972, and seeking to build upon it,"

⁵³³ See Birnie, Boyle, and Redgwell, *supra* Note 125 at 113, characterizing the Rio Declaration and its 27 principles as a "package deal" similar to the LOSC.

⁵³⁴ Birnie and Boyle, *supra* Note 531 at 83.

⁵³⁵ See J.D. Novak and A.J. Cañas, "The theory underlying concept maps and how to construct them," in *Technical Report IHMC Cmap Tools 2006-01* (Florida Institute for Human and Machine Cognition, 2006). A useful demonstration of the utility of concept maps or mind maps in academic analysis may be found in Marion Glaser, "The Social Dimension in Ecosystem Management: Strengths and Weaknesses of Human-Nature Mind Maps" (2006) 13:2 Human Ecology Review 122.

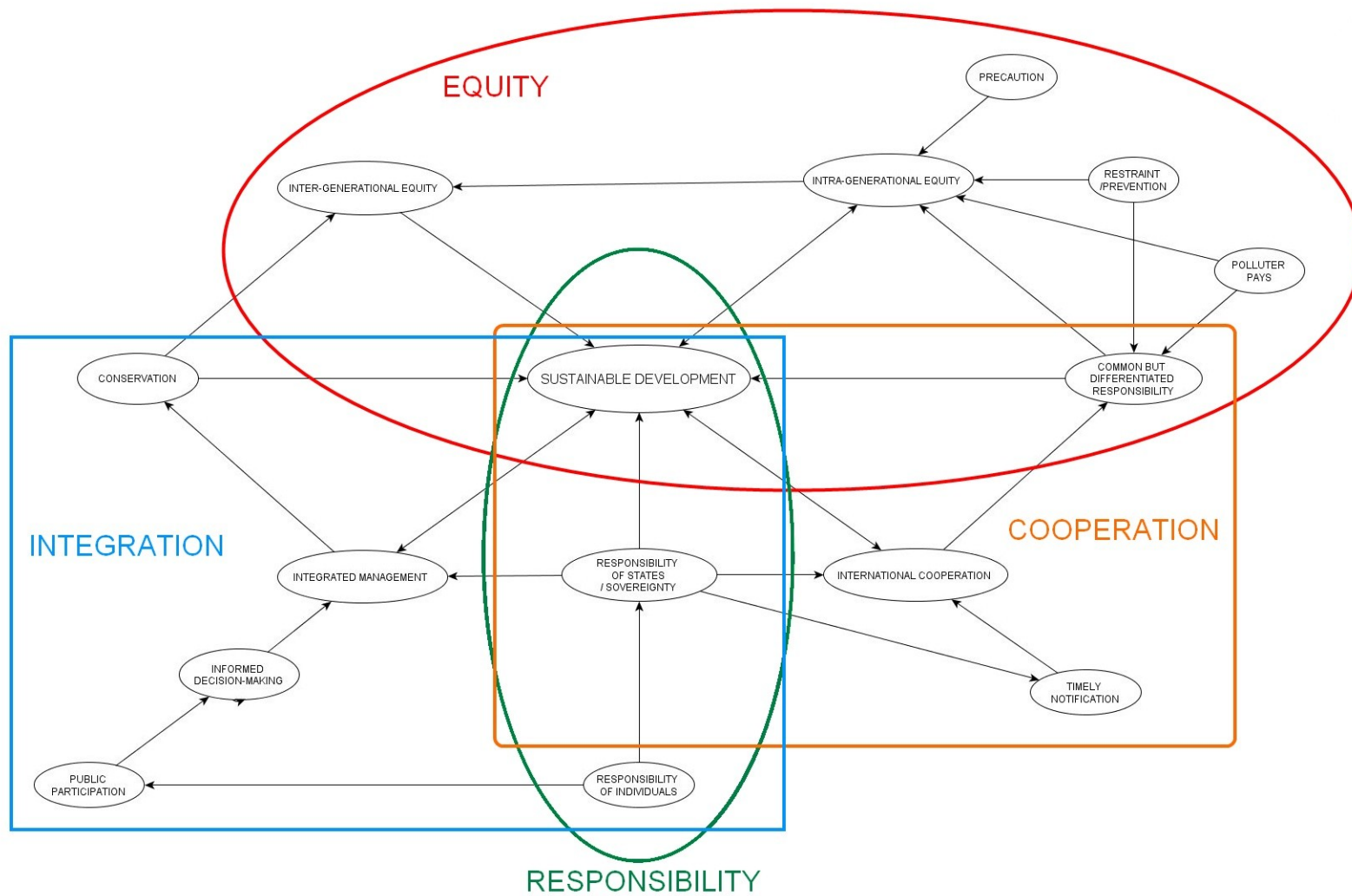


Figure 8. Concept map of the principles of Sustainable Development.

Responsibility refers to the individual and collective responsibilities of humans as part of the ecosystem, exercised through their membership in societies. It recognizes that humans play the central role in sustainable development,⁵³⁶ due perhaps to their singular ability, among all other species on the planet, to deliberately influence the natural environment and control some portions of it. All humans (without exception or discrimination) are entitled to a healthy environment,⁵³⁷ which is essential as a condition for basic survival. This forms the basis for the recognition of an environmental right to a certain environmental equality or status. Only the responsible stewardship of Nature can respect this entitlement equally in favor of all.⁵³⁸ This responsibility attaches not only to individuals but also to nation-States as the most potent form of human association.⁵³⁹

⁵³⁶ Rio Declaration, Principle 1: “Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.”

⁵³⁷ Rio Declaration, Principle 1, *supra*, and Stockholm Declaration, Principle 1: “Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations. In this respect, policies promoting or perpetuating apartheid, racial segregation, discrimination, colonial and other forms of oppression and foreign domination stand condemned and must be eliminated.” (emphasis added)

⁵³⁸ Stockholm Declaration, Principle 4: “Man has a special responsibility to safeguard and wisely manage the heritage of wildlife and its habitat, which are now gravely imperilled by a combination of adverse factors. Nature conservation, including wildlife, must therefore receive importance in planning for economic development.” (emphasis added)

⁵³⁹ Rio Declaration, Principle 2: “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.” (emphasis added)

Stockholm Declaration, Principle 21: “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause

Among their main duties in the exercise of this responsibility is the conduct of effective regulation of human activities⁵⁴⁰ and the prevention of the harmful effects of such activities such as pollution.⁵⁴¹

damage to the environment of other States or of areas beyond the limits of national jurisdiction.” (emphasis added)

⁵⁴⁰ Rio Declaration, Principle 11: “States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and development context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries.”

Stockholm Declaration, Principles 12 and 17:

Resources should be made available to preserve and improve the environment, taking into account the circumstances and particular requirements of developing countries and any costs which may emanate- from their incorporating environmental safeguards into their development planning and the need for making available to them, upon their request, additional international technical and financial assistance for this purpose.

Appropriate national institutions must be entrusted with the task of planning, managing or controlling the environmental resources of States with a view to enhancing environmental quality.

⁵⁴¹ Rio Declaration, Principle 13: “States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.”

Stockholm Declaration, Principle 6 and 7:

The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the peoples of all countries against pollution should be supported.

States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

Note that these two duties may be discharged both by individuals voluntarily on their own or upon the coercive influence of the State.

Since ecosystems and impacts upon them reach beyond the artificial and human-defined borders of States, the effective exercise of responsibility entails *cooperation* among them primarily as members of an international community. This places upon nation-States the common duty to assist each other in the spirit of multi-lateralism⁵⁴² in order to act effectively on environmental issues,⁵⁴³ especially in the prevention of pollution⁵⁴⁴ and

⁵⁴² Rio Declaration, Principle 12:

States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus.

Stockholm Declaration, Principle 24:

International matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big and small, on an equal footing.

Cooperation through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States.

⁵⁴³ Rio Declaration, Principle 7 and 27:

States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

States and people shall cooperate in good faith and in a spirit of partnership in the fulfillment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.

capacity-building.⁵⁴⁵ Cooperation entails the establishment of mechanisms of timely notification,⁵⁴⁶ peaceful resolution of disputes,⁵⁴⁷ and particularly protection against

Stockholm Declaration, Principle 25: “States shall ensure that international organizations play a coordinated, efficient and dynamic role for the protection and improvement of the environment.”

⁵⁴⁴ Rio Declaration, Principle 13 and 14:

States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.

States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health.

Stockholm Declaration, Principle 6 and 22:

The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the peoples of all countries against pollution should be supported.

Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.

⁵⁴⁵ Rio Declaration, Principle 9: “States should cooperate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies.”

Stockholm Declaration, Principle 9 and 12:

Environmental deficiencies generated by the conditions of under-development and natural disasters pose grave problems and can best be remedied by accelerated development through the transfer of substantial quantities of financial and technological assistance as a supplement to the domestic effort of the developing countries and such timely assistance as may be required.

Resources should be made available to preserve and improve the environment, taking into account the circumstances and particular requirements of developing

warfare and nuclear weapons.⁵⁴⁸ While cooperation as described in the Declarations refer particularly to inter-State cooperation (which is understandable since these are international documents), cooperation at the individual or sub-national level is consistent with these ideas.

The purpose of cooperation is *integration* of management, which refers to the States' duty to ensure that they establish their respective policies and programs in ways that adequately consider their present and future impacts, especially on Nature. Sustainable development thus entails socio-economic development that integrates and coordinates⁵⁴⁹

countries and any costs which may emanate- from their incorporating environmental safeguards into their development planning and the need for making available to them, upon their request, additional international technical and financial assistance for this purpose.

⁵⁴⁶ Rio Declaration, Principle 18 and 19:

States shall immediately notify other States of any natural disasters or other emergencies that are likely to produce sudden harmful effects on the environment of those States. Every effort shall be made by the international community to help States so afflicted.

States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith.

⁵⁴⁷ Rio Declaration, Principle 25 and 26:

Peace, development and environmental protection are interdependent and indivisible.

States shall resolve all their environmental disputes peacefully and by appropriate means in accordance with the Charter of the United Nations.

⁵⁴⁸ Rio Declaration, Principle 24: "Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary."

Stockholm Declaration, Principle 26: "Man and his environment must be spared the effects of nuclear weapons and all other means of mass destruction. States must strive to reach prompt agreement, in the relevant international organs, on the elimination and complete destruction of such weapons."

⁵⁴⁹ Rio Declaration, Principle 4 and 25:

the planning and management of economic activities⁵⁵⁰ in order to produce optimal benefits.⁵⁵¹ Several policy tools are highlighted as key to achieving this objective. The first is the use of the polluter pays principle with respect to all preventive and remedial actions.⁵⁵² The second is conservation as a tool for economic development planning,

In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

Peace, development and environmental protection are interdependent and indivisible.

Stockholm Declaration, Principle 8: “Economic and social development is essential for ensuring a favorable living and working environment for man and for creating conditions on earth that are necessary for the improvement of the quality of life.”

⁵⁵⁰ Stockholm Declaration, Principle 2, 13 and 14:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.

States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health.

⁵⁵¹ Stockholm Declaration, Principle 15: “Planning must be applied to human settlements and urbanization with a view to avoiding adverse effects on the environment and obtaining maximum social, economic and environmental benefits for all. In this respect projects which are designed for colonialist and racist domination must be abandoned.”

⁵⁵² Rio Declaration, Principle 16: “National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.”

particularly to conserve non-renewable resources and maintain renewable resources.⁵⁵³ The third is the use of precaution and environmental impact assessment in decision-making,⁵⁵⁴ in order prevent serious or irreversible damage.⁵⁵⁵ The fourth is informed decision-making using science and technology,⁵⁵⁶ exchange of information,⁵⁵⁷ capacity-

⁵⁵³ Stockholm Declaration, Principle 3, 4, and 5:

The capacity of the earth to produce vital renewable resources must be maintained and, wherever practicable, restored or improved.

Man has a special responsibility to safeguard and wisely manage the heritage of wildlife and its habitat, which are now gravely imperilled by a combination of adverse factors. Nature conservation, including wildlife, must therefore receive importance in planning for economic development.

The non-renewable resources of the earth must be employed in such a way as to guard against the danger of their future exhaustion and to ensure that benefits from such employment are shared by all mankind.

⁵⁵⁴ Rio Declaration, Principle 15 and 17:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.

⁵⁵⁵ Stockholm Declaration, Principle 6: “The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the peoples of all countries against pollution should be supported.”

⁵⁵⁶ Stockholm Declaration, Principle 18 and 20:

Science and technology, as part of their contribution to economic and social development, must be applied to the identification, avoidance and control of environmental risks and the solution of environmental problems and for the common good of mankind.

Scientific research and development in the context of environmental problems, both national and multinational, must be promoted in all countries, especially the developing countries. In this connection, the free flow of up-to-date scientific information and transfer of experience must be supported and assisted, to facilitate the solution of environmental problems; environmental technologies

building,⁵⁵⁸ and education of the public.⁵⁵⁹ The final tool is effective public participation, which entails recognition of subsidiarity in decision-making, access to information and to judicial and administrative remedies against decisions.⁵⁶⁰ It also means that every effort must be made to include all marginalized groups in the decision-making process.⁵⁶¹ It

should be made available to developing countries on terms which would encourage their wide dissemination without constituting an economic burden on the developing countries.

⁵⁵⁷ Rio Declaration, Principle 20: “Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.”

⁵⁵⁸ Rio Declaration, Principle 9: “States should cooperate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies.”

⁵⁵⁹ Stockholm Declaration, Principle 19: “Education in environmental matters, for the younger generation as well as adults, giving due consideration to the underprivileged, is essential in order to broaden the basis for an enlightened opinion and responsible conduct by individuals, enterprises and communities in protecting and improving the environment in its full human dimension. It is also essential that mass media of communications avoid contributing to the deterioration of the environment, but, on the contrary, disseminates information of an educational nature on the need to protect and improve the environment in order to enable man to develop in every respect.”

⁵⁶⁰ Rio Declaration, Principle 10: “Environmental issues are best handled with participation of all concerned citizens at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.”

⁵⁶¹ Rio Declaration, Principle 20, 21, and 22:

Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development. (emphasis added)

The creativity, ideals and courage of the youth of the world should be mobilized to forge a global partnership in order to achieve sustainable development and ensure a better future for all. (emphasis added)

may be noted at this point that traditional environmental justice advocacies often center on the invocation and usage of these substantive and procedural tools.

Integrated management, however, is not the end-all and be-all of sustainable development. If regarded as simply ‘best management practices’ geared toward efficiency (most output and least waste) and effectiveness (plans meet objectives), there is no inconsistency between integrated management and the paradigm of infinite economic growth, which is fundamentally impossible and therefore unsustainable. Another value must therefore moderate and constrain this value in order to prevent it from becoming just another means to exploit Nature.

This final major value is *social equity*, or the States’ obligation to act equitably and justly with respect to both its own citizens and to other States in taking any action that affects Nature. This value is very clearly manifest in the principles that highlight the need for both intra-generational and inter-generational equity.⁵⁶² Intra-generational equity is to be achieved through economic reform,⁵⁶³ poverty eradication,⁵⁶⁴ inclusiveness,⁵⁶⁵ and

Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development. (emphasis added)

⁵⁶² The terms “intra-generational equity” and “inter-generational equity” are not formally used by the Stockholm or Rio Declarations. The melding of the two types of equity was originally argued by Edith Brown Weiss in her treatise on intergenerational equity. Weiss, *supra* Note 520.

⁵⁶³ Rio Declaration, Principle 12:

States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing

opposition to any form of domination.⁵⁶⁶ It is also promoted by countering unsustainable practices⁵⁶⁷ and unrestrained population growth.⁵⁶⁸ Among States, it is further manifested

transboundary or global environmental problems should, as far as possible, be based on an international consensus.

⁵⁶⁴ Rio Declaration, Principle 5: “All States and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world.”

⁵⁶⁵ Rio Declaration, Principle 6: “The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actions in the field of environment and development should also address the interests and needs of all countries.”

Stockholm Declaration, Principle 5 and 11:

The non-renewable resources of the earth must be employed in such a way as to guard against the danger of their future exhaustion and to ensure that benefits from such employment are shared by all mankind.

The environmental policies of all States should enhance and not adversely affect the present or future development potential of developing countries, nor should they hamper the attainment of better living conditions for all, and appropriate steps should be taken by States and international organizations with a view to reaching agreement on meeting the possible national and international economic consequences resulting from the application of environmental measures.

⁵⁶⁶ Rio Declaration, Principle 23: “The environment and natural resources of people under oppression, domination and occupation shall be protected.”

Stockholm Declaration, Principle 1, 6, and 15:

Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations. In this respect, policies promoting or perpetuating apartheid, racial segregation, discrimination, colonial and other forms of oppression and foreign domination stand condemned and must be eliminated.

The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the peoples of ill countries against pollution should be supported.

Planning must be applied to human settlements and urbanization with a view to avoiding adverse effects on the environment and obtaining maximum social,

by common but differentiated responsibilities between States,⁵⁶⁹ sensitivity to national context,⁵⁷⁰ and acknowledgment of the special needs of developing States.⁵⁷¹ Intra-

economic and environmental benefits for all. In this respect projects which are designed for colonialist and racist domination must be abandoned.

⁵⁶⁷ Rio Declaration, Principle 8: “To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies.” (emphasis added)

⁵⁶⁸ Stockholm Declaration, Principle 16: “Demographic policies which are without prejudice to basic human rights and which are deemed appropriate by Governments concerned should be applied in those regions where the rate of population growth or excessive population concentrations are likely to have adverse effects on the environment of the human environment and impede development.”

⁵⁶⁹ Rio Declaration, Principle 7: “States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.” (emphasis added)

⁵⁷⁰ Rio Declaration, Principle 11: “States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and development context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries.”

Stockholm Declaration, Principle 23: “Without prejudice to such criteria as may be agreed upon by the international community, or to standards which will have to be determined nationally, it will be essential in all cases to consider the systems of values prevailing in each country, and the extent of the applicability of standards which are valid for the most advanced countries but which may be inappropriate and of unwarranted social cost for the developing countries.”

⁵⁷¹ Rio Declaration, Principle 6: “The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actions in the field of environment and development should also address the interests and needs of all countries.”

Stockholm Declaration, Principle 10 and 12:

generational equity thus encompasses both the more geographically bounded ‘social’ equity in the sense of equity between social groups within the respective States, and ‘global’ equity between the members of the international community. The promotion of intra-generational equity goes hand-in-hand with the promotion of inter-generational equity, as it hoped that the present protection and conservation of resources will benefit future generations⁵⁷² and enable them to meet their own needs.⁵⁷³

For the developing countries, stability of prices and adequate earnings for primary commodities and raw materials are essential to environmental management, since economic factors as well as ecological processes must be taken into account.

Resources should be made available to preserve and improve the environment, taking into account the circumstances and particular requirements of developing countries and any costs which may emanate- from their incorporating environmental safeguards into their development planning and the need for making available to them, upon their request, additional international technical and financial assistance for this purpose.

⁵⁷² Stockholm Declaration, Principle 1, 2 and 11:

Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations. In this respect, policies promoting or perpetuating apartheid, racial segregation, discrimination, colonial and other forms of oppression and foreign domination stand condemned and must be eliminated.

The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.

The environmental policies of all States should enhance and not adversely affect the present or future development potential of developing countries, nor should they hamper the attainment of better living conditions for all, and appropriate steps should be taken by States and international organizations with a view to reaching agreement on meeting the possible national and international economic consequences resulting from the application of environmental measures.

⁵⁷³ Rio Declaration, Principle 3: “The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.”

Sustainable development, therefore, is development that produced by the convergence of the four core values of responsibility, cooperation, integration, and social equity, to be pursued initially through identified policy principles and tools. Of these four core values, the core value of social equity is most distinctive in that it represents an ultimate purpose to which all others may be directed. Responsibility is necessary in order to establish cooperation and integration, that are in turn the means to achieve social equity. Further, social equity must be viewed along two temporal dimensions (intra- and inter-generational) in order to be considered as sustainable development. The promotion of both intra- and inter-generational equity, together with safeguarding long-term ecological sustainability and satisfying basic human needs, are the three highest among the various legitimate goals of sustainable development.⁵⁷⁴ Thus, only through a conscious and deliberate incorporation of social equity or social justice concerns can the principle really be pursued, and without it no form of sustainable development can be envisaged.⁵⁷⁵

Unfortunately, it appears that experience since 1992 has seen sustainable development retreat from social justice advocacy and revert to the more traditional focus on resource conservation and protection.⁵⁷⁶ The shift in emphasis from “sustainable development” to mere ‘sustainability’ in the discourse, noticeable in many contemporary writings in environment law, may indicate an unconscious discomfort and refusal to directly acknowledge and prioritize the social equity dimensions that permeate all environmental problems of significance.⁵⁷⁷ As shown by the record of international hard and soft law

⁵⁷⁴ Erling Holden and Kristin Linnerud, "The Sustainable Development Area: Satisfying Basic Needs and Safeguarding Ecological Sustainability" (2007) 15 Sustainable Development 174 at 175, 177-78.

⁵⁷⁵ See also Lafferty and Langhelle, *supra* Note 522, where it is argued that no form of ecological sustainability, whether strong or weak, is possible for human society unless social equity is somehow incorporated in policy and practice.

⁵⁷⁶ Langhelle, “Sustainable Development: Exploring the Ethics of Our Common Future,” *supra* Note 524 at 146-47.

⁵⁷⁷ John Dryzek classifies this approach as being part of the ecological modernization sub-field that gained prominence in Europe in the 1980s, under the environmental

from the rise of sustainable development to international prominence in 1987, it seems that there has been less reflection and integration of the social justice aspects of sustainable development, unlike its resource conservation and protection imperatives.⁵⁷⁸ Only since the late 1990s did this change somewhat, with the publication of books and case studies on mainstream social justice advocacies that incorporate environmental concerns through the environmental justice movement.⁵⁷⁹ This coincided with the

discourse of “Sustainability” inaugurated by *Our Common Future*. He identifies three other main environmental discourses in the modern age. The first is reformist “Environmental Problem-solving” which treats environment issues as merely another set of problems (like any other of the usual social problems) governments must address; second is radical “Survivalism” that rejects economic growth in light of ecological limits; and the third is “Green Radicalism” that covers a diverse range of anti-establishment, anti-industrialist advocacies. John S. Dryzek, “Paradigms and Discourses.” In *The Oxford Handbook of International Environmental Law*, ed. Daniel Bodansky, Jutta Brunnée, and Ellen Hey (Oxford UK: Oxford University Press, 2007) at 49-50.

⁵⁷⁸ Agyeman, Bullard, and Evans, *supra* Note 403 at 84; see also Lafferty and Langhelle *supra* Note 522 at 8. Indeed, even major textbooks on international environmental law seem to gloss over social justice whether at local or international levels, apart from relatively brief remarks about how the principle of equity between the parties (which is related to but not the same as social equity) has been invoked in decisions of international tribunals, such as the *North Sea Continental Shelf* cases and the *Gabcikovo-Nagymaros Project*. Although the principle of intra-generational equity is acknowledged as an important idea in sustainable development, it is not discussed at depth. See for example, Sands, *supra* Note 447 at 152, 262-63; also Birnie, Boyle, and Redgwell, *supra* Note 125 at 122-23. Of the more recently published textbooks, the best treatment accorded social equity (in terms of distributive justice) appears to be that of Shelton, *supra* Note 511. The very brief attention accorded social equity seems rather odd considering the plethora of literature on environmental justice, many of which have an international aspect, some of which are cited in the next footnote

⁵⁷⁹ See for example, Hampson and Reppy, *supra* Note 54; Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*, *supra* Note 54; Dobson, *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*, *supra* Note 54; Rechtschaffen and Gauna, *supra* Note 54; Schrader-Frechette, *supra* Note 54; McDonald *supra* Note 386; Westra and Wenz, *supra* Note 54; Bullard, *supra* Note 54; Pellow and Brulle, *supra* Note 54; Sandler and Pezzullo, *supra* Note 54; Schlosberg, *Defining Environmental Justice: Theories, Movements and Nature*, *supra* Note 54; Carruthers,

observed movement of sustainable development discourse away from the satisfaction of human needs (primarily a problem for groups) and to the exercise of rights (mainly a problem for individuals).⁵⁸⁰ It has been noted that these discourses tend to be reactive responses to actual and localized environmental threats to specific communities.⁵⁸¹ Recently, with heightening calls for 'climate justice' by environment NGOs, social justice (albeit on a global scale) has received more coverage in the mass media and academe.

The disparity between theory and practice confirms the degree of continuing uncertainty among advocates and practitioners with respect to the relationship between social justice advocacy and the environmental movement. This is quite unfortunate, and is symptomatic of a deeper philosophical fissure in mainstream social justice and environmental advocacy movements. But the absence of a complete and seamless theoretical reconciliation has not hindered the occasional emergence of distinctively social justice concerns in international environmental law.

supra Note 54; and James K. Boyce, Sunita Narain, and Elizabeth A. Stanton, eds., *Reclaiming Nature: Environmental Justice and Ecological Restoration* (London: Anthem Press, 2007).

For some key articles on environmental justice, see Been, *supra* Note 394; Sarokin and Schulkin, *supra* Note 54; Kathy Bunting, "Risk Assessment and Environmental Justice: A Critique of the Current Legal Framework and Suggestions for the Future" (1995) 3 Buff. Envtl. L. J. 129; Lake, *supra* Note 54; Goldman, *supra* Note 54; Jerry Prout, "Coming to Terms With Environmental Justice" (1999) 6:4 Corporate Environmental Strategy 399; Taylor, *supra* Note 54; David R. Simon, "Corporate Environmental Crimes and Social Inequality: New Directions for Environmental Justice Research" (2000) 43:4 American Behavioral Scientist 633; Sevine Ercmann, "Linking Human Rights, Rights of Indigenous People and the Environment" (2000) 7 Buff. Envtl. L. J. 15; Melosi, *supra* Note 54; Agyeman, Bullard, and Evans, *supra* Note 403; Marcus Colchester, "Conservation Policy and Indigenous Peoples" (2004) 7 Environmental Science & Policy 145; Krieg and Faber, *supra* Note 54; Brulle and Pellow, *supra* Note 54; Schlosberg, "Reconceiving Environmental Justice: Global Movements and Political Theories," *supra* Note 54; and Sze and London, *supra* Note 54.

⁵⁸⁰ Redclift, *supra* Note 454 at 218.

⁵⁸¹ Agyeman, Bullard, and Evans, *supra* Note 403 at 81-84, 88.

3.4 Social Justice in International Environmental Law

3.4.1 Social Justice and International Concern for the Environment

There is little doubt that the international community is concerned with social justice within States, despite its reluctance to make it subject to express binding norms. Since its inception, the UN and its offices and organs have directed significant attention to promoting the interests of particular social sectors, such as labor,⁵⁸² women,⁵⁸³ indigenous peoples,⁵⁸⁴ the youth,⁵⁸⁵ the elderly,⁵⁸⁶ the disabled,⁵⁸⁷ and the religious.⁵⁸⁸

⁵⁸² The International Labor Organization was the first specialized agency of the UN. International Labour Organization, *The ILO at a Glance*. (Geneva: International Labour Organization, 2008) at 2.

⁵⁸³ Among the earliest accomplishments of the UN was creation of the Commission on the Status of Women was created within the Commission on Human Rights. *Resolution Establishing the Commission on the Status of Women*, ESC Res. 2/11 (1946), UN ESCOR, UN Doc E/RES/2/11 (1946).

⁵⁸⁴ See for example, *United Nations Declaration on the Rights of Indigenous Peoples*, GA Res. 61/295, UN GAOR, UN Doc A/RES/61/295 (2007) and *Second International Decade of the World's Indigenous Peoples*, GA Res. 59/174, UN GAOR, UN Doc A/RES/59/174 (2004).

⁵⁸⁵ See for example, *Efforts and Measures for Securing the Implementation and Enjoyment By Youth of Human Rights, Particularly the Right to Education and to Work*, GA Res. 36/29, UN GAOR, UN Doc A/RES/35/29 (1981); *Efforts and Measures for Securing the Implementation and Enjoyment By Youth of Human Rights, Particularly the Rights to Life, Education and Work*, GA Res. 1985/27, UN GAOR, UN Doc A/RES/1985/27 (1985).

⁵⁸⁶ See for example, *Question of Aging*, GA Res. 38/27 (LXVI), UN GAOR, UN Doc A/RES/38/27(XLVI) (1983); *Aging*, ESC Res. 1983/21 (XIV), UN ESCOR, UN Doc E/RES/1983/21 (1983); *Implementation of the International Plan of Action on Aging*, GA Res. 40/30, UN GAOR, UN Doc A/RES/40/31 (1985); *First Review and Appraisal of the Implementation of the International Plan of Action on Aging*, ESC Res. 1985/28, UN ESCOR, UN Doc E/RES/1985/28 (1985).

⁵⁸⁷ See *United Nations Decade of Disabled Persons*, ESC Res. 1988/45, UN ESCOR, UN Doc E/RES/1988/45 (1988).

⁵⁸⁸ See *Declaration on the Elimination of All Forms of Intolerance and of Discrimination Based on Religion Or Belief*, GA Res. 36/55, UN GAOR, UN Doc A/RES/36/55 (1981).

These different efforts crystallized early on with the 1969 Declaration on Social Progress and Development, which sought to define a comprehensive set of standards with which human progress and development could be measured.⁵⁸⁹ The year after *Our Common Future* was submitted, the call for social justice was expressly articulated and established as a main objective of progress.⁵⁹⁰

The General Assembly...

1. *Considers* that the common purpose of the international community must be to forge from varied economic, social and political conditions a global environment of sustained development, full enjoyment of human rights and fundamental freedoms, social justice and peace;

2. *Recognizes* that social justice is one of the most important goals of social progress... (emphasis added)⁵⁹¹

Certainly, it is reasonable to ask whether the reference to ‘sustained development’ in the first paragraph actually refers to ‘sustainable development’ as described in *Our Common Future*, or merely describes the idea of continuous progress. There is, after all, a wide gulf between the two concepts. In the years that followed, these declarations were reiterated *in toto*,⁵⁹² lately culminating in the declaration of a World Day of Social Justice,⁵⁹³ in which the UN General Assembly further:

⁵⁸⁹ *Declaration on Social Progress and Development*, GA Res. 24/2542, UN GAOR, UN Doc A/RES/24/2542 (1969).

⁵⁹⁰ *Achievement of Social Justice*, GA Res. 44/55, UN GAOR, UN Doc A/RES/44/55 (1989).

⁵⁹¹ *Achievement of Social Justice*, GA Res. 44/55, UN GAOR, UN Doc A/RES/44/55 (1989).

⁵⁹² See *Achievement of Social Justice*, ESC Res. 1988/46, UN ESCOR, UN Doc E/RES/1988/46 (1988); *Achievement of Social Justice*, ESC Res. 1989/71, UN ESCOR, UN Doc E/RES/1989/71 (1989); UN GAOR.; *Achievement of Social Justice*, ESC Res. 1990/25, UN ESCOR, UN Doc E/RES/1990/25 (1990); *Achievement of Social Justice*, GA Res. 45/86, UN GAOR, UN Doc A/RES/45/86 (1991).

⁵⁹³ *World Day of Social Justice*, GA Res. 62/10, UN GAOR, UN Doc A/RES/62/10 (2007).

1. *Recognizes that social development and social justice are indispensable for the achievement and maintenance of peace and security within and among nations and that, in turn, social development and social justice cannot be attained in the absence of peace and security or in the absence of respect for all human rights and fundamental freedoms;*

2. *Also recognizes that broad-based and sustained economic growth in the context of sustainable development is necessary to sustain social development and social justice; ...*⁵⁹⁴

The second paragraph above seems to clarify that economic growth under conditions of sustainable development are necessary conditions for the emergence of social justice, which is in turn conjoined with social development in the first paragraph. However, since this expression is relatively recent, it may not yet have sufficient weight as an authoritative interpretation of prior formulations. So, while a direct relationship is made between social justice and social progress, whether social justice actually plays a role in promoting sustainable development within States, or merely arises out of the latter, is not as clear-cut from these documents alone. This requires closer examination of instruments specifically directed toward environmental issues.

3.4.2 Social Justice for the Present and Future

Social justice has always been a major undercurrent in the development of contemporary international environmental law, especially from its turning point in the Stockholm Declaration. The consensus expressed in the Declaration could not have been possible without the participation of the developing countries that comprise the majority of the international community. As explained in Section 3.3 above, an overarching concern for social equity in resource access, distribution and consumption permeates the evolution of the South's perspective of sustainable development, evidenced by the Founex Report and UN GA Res. No. 2849 (XXVI). These tie more closely into a vision of sustainable development defined by 'equitable sharing' rather than 'limits to growth.'

⁵⁹⁴ *World Day of Social Justice*, GA Res. 62/10, UN GAOR, UN Doc A/RES/62/10 (2007). Reiterated in *Achievement of Social Justice*, GA Res. 42/49, UN GAOR, UN Doc A/RES/42/49 (1989).

Social justice manifests in international environmental law in more limited ways and couched in different terminology. Most commonly, it is associated with the principle of intergenerational equity as formally expressed in the first two principles of the Stockholm Declaration:

Principle 1

Man has the fundamental right to freedom, equality, and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations. In this respect, policies promoting or perpetuating apartheid, racial segregation, discrimination, colonial and other forms of oppression and foreign domination stand condemned and must be eliminated.

Principle 2

The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate. (emphasis added)

Edith Brown Weiss interprets the principle as a call “for equality among generations in the sense that each generation is entitled to inherit a robust planet that on balance is at least as good as that of previous generations.”⁵⁹⁵ She argues that despite the initial connotation of the term, it also includes an *intra*-generational component, a call to address inequities within the present generation. She believes this is required in order to prevent, within the same generation, an unfair sharing of the burden of caring for the

⁵⁹⁵ Edith Brown Weiss, "What Obligation Does Our Generation Owe to the Next? an Approach to Global Environmental Responsibility: Our Rights and Obligations to Future Generations for the Environment" (1990) 84 Am. J. Int'l. L. 198 at 200. The principle was first elaborated upon in detail in Weiss 1989. For an updated discussion on the state of legal discourse on intergenerational equity, see Lynda M. Collins, "Revisiting the Doctrine of Intergenerational Equity in Global Environmental Governance" (2007) 30 Dal. L. J. 79.

descendants of all, and because poverty is a primary cause of ecological degradation.⁵⁹⁶

Andreas Føllesdal agrees, but on a more fundamental philosophical ground:

It is inconsistent with the equal worth of all humans to advocate sustainable development to the detriment of individuals' survival, or to accept that people alive today should be sacrificed for the sake of future generations. This is unacceptable when there are alternatives — namely that existing inequitable regimes and social institutions must be changed.⁵⁹⁷

Intergenerational equity is a principle of distributive justice concerning the relationship between past, present, and future generations,⁵⁹⁸ and may further be regarded as being addressed to either one or two planes: the international or global, and the national or local. Lafferty and Langhelle refer to these as the 'spatial and temporal dimensions of sustainable development' and juxtapose their relationships⁵⁹⁹ as shown in Figure 9.

The distinction that Lafferty and Langhelle make is superior to Weiss' merger of the 'inter-' and 'intra-' components. In order to maintain their distinctions, it is more appropriate to refer to them collectively as 'generational equity,' a term that appears in an article by Gregory Maggio.⁶⁰⁰ Maggio points out that most instruments and writings on the subject fail to distinguish clearly the specific interests of future generations from those of the present, and leaves open the question of who will be equitably sharing

⁵⁹⁶ *Ibid.* at 201.

⁵⁹⁷ Andreas Føllesdal, "Sustainable Development, State Sovereignty and International Justice." In *Towards Sustainable Development: On the Goals of Development - and the Conditions of Sustainability*, ed. William M Lafferty and Oluf Langhelle (Houndmills, Basingtoke, Hampshire; London;: MacMillan Press, 1999) at 71.

⁵⁹⁸ Brett M. Frischmann, "Some Thoughts on Shortsightedness and Intergenerational Equity" (2005) 36 Loy. U. Chicago L. J. 457 at 460.

⁵⁹⁹ Lafferty and Langhelle, *supra* Note 522 at 7.

⁶⁰⁰ The term "generational equity" actually appears in the article's header, probably due to an editorial or decision rather than the author's intent. Maggio clearly holds to Weiss' amalgamated version of the concept. Maggio, "Inter/intra-Generational Equity: Current Applications Under International Law for Promoting Sustainable Development of Natural Resources" (1997) 4 Buff. Envtl. L. J. 161 at 222.

what.⁶⁰¹ Since the questions and considerations of equity between generations are distinct from those within the same generation, Weiss' amalgam may therefore be both confusing and distracting for the average person. Inter-generational equity is much more abstract and speculative than the latter, which has existing concrete manifestations in poverty and unequal distribution of wealth or access to natural resources. To consider intra-generational equity as a component of inter-generational equity conceptually subordinates the concrete and pressing issues to the abstract and inchoate possibilities.

		Space Dimension	
Time dimension		<i>National</i>	<i>Global</i>
	<i>Within the same generation</i>	National equity within the same generation	Global equity within the same generation
	<i>Between generations</i>	National equity between generations	Global equity between generations

Figure 9. The temporal and spatial dimensions of sustainable development, as illustrated in Lafferty and Langhelle 1999.

As Wilfred Beckerman very aptly observed, there is so much pre-existing injustice needing attention and action at present, without having to grapple with the yet-unknown injustices to future generations.⁶⁰² Brian Barry adds that any injustice in the present can

⁶⁰¹ *Ibid.* at 185.

⁶⁰² See Wilfred Beckerman, "Sustainable Development and Our Obligations to Future Generations." In *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*, ed. Andrew P. Dobson (Oxford and New York: Oxford University Press, 1999).

only result inevitably in intra-generational injustice in the future.⁶⁰³ This is reinforced by Raymond Bryant who argues, “there is little point in discussing inter-generational justice, if even intra-generationally, it cannot yet be realized.”⁶⁰⁴ These imply that best way to achieve justice between generations into the future is actually ensure justice among the those in the present.

Apart from an express invocation of intergenerational equity, though, other principles relevant to social justice exist in international agreements, particularly where provisions suggest some form of distribution between distinct classes or entities. Dinah Shelton observes that distributive justice underlies the principle of equitable utilization of shared natural resources applied in treaties apportioning watercourses, fish stocks, and the continental shelf.⁶⁰⁵ She notes that equitable utilization attempts to allocate resources among States by invoking many different factors such as need, substantive allocation of rights and procedural equity, entitlement based on prior use, strict equality, proportional use based on population, priority of certain uses, and fairness.⁶⁰⁶ Distributive justice also provides the basis for equitable burden-sharing which is especially highlighted in more recent environmental agreements that now often differentiate between developed and developing States.⁶⁰⁷ Since the Stockholm Declaration, environmental treaties have generally acknowledged historical responsibility, capacity, and need as necessary factors for determining State Parties duties and obligations with respect to resource allocation, conservation responsibilities, and pollution control.⁶⁰⁸

⁶⁰³ See Brian Barry, "Sustainability and Intergenerational Justice." In *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*, ed. Andrew P. Dobson (Oxford and New York: Oxford University Press, 1999).

⁶⁰⁴ Raymond L. Bryant, "Putting Politics First: The Political Ecology of Sustainable Development" (1991) 1:6 *Global Ecology and Biogeography Letters* 164 at 166.

⁶⁰⁵ Shelton, *supra* Note 511 at 647.

⁶⁰⁶ *Ibid.* at 648.

⁶⁰⁷ *Ibid.* at 650.

⁶⁰⁸ *Ibid.* at 651-53.

These trends have diminished the role of the principle of formal equality in international environmental law⁶⁰⁹ and correspondingly elevated the principle of common but differentiated responsibilities.⁶¹⁰ Specific stipulations for “taking account” of certain needs and requirements of developing States, or sometimes even local communities and disadvantaged groups (discussed below), in addition to provisions for allocation of shared natural resources such as fisheries and freshwater,⁶¹¹ also demonstrate the underlying effort to somehow influence the distribution of the benefits or burdens associated with the subject of the treaty and promote social justice, even if such purpose is not stated expressly in the instrument.

Of the significant number of international environmental agreements already signed or in force since the beginning of the 20th century,⁶¹² relatively few may actually be seen to address social equity directly, whether between or within States. The fact that these provisions appeared with increasing incidence only in recent years is quite noticeable. The following review of multi-lateral environmental treaties⁶¹³ and soft law,⁶¹⁴ consistent

⁶⁰⁹ *Ibid.* at 654.

⁶¹⁰ For a more detailed explanation of this principle, see Duncan A. French, "Developing States and International Environmental Law: The Importance of Differentiated Responsibilities" (2000) 49:1 I.C.L.Q. 35; also Birnie, Boyle, and Redgwell, *supra* Note 125 at 132-36; Sands, *supra* Note 447 at 285-89.

⁶¹¹ Sands, *ibid.* at 262.

⁶¹² The UN Treaty Series database records 1,120 different environment-related bilateral and multi-lateral agreements registered with the UN Secretary General, going as far back as 1921. United Nations, "United Nations Treaty Collection (Online Database)," United Nations online: <<http://treaties.un.org/Pages/AdvanceSearch.aspx?tab=UNTS>> Last updated: 19 February 2010 (Date accessed: 19 February 2010).

⁶¹³ For purposes of this research, environmental agreements with at least three signatories/States Parties were selected and downloaded from the UN Treaty Series database.

⁶¹⁴ Soft law has been referred to as legally-relevant but non-binding norms, taking the form of codes of practice, recommendations, guidelines, resolutions, or declarations of principles whose interpretation and implementation are left largely to the discretion of the signatories. Soft law instruments offer flexibility since they are

with the general division of social justice literature between distributive and institutional paradigms,⁶¹⁵ finds two major categories of relevant hard and soft law texts: those dealing with distribution, and those concerned with decision-making.

3.4.3 Social Justice as Generational Equity

Inter- and intra-generational equity refer to two different but related issues of “generational equity” in sustainable development. It is important to highlight their distinctions and regard them as co-equal principles, so as not to lose sight of the distinct issues of the present even as those of the future are considered. Generational equity provisions, often marked by the phrase “present and future generations,” emerged in treaty law in the 1970s. Such provisions express the intention to enable a distribution either between current and succeeding generations, or between social groups within mainly the current generation.

3.4.3.1 Generational Equity and the Atom Bomb

The modern-day idea of generational equity was a child of the Cold War and decolonization as much as it was of environmentalism. Many authors focus only on the inter-generational aspect and trace the principle to environmental values in the 1946 Whaling Convention⁶¹⁶ and the Stockholm Declaration.⁶¹⁷ But the evolution of

often written in general and imprecise terms, and allow States to describe obligations that they are unable to accept in a formal and binding treaty. As such, they point to the future direction of the development of international law, by informally describing acceptable State conduct and possibly codifying international custom. See Jon Birger Skjærseth, Olav Schram Stokke, and Jørgen Wettestad, "Soft Law, Hard Law, and Effective Implementation of International Environmental Norms" (2006) 6:3 Global Environmental Politics 104 at 104; Prasad Sharma, "Restoring Participatory Democracy: Why the United States Should Listen to Citizen Voices While Engaging in International Environmental Lawmaking" (1998) 12 Emory Int'l. L. Rev. 1215 at 1226. See also Sands *supra* Note 447 at 124.

⁶¹⁵ See Chapter 3 above.

⁶¹⁶ Sands, *supra* Note 447 at 256; Collins, *supra* Note 595 at 98-99; Maggio, *supra* Note 465 at 200-01; Bradford C. Mank, "Standing and Future Generations: Does

generational equity as soft law from the 1960s up to the end of the 1970s suggests otherwise. Instead, it appears that generational equity actually captured the attention of the global community because of the threat of the radioactive fall-out (the ultimate man-made pollutant) and thermo-nuclear annihilation.

Against a background of superpower tensions and nuclear brinksmanship in the 1960s, a series of UN General Assembly resolutions calling for nuclear disarmament and a halt to nuclear proliferation and weapons testing preceded the earliest clear and multi-lateral expressions that future generations should not suffer from the actions of the present.⁶¹⁸

The principle was almost fully-formed when it first appeared in a resolution on the global

Massachusetts V. EPA Open Standing for Generations to Come?" (2009) 34 Colum. J. Envtl. L. 1 at 16-17.

⁶¹⁷ The Stockholm Declaration, Principle 1: "Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations,. In this respect, policies promoting or perpetuating apartheid, racial segregation, discrimination, colonial and other forms of oppression and foreign domination stand condemned and must be eliminated."

The Stockholm Declaration, Principle 2: "The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystem, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate."

⁶¹⁸ *General and Complete Disarmament*, GA Res. 1378 (XIV), UN GAOR, UN GA Res. 1378 (XIV) (1959); *Question of French Nuclear Tests in the Sahara*, GA Res. 1379 (XIV), UN GAOR, UN GA Res. 1379 (XIV) (1959); *Prevention of the Wider Distribution of Nuclear Weapons*, GA Res. 1380 (XIV), UN GAOR, UN GA Res. 1380 (XIV) (1959); *Prevention of the Wider Dissemination of Nuclear Weapons*, GA Res. 1376 (XV), UN GAOR, UN GA Res. 1376 (XV) (1960); *Suspension of Nuclear and Thermo-Nuclear Tests*, GA Res. 1377 (XV), UN GAOR, UN GA Res. 1377 (XV) (1960); *Suspension of Nuclear and Thermo-Nuclear Tests*, GA Res. 1378 (XV), UN GAOR, UN GA Res. 1378 (XV) (1960); *Suspension of Nuclear and Thermo-Nuclear Tests*, GA Res. 1577 (XV), UN GAOR, UN GA Res. 1577 (XV) (1960); *Suspension of Nuclear and Thermo-Nuclear Tests*, GA Res. 1578 (XV), UN GAOR, UN GA Res. 1578 (XV) (1960)

environmental impact of radiation from nuclear weapons testing,⁶¹⁹ and two resolutions calling on the nuclear powers to consider and respect Africa as a nuclear weapons-free zone.⁶²⁰ The latter two resolutions, together with the 1968 African Convention for the Conservation of Nature and Natural Resources⁶²¹ are perhaps a testament to a pivotal but often-unacknowledged contribution of the African peoples for actually introducing the generational equity to modern treaty law. Unlike the prior treaty expression which evinced an almost patronizing concern for future descendants,⁶²² these resolutions treated

⁶¹⁹ *Report of the United Nations Scientific Committee on the Effects of Atomic Radiation*, GA Res. 1629 (XVI), UN GAOR, UN GA Res. 1629 (XVI) (1961). Preamble 3 to 4.1:

(The General Assembly, ...) Fearful that the prolonged exposure of mankind to increasing levels of radio-active fall-out would constitute a growing threat to this and future generations,

Recognizing the great importance of the contribution made by the United Nations Scientific Committee on the Effects of Atomic Radiation in the study of the extent and nature of this hazard;

1. Declares that both concern for the future of mankind and the fundamental principles of international law impose a responsibility on all States concerning actions which might have harmful biological consequences for the existing and future generations of peoples of other States, by increasing the levels of radio-active fall-out; (emphasis added)

⁶²⁰ *Consideration of Africa As a Denuclearized Zone*, Res. 1652 (XVI), UN GAOR, UN GA Res. 1652 (XVI) (1961), Preamble 3: "Recalling further its resolution 1629 (XVI) of 27 October 1961, which declared that both concern for the future of mankind and the fundamental principles of international law impose a responsibility on all States concerning actions which might have harmful biological consequences for the existing and future generations of peoples of other States, by increasing the levels of radioactive fallout," (emphasis added)

Declaration on the Denuclearization of Africa, GA Res. 2033 (XX), UN GAOR, UN GA Res. 2033 (XX) (1965), Preamble 1. "Believing in the vital necessity of saving contemporary and future generations from the scourge of a nuclear war,"

⁶²¹ *African Convention on the Conservation of Nature and Natural Resources*. 15 September 1968, 1001 U.N.T.S. 3 (entered into force 16 June 1969).

⁶²² See for example, *International Convention for the Regulation of Whaling*. 02 December 1946 (entered into force 10 November 1948), Preamble 2: "Recognizing the interest of the nations of the world in safeguarding for future generations the great natural resources represented by the whale stocks."

the problems of *both* present *and* future generations *together*, which was understandable considering the realization that nuclear fall-out was already affecting the global environment and would continue to do so for generations to come.⁶²³ More importantly, they also framed the problem of radioactive contamination as an issue of global social justice, because the actions of a handful of nuclear powers clearly prejudiced the health and safety of “the existing and future generations of *other* States.”⁶²⁴

It is important to note this concurrent narrative of how generational equity came to be adopted by the international community, because it establishes a historical link between international environmentalism and global social justice. It thrusts global social justice into the role of a central organizing principle, not just a policy objective, of international environmental law. Tracing and impliedly limiting the roots of international environmental law to a sudden flash of Western enlightenment about Nature embodied in European treaties perpetuates a racist discourse submerged in modern environmentalism. It reinforces the privileged position and perspectives of the the industrialized world and excludes the developing world’s pivotal role in shaping global thought.

Even as generational equity consolidated into the texts of environmental declarations and action plans,⁶²⁵ it also appeared as part of varied multi-lateral efforts seeking to address

⁶²³ GA Res. 1629 (XVI), Preamble 2.

⁶²⁴ GA Res. 1652 (XVI), Preamble 3, *supra*.

⁶²⁵ In addition to the Stockholm Declaration, see *Institutional and Financial Arrangements for International Environmental Cooperation*, GA Res. 2997 (XXVII), UN GAOR, UN Doc A/RES/2997 (XXVII) (1973), Preamble 2:

Convinced of the need for prompt and effective implementation by Governments and the international community of measures designed to safeguard and enhance the environment for the benefit of present and future generations of man,

Among the first regional action plans for the marine environment to incorporate the principle was for the Arabian Sea and Gulf of Oman. Paragraph 2 of the Action Plan states:

The protection and development of the marine environment and the coastal areas of the Region for the benefit of present and future generations will be the central objective of the Action Plan. This Action Plan sets forth a framework for an

superpower tensions throughout the 1970s. These included the early proposals for the text of the 1982 United Nations Convention of the Law of the Sea,⁶²⁶ the Final Act of the Conference on Security and Co-operation in Europe,⁶²⁷ the 1977 Environmental Modification Convention,⁶²⁸ and the Outer Space Treaty.⁶²⁹

environmentally sound and comprehensive approach to coastal area development, particularly appropriate for this rapidly developing Region. *Action Plan for the Protection and Development of the Marine Environment and the Coastal Areas of Bahrain, Iran, Iraq, Oman, Qatar, Saudi Arabia, and the United Arab Emirates*. 23 April 1978, (1978) 17 I.L.M. 501 (entered into force 01 July 1979) at 501-02.

⁶²⁶ "Draft Articles on the Preservation of the Marine Environment." In *UN Doc A/AC.138/SC.III/L.33*, (1973) 12 I.L.M. 583. [LOSC]. Article 7 of Malta's draft articles for the preservation of the marine environment included a proposed institutional mandate "(t)o safeguard the quality of the marine environment for all mankind so that it can be transmitted unimpaired to future generations." It may be recalled that preventing the militarization of the seabed was among Malta's key motivations in advocating a third United Nations Conference on the Law of the Sea. See Rene Jean Dupuy and Daniel Vignes, *A Handbook on the New Law of the Sea*, vol. 1 (The Hague: Martinus Nijhoff Publishers, 1991) at 159-62.

⁶²⁷ "Final Act of the Conference on Security and Co-Operation in Europe, 01 August 1975." (1975) 14 I.L.M. 1292. Addressing the issue of the European environment, the Conference affirmed that "the protection and improvement of the environment, as well as the protection of nature and the rational utilization of its resources in the interests of present and future generations, is one of the tasks of major importance to the well-being of peoples and the economic development of all countries and that many environmental problems, particularly in Europe, can be solved effectively only through close international co-operation." *Ibid.*, Item 5.

⁶²⁸ *Convention on the Prohibition of Military Or Any Other Hostile Use of Environmental Modification Techniques*, 18 May 1977, 1108 UNTS 151 (entered into force 05 October 1978), Preamble 6: "Realizing that the use of environmental modification techniques for peaceful purposes could improve the interrelationship of man and nature and contribute to the preservation and improvement of the environment for the benefit of present and future generations,"

It was clear, though, that the international community at the time believed that deliberate environmental modification was something to be explored, as noted in the convention text adopted. According to the *Convention on the Prohibition of Military Or Other Hostile Use of Environmental Modification Techniques*, GA Res. 31/72, UN GAOR, UN Doc A/RES/31/72 (1976), Preamble 11: "Convinced that the Convention should not affect the use of environmental modification techniques for

The principle also spilled over into the discourse on the building of the world economy, given the link perceived between environment and development. The text of the 1974 Charter of the Economic Rights and Duties of States⁶³⁰ included a specific article on environment that highlighted the importance of generational equity, with a particular interest expressed that other States' environmental policies should not affect developing countries.⁶³¹ Discussions of the New International Economic Order also included proposals of some States to extend generational equity not only to environmental matters but also to a social and economic context.⁶³² The principle also materializes as a

peaceful purposes, which could contribute to the preservation and improvement of the environment for the benefit of present and future generations,”

See *Draft Convention on Weather Modification*, 24 September 1974, (1974) 13 I.L.M. 1472 for its earlier iteration.

⁶²⁹ *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, 18 December 1979, (1979) 18 I.L.M. 1434 (entered into force 11 July 1984). Article 4.1 states: “The exploration and use of the moon shall be the province of all mankind and shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development. Due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living and conditions of economic and social progress and development in accordance with the Charter of the United Nations.”

⁶³⁰ *Charter of the Economic Rights and Duties of States*, GA Res. 3281 (XXIX), UN GAOR, UN GA Res. 3281 (XXIX) (1974).

⁶³¹ *Ibid.*, Article 30: “The protection, preservation and enhancement of the environment for the present and future generations is the responsibility of all States. All States shall endeavour to establish their own environmental and developmental policies in conformity with such responsibility. The environmental policies of all States should enhance and not adversely affect the present and future development potential of developing countries. All States have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction. All States should co-operate in evolving international norms and regulations in the field of the environment.”

⁶³² *Declaration on the Establishment of a New International Economic Order*, GA Res. 3201 (S-VI), UN GAOR, UN GA Res. 3201 (S-VI) (1974), Paragraph 3:

3. All these changes have thrust into prominence the reality of interdependence of all the members of the world community. Current events have brought into sharp

justification for the position of the Organization of Petroleum Exporting Countries (OPEC) in taking greater control of their petroleum resources through price regulation, much to the consternation of the rest of the oil-hungry world.⁶³³

By 1980, only three global environmental conventions included generational equity in their preambles,⁶³⁴ and it had gained support in only a handful of soft law and regional

focus the realization that the interests of the developed countries and those of the developing countries can no longer be isolated from each other, that there is close interrelationship between the prosperity of the developed countries and the growth and development of the developing countries, and that the prosperity of the international community as a whole depends upon the prosperity of its constituent parts. International co-operation for development is the shared goal and common duty of all countries. Thus the political, economic and social well-being of present and future generations depends more than ever on co-operation between all members of the international community on the basis of sovereign equality and the removal of the disequilibrium that exists between them.

The following year, in a working paper on economic development and international co-operation, the USSR and East Bloc States proposed the inclusion of a preambular paragraph stating:

Confident that the over-all objective of the New International Economic Order based on equity, sovereign equality, interdependence, common interest and co-operation among all States, irrespective of their economic and social systems, shall correct inequalities and redress existing injustices, make it possible to eliminate the widening gap between the developed and the developing countries and ensure steadily accelerating economic and social development and peace and justice for present and future generations. "Working Paper on Development and International Economic Co-Operation Submitted By the Group of 77, 04 September 1975" (1975) 14:6 I.L.M. 1553 at 1567.

⁶³³ The OPEC Declaration is notable for its scathing critique of "the general tendency of the developed countries to consume excessively and to waste scarce resources, as well as inappropriate and shortsighted economic policies in the industrialized world." Organization of Petroleum Exporting Countries, "Solemn Declaration of the Sovereigns and Heads of State of the Organization of Petroleum Exporting Countries Concerning the International Economic Crisis," (1975) 14 I.L.M. 566. at 568.

⁶³⁴ *UNESCO Convention for the Protection of the World Cultural and Natural Heritage*, 16 November 1972, (1972) 11 I.L.M. 1358 (entered into force 17 December 1975); *Convention on the International Trade in Endangered Species*, 03 March 1973, 993 UNTS 243 (entered into force 01 July 1975); *Convention on the Conservation of*

environmental treaties.⁶³⁵ Yet, the UN General Assembly still proclaimed “the historical responsibility of States for the preservation of nature for present and future generations” and called upon them to take measures and promote international cooperation to preserve nature.⁶³⁶ The call significantly references concern over the possibility of nuclear war, which was not only a danger in itself, but also because the arms race between East and West was diverting resources from solutions to the problems of preserving nature.⁶³⁷ Notably, this reasoning in the Preamble comes *ahead* of the environmental justification.⁶³⁸ Bearing in mind the tensions of the Cold War, it is reasonable to argue

European Wildlife and Natural Habitats, 19 September 1979, (entered into force 01 March 2002).

⁶³⁵ *African Convention on the Conservation of Nature and Natural Resources*, *supra* Note 621; *Treaty on the River Plate Basin*, 23 April 1969, (1969) 8 I.L.M. 905 (entered into force 14 August 1970); *Convention for the Protection of the Mediterranean Sea Against Pollution*, 16 February 1976, (1976) 15 I.L.M. 285 (entered into force 12 February 1978).; *Convention on Conservation of Nature in the South Pacific*, 12 June 1976 (entered into force 26 June 1990); *Kuwait Regional Convention on Cooperation for the Protection of the Marine Environment From Pollution*, 24 April 1978, (1978) 17 I.L.M. 501 (entered into force 01 July 1979); *Convention on the Conservation of European Wildlife and Natural Habitats*, *ibid.* The relevant portions of the treaty texts are cited *infra*.

⁶³⁶ *Historical Responsibility of States for the Preservation of Nature for Present and Future Generations*, GA Res. 35/8, UN GAOR, UN Doc A/RES/35/8 (1980), Paragraph 1 to 3:

1. Proclaims the historical responsibility of States for the preservation of nature for present and future generations;
2. Draws the attention of States to the fact that the continuing arms race has pernicious effects on the environment and reduces the prospects for the necessary international co-operation in preserving nature on our planet;
3. Calls upon States, in the interests of present and future generations, to demonstrate due concern and take the measures, including legislative measures, necessary for preserving nature, and also to promote international co-operation in this field;

⁶³⁷ *Historical Responsibility of States for the Preservation of Nature for Present and Future Generations*, *ibid.*, Preamble 2-8; reiterated in GA Res. 36/7, UN GAOR, UN Doc A/RES/36/7 (1981), Preamble 2.

⁶³⁸ GA Res. 36/7, Preamble 3-7:

that from the point of view of soft law at the time, generational equity came to be universally accepted perhaps more powerfully as a call for justice from nuclear weapons than as a concern for simply preserving Nature.

For a while, generational equity continued to resonate in soft law instruments intended primarily for social and economic concerns. With the inauguration of the Third United Nations Development Decade,⁶³⁹ the envisioned future accorded a key role to the environment:

Accelerated development in the developing countries could enhance their capacity to improve their environment. The environmental implications of poverty and under-development and the interrelationships between development, environment, population and resources must be taken into account in the process of development. It is essential to avoid environmental degradation and give future generations the benefit of a sound environment. There is need to ensure an economic development process which is environmentally sustainable over the long run and which protects the ecological balance. Determined efforts must be made to prevent deforestation, erosion, soil degradation and decertification.

Conscious of the disastrous consequences which a war involving the use of nuclear weapons and other weapons of mass destruction would have on man and his environment,

Noting that the continuation of the arms race, including the testing of various types of weapons, especially nuclear weapons, and the accumulation of toxic chemicals are adversely affecting the human environment and damaging the vegetable and animal world,

Bearing in mind that the arms race is diverting material and intellectual resources from the solution of urgent problems of preserving nature,

Attaching great importance to the development of planned, constructive international co-operation in solving the problems of preserving nature,

Recognizing that the prospects for solving problems so universal as the preservation of nature are closely linked to the strengthening and development of international détente and the creation of conditions which would banish war from the life of mankind, ...

⁶³⁹ *An International Development Strategy for the Third U.N. Development Decade*, GA Res. 35/56, UN GAOR, UN Doc A/RES/35/56 (1981).

International cooperation in environmental protection should be increased.
⁶⁴⁰ (emphasis added)

Another instrument is that of the regional seas programme for the West and Central African Region that provided a framework for coastal area development, with concern being expressed “particularly for the health and well-being of present and future generations.”⁶⁴¹ But as the 1980s progressed, the arena of generational equity shifted increasingly into treaty-making and toward environmental management, rather than social and economic development.

It is important to consider this earlier aspect of generational equity in soft law because it contextualizes the principle not as one generated by an abstract and altruistic concern for the future, but by real and pressing anxieties of the present. Atomic pollution represented the ultimate in injustice because third parties (non-nuclear developing countries) suffered both actual⁶⁴² and threatened injury⁶⁴³ through no fault, and without any control, of their own and entirely on account of the actions of the few leading States of the East and West Bloc. The inclusion of the principle in socio-economic instruments show that it to be part of the struggle of developing countries to retake control and benefits of their resources from the vestiges of colonialism and attempt to build a more equitable global community. These were pragmatic and existing efforts for existing inequalities in status and self-

⁶⁴⁰ *Ibid.*, para. 41.

⁶⁴¹ "Action Plan for the Protection and Development of the Marine Environment and Coastal Areas of the West and Central African Regions." (1981) 20 I.L.M. 738, para. 2.

⁶⁴² GA Res. 1629 (XVI), Preamble 1: “Deeply concerned that as a result of the renewed discharge into the earth’s environment of radio-active debris there have been sharp increases in the levels of radio-active fall-out in many parts of the world,”

Para. 1 further states: “Declares that both concern for the future of mankind and the fundamental principles of international law impose a responsibility on all States concerning actions which might have harmful biological consequences for the existing and future generations of peoples of other States, by increasing the levels of radio-active fall-out;”

⁶⁴³ *Declaration on the Prohibition of the Use of Nuclear and Thermo-Nuclear Weapons*, GA Res. 1653 (XVI), UN GAOR, UN GA Res. 1653 (XVI) (1961).

determination, part of the broader effort of post-war decolonization, that bound the emergence of inter-generational justice irretrievably to the social justice concerns of the present.

3.4.3.2 Inter-generational Equity

3.4.3.2.1 *Development of Treaty Law*

Maggio notes that prior to the 1970s, consideration of inter-generational equity made occasional appearances in international treaty law, unfortunately more often in breach than in respect.⁶⁴⁴ Like Sands, he points to the Whaling Convention as the prototype for the formulation of inter-generational equity in international instruments, since its preamble recognizes a legitimate interest in safeguarding the whale stocks “for future generations.”⁶⁴⁵ But the intention to convey a legacy to future generations should not so quickly be regarded as equivalent to inter-generational equity; at best it may be proof of

⁶⁴⁴ Maggio *supra* Note 465 .

⁶⁴⁵ *Ibid.* at 200; cf. Sands *supra* Note 447 at 256; and *International Convention for the Regulation of Whaling*, *supra* note 622. This actually does not bode well since the current implementation of the Whaling Convention still leaves much to be desired, so much so that it has recently prompted major battles (figuratively and literally) between radical environmental groups like Greenpeace and the Sea Shepherd Conservation Society versus the Japanese and Icelandic whaling fleet. For a chronicle of the maritime clashes since 2002, the Sea Shepherd Conservation Society maintains its own online news archive of its activities. See Sea Shepherd Conservation Society, "Sea Shepherd News," *Sea Shepherd Conservation Society* online: <<http://www.seashepherd.org/news-and-media/sea-shepherd-news.html>> Last updated: 08 February 2010 (Date accessed: 10 February 2010). These ‘Whale Wars’ have also been documented and regularly broadcast by the Discovery Channel on cable television, giving the issue higher visibility for the greater public. See "Whale Wars," *Animal Planet* online: <<http://animal.discovery.com/tv/whale-wars/>> Last updated: 01 June 2010 (Date accessed: 01 July 2010).. This type of media coverage has certainly caught public and official attention. "Strong Emotions Stirred By 'Whale Wars'." *Euronews.net* (21 June 2010), online: <<http://www.euronews.net/2010/06/21/strong-emotions-stirred-by-whale-wars/>>; "Japan Sets Sights on Whaling Activists." *BBC News* (20 August 2008), online: <<http://news.bbc.co.uk/2/hi/7573074.stm>>; "Anti-Whaling Activists Accuse Japan Fleet of Attack." *BBC News* (06 January 2010), online: <<http://news.bbc.co.uk/2/hi/8442808.stm>>.

prudence in setting aside ‘savings’ in order to prolong the benefits from a resource for as long as possible. Such a ‘savings’ principle is not necessarily inconsistent with eventual exhaustion of the principal.

The preambles of following treaties at the regional and global level immediately leading up to and after the Stockholm Declaration include paragraphs that denote inter-generational equity:

- 1968 African Convention on the Conservation of Nature and Natural Resources⁶⁴⁶
- 1969 Treaty on the River Plate Basin⁶⁴⁷
- 1972 UNESCO Convention for the Protection of the World Cultural and Natural Heritage⁶⁴⁸

⁶⁴⁶ *African Convention on the Conservation of Nature and Natural Resources*, Algiers, 15 September 1968, 1001 U.N.T.S. 3 (entered into force 16 June 1969), Preamble 7: “Desirous of undertaking individual and joint action for the conservation, utilization and development of these assets by establishing and maintaining their rational utilization for the present and future welfare of mankind;”

⁶⁴⁷ *Treaty on the River Plate Basin*, Brasilia, 23 April 1969, 8 I.L.M. 905 (entered into force 14 August 1970), Preamble 3: “Persuaded that joint action will permit the harmonious and equitable development, as well as the best utilization, of the great natural resources of the region, and will insure their preservation for future generations through a rational utilization of such resources;”

Note however, that this is an unofficial translated text from the I.L.M. series. There is a qualitative difference between this published translation and the official translation filed with the United Nations Treaty Series, which says:

CONFIDENT that joint action will permit the harmonious and balanced development and optimum utilization of the principal natural resources of the region and will ensure the conservation of those resources for future generations if they are utilized rationally, (875 UNTS 3 at 10 to 13).

The term “balanced development” in the official translation does not have the same connotation as “equitable development.”

⁶⁴⁸ *UNESCO Convention for the Protection of the World Cultural and Natural Heritage*, Paris, 16 November 1972, 11 I.L.M. 1358 (entered into force 17 December 1975), Article 4: “Each State Party to this Convention recognizes that the duty of ensuring the identification, protection, conservation, presentation and transmission to future

- 1973 Convention on the International Trade in Endangered Species⁶⁴⁹
- 1976 Convention on the Protection of the Mediterranean Sea against Pollution⁶⁵⁰
- 1976 Convention on Conservation of Nature in the South Pacific⁶⁵¹
- 1978 Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution⁶⁵²
- 1979 Convention on the Conservation of Migratory Species of Wild Animals⁶⁵³

generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where appropriate, with any international assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain.”

⁶⁴⁹ *Convention on the International Trade in Endangered Species*, Washington DC, 03 March 1973, 993 UNTS 243 (entered into force 01 July 1975), Preamble 2: “Recognizing that wild fauna and flora in their many beautiful and varied forms are an irreplaceable part of the natural systems of the earth which must be protected for this and the generations to come;”

⁶⁵⁰ *Convention for the Protection of the Mediterranean Sea Against Pollution*, Barcelona, 16 February 1976, 15 I.L.M. 285 (entered into force 12 February 1978), Preamble 3: “Fully aware of their responsibility to preserve - this common heritage for the benefit and enjoyment of present and future generations,”

⁶⁵¹ *Convention on Conservation of Nature in the South Pacific*, Apia, 12 June 1976, (entered into force 26 June 1990), online: Center for International Earth Science Network <<http://sedac.ciesin.org/entri/texts/nature.south.pacific.1976.html>> Last updated: 12 March 2001 (Date accessed: 10 July 2010), Preamble 7: “Desirous of taking action for the conservation, utilization and development of these resources through careful planning and management for the benefit of present and future generations;”

⁶⁵² *Kuwait Regional Convention on Cooperation for the Protection of the Marine Environment From Pollution*, Kuwait, 24 April 1978, 17 I.L.M. 501 (entered into force 01 July 1979), Preamble 16: “Aware of the importance of co-operation and co-ordination of action on a regional basis with the aim of protecting the marine environment of the Region for the benefit of all concerned, including future generations,”

- 1979 Bern Convention on the Conservation of European Wildlife and Natural Habitats⁶⁵⁴
- 1982 World Charter for Nature⁶⁵⁵
- 1981 Convention for Cooperation in the Protection of the Marine and Coastal Environment of the West and Central African Region⁶⁵⁶
- 1982 Regional Convention for the Protection of the Red Sea and Gulf of Aden Environment⁶⁵⁷

⁶⁵³ *Convention on the Conservation of Migratory Species of Wild Animals*, 23 June 1979, (1980) 19 I.L.M. 15 (entered into force 01 November 1983), Preamble 3: “Aware that each generation of man holds the resources of the earth for future generations and has an obligation to ensure that this legacy is conserved and, where utilized, is used wisely;”

⁶⁵⁴ *Convention on the Conservation of European Wildlife and Natural Habitats*, Bern, 19 September 1979 (entered into force 01 March 2002), online: Council of Europe <<http://conventions.coe.int/treaty/en/treaties/html/104.htm>> Last updated: 09 December 2009 (Date accessed: 10 July 2010), Preamble 4: “Recognising that wild flora and fauna constitute a natural heritage of aesthetic, scientific, cultural, recreational, economic and intrinsic value that needs to be preserved and handed on to future generations;”

⁶⁵⁵ *World Charter for Nature* GA Res. 37/7, UN GAOR, UN Doc A/RES/37/7 (1982), Preamble 6: “Conscious of the spirit and terms of its resolutions 35/7 and 36/6, in which it solemnly invited Member States, in the exercise of their permanent sovereignty over their natural resources, to conduct their activities in recognition of the supreme importance of protecting natural systems, maintaining the balance and quality of nature and conserving natural resources, in the interests of present and future generations;”

⁶⁵⁶ *Convention for Cooperation in the Protection of the Marine and Coastal Environment of the West and Central African Region*, 23 March 1981, (1981) 20 I.L.M. 746 (entered into force 05 August 1984), Preamble 3: “Fully aware of their responsibility to preserve their natural heritage for the benefit and enjoyment of present and future generations;”

⁶⁵⁷ *Regional Convention for the Conservation of the Red Sea and the Gulf of Aden Environment*, 14 February 1982, (entered into force 20 August 1985), online: United Nations Environment Programme <<http://www.unep.ch/regionalseas/main/persga/convtext.html>> Last updated: 12 September 2006 (Date accessed: 10 July 2010), Preamble 9: “Aware of the

- 1986 Convention for the Protection of the Marine Environment in the Wider Caribbean Region⁶⁵⁸
- 1985 Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region⁶⁵⁹
- 1985 ASEAN Agreement on the Conservation of Nature and Natural Resources⁶⁶⁰
- 1987 Convention for the Protection of the Natural Resources and Environment of the South Pacific Region⁶⁶¹
- 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes⁶⁶²

importance of co-operation and coordination of action on a regional basis with the aim of protecting the marine environment of the Red Sea and Gulf of Aden for the benefit of all concerned, including future generations.”

⁶⁵⁸ *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region*, 24 March 1983, 22 I.L.M. 240 (entered into force 11 October 1986), Preamble 3: “Conscious of their responsibility to protect the marine environment of the wider Caribbean region for the benefit and enjoyment of present and future generations,”

⁶⁵⁹ *Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region*, 21 June 1985, online: United Nations Environment Programme <http://www.unep.org/NairobiConvention/docs/English_Nairobi_Convention_Text.pdf> Last updated: 10 July 2010 (Date accessed: 10 July 2010), Preamble 3: “Conscious of their responsibility to preserve their natural heritage for the benefit and enjoyment of present and future generations,”

⁶⁶⁰ *ASEAN Agreement on the Conservation of Nature and Natural Resources*, 09 July 1985, online: Association of Southeast Asian Nations <<http://www.aseansec.org/1490.htm>> Last updated: 30 November 2009 (Date accessed: 10 July 2010), Preamble 8: “Recognizing the importance of natural resources for present and future generations;”

⁶⁶¹ *Convention for the Protection of the Natural Resources and Environment of the South Pacific Region*, 25 November 1986, 26 I.L.M. 38, Preamble 4: Conscious of their responsibility to preserve their natural heritage for the benefit and enjoyment of present and future generations;

- 1992 Convention on the Transboundary Effects of Industrial Accidents⁶⁶³
- 1992 United Nations Framework Convention on Climate Change⁶⁶⁴
- 1992 Convention on Biological Diversity⁶⁶⁵
- 1992 Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice⁶⁶⁶
- 1992 Convention for the Protection of the Marine Environment in the North East Atlantic⁶⁶⁷

⁶⁶² *Convention on the Protection and Use of Transboundary Watercourses and International Lakes*, 17 March 1992, (1992) 31 I.L.M. 1312, Article 2.5.c: “Water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs.”

⁶⁶³ *Convention on the Transboundary Effects of Industrial Accidents*, 17 March 1992, (1992) 31 I.L.M. 1330 (entered into force 19 April 2000), Preamble 2: “Mindful of the special importance, in the interest of present and future generations, of protecting human beings and the environment against the effects of industrial accidents,”

⁶⁶⁴ *United Nations Framework Convention on Climate Change*, New York, 09 May 1992, 31 I.L.M. 849 (entered into force 21 March 1994), Preamble 12: “Recalling the provisions of General Assembly Resolution 44/228 of 22 December 1989 on the United Nations Conference on Environment and Development, and Resolutions 43/53 of 6 December 1988, 44/207 of 22 December 1989, 45/212 of 21 December 1990 and 46/169 of 19 December 1991 on protection of global climate for present and future generations of mankind;” Preamble 24 also states: “Determined to protect the climate system for present and future generations,”

⁶⁶⁵ *Convention on Biological Diversity*, 05 June 1992, (1992) 31 I.L.M. 818 (entered into force 29 December 1993), Preamble 24: “Determined to conserve and sustainably use biological diversity for the benefit of present and future generations,”

⁶⁶⁶ *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters*. 25 June 1998, (1999) 38 I.L.M. 517 (entered into force 08 October 2009). Preamble 7: “Recognizing also that every person has the right to live in an environment adequate to his or her health and well-being, and the duty, both individually and in association with others, to protect and improve the environment for the benefit of present and future generations,”

⁶⁶⁷ *Convention for the Protection of the Marine Environment in the North-East Atlantic*. Paris, 22 September 1992, (1993) 32 I.L.M. 1069 (entered into force 25 March

- 1993 North American Agreement on Environmental Cooperation⁶⁶⁸
- 1993 Agreement Establishing the South Pacific Regional Environment Programme⁶⁶⁹
- 1994 Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa⁶⁷⁰
- 1996 Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter⁶⁷¹

1998)., Preamble 4: “Recognising that concerted action at national, regional and global levels is essential to prevent and eliminate marine pollution and to achieve sustainable management of the maritime area, that is, the management of human activities in such a manner that the marine ecosystem will continue to sustain the legitimate uses of the sea and will continue to meet the needs of present and future generations;”

⁶⁶⁸ *North American Agreement on Environmental Cooperation*, 14 September 1993, (1993) 32 I.L.M. 1480 (entered into force 01 January 1994), Preamble 2: “Convinced of the importance of the conservation, protection and enhancement of the environment in their territories and the essential role of cooperation in these areas in achieving sustainable development for the well-being of present and future generations.” Article 1.a states that the objective of the agreement is to “foster the protection and improvement of the environment in the territories of the Parties for the well-being of present and future generations.”

⁶⁶⁹ *Agreement Establishing the South Pacific Regional Environment Programme*, 16 June 1993, (entered into force 31 August 1993), Preamble 3: “Conscious of their responsibility to preserve their natural heritage for the benefit and enjoyment of present and future generations and their role as custodians of natural resources of global importance;

⁶⁷⁰ *United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought And/or Desertification, Particularly in Africa*, 17 June 1994, (1994) 33 I.L.M. 1328 (entered into force 26 December 1996), Preamble 27: “Determined to take appropriate action in combatting desertification and mitigating the effects of drought for the benefit of present and future generations,”

⁶⁷¹ *1996 Protocol to the 1972 Convention on the Prevention of Marine Pollution By Dumping of Wastes and Other Matter*, 07 November 1996, 36 I.L.M. 1 (entered into force 24 March 2006), Preamble 9: “Being convinced that further international action to prevent, reduce and where practicable eliminate pollution of the sea caused by dumping can and must be taken without delay to protect and preserve the marine

- 1996 Convention on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area⁶⁷²
- 1997 Convention for the Establishment of the Lake Victoria Fisheries Organization⁶⁷³
- 1997 Convention on the Law on Non-Navigational Uses of International Watercourses⁶⁷⁴
- 1999 Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes⁶⁷⁵
- 2000 Cartagena Protocol on Biosafety to the Convention on Biological Diversity⁶⁷⁶

environment and to manage human activities in such a manner that the marine ecosystem will continue to sustain the legitimate uses of the sea and will continue to meet the needs of present and future generations,”

⁶⁷² *Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area*, 24 November 1996, 36 I.L.M. 777 (entered into force 01 June 2001), Preamble 4: “Recognizing that cetaceans are an integral part of the marine ecosystem which must be conserved for the benefit of present and future generations, and that their conservation is a common concern;”

⁶⁷³ *Convention for the Establishment of the Lake Victoria Fisheries Organization*, 30 June 1994, 36 I.L.M. 667 (entered into force 24 May 1996), Preamble 3:” Recognizing that, as the riparian States of Lake Victoria, they share an interest in the well-being of the lake and its living resources, and in the rational management and sustainability of those living resources for the benefit of present and future generations;”

⁶⁷⁴ *Convention on the Law on Non-Navigational Uses of International Watercourses*, 21 May 1997, 36 I.L.M. 700 (Not yet in force), Preamble 6: “Expressing the conviction that a framework convention will ensure the utilization, development, conservation, management and protection of international watercourses and the promotion of the optimal and sustainable utilization thereof for present and future generations;”

⁶⁷⁵ *Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes*, 17 June 1999, Article 5.d: “Water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs;”

- 2000 Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean⁶⁷⁷
- 2001 Stockholm Convention on Persistent Organic Pollutants⁶⁷⁸
- 2003 Framework Convention for the Protection of the Marine Environment of the Caspian Sea⁶⁷⁹
- 2003 Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in A Transboundary Context⁶⁸⁰

Only a few of these treaties actually contain more than the passing and formulaic reference to an intention to benefit future generations. Maggio views these invocations as mere lip service in the absence of ‘pro-active’ obligations to ensure an equitable

⁶⁷⁶ *Cartagena Protocol on Biosafety to the Convention on Biological Diversity*, 29 January 2000, 39 I.L.M. 1027 (entered into force 11 September 2003), Preamble 2: “Determined to ensure the long-term conservation and sustainable use, in particular for human food consumption, of highly migratory fish stocks in the western and central Pacific Ocean for present and future generations,”

⁶⁷⁷ *Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean*, 05 September 2000, 40 I.L.M. 278, Preamble 2: “Determined to ensure the long-term conservation and sustainable use, in particular for human food consumption, of highly migratory fish stocks in the western and central Pacific Ocean for present and future generations,”

⁶⁷⁸ *Convention on Persistent Organic Pollutants*, 22 May 2001, 40 I.L.M. 532 (entered into force 17 May 2004), Preamble 3: “Aware of the health concerns, especially in developing countries, resulting from local exposure to persistent organic pollutants, in particular impacts upon women and, through them, upon future generations,”

⁶⁷⁹ *Convention for the Protection of the Marine Environment of the Caspian Sea*, 11 November 2003, 44 I.L.M. 1, Preamble 3: “Firmly resolved to preserve living resources of the Caspian Sea for present and future generations,”

⁶⁸⁰ *Protocol on Strategic Environmental Assessments to the Convention on Environmental Impact Assessment in a Transboundary Context*, 21 May 2003, (Not yet in force), Preamble 8: “Acknowledging the benefits to the health and wellbeing of present and future generations that will follow if the need to protect and improve people's health is taken into account as an integral part of strategic environmental assessment, and recognizing the work led by the World Health Organization in this respect,”

outcome.⁶⁸¹ These texts also seem to evince a stronger emphasis on the future-centered inter-generational, instead of the present-focused intra-generational, aspect of generational equity. This may be gleaned from the frequency with which terms used in the various instruments point to conservation, long-term usage, and conveyance to future descendants. But even assuming that through these invocations inter-generational equity has acquired normative status, precisely how such an aspiration is to be manifested, and how an obligation thereto can be discharged seems yet to be specifically illustrated by formal State practice apart from the act of entering into the treaties themselves. The difficulty of doing so is patent from the fact that unless future generations could somehow communicate backwards in time, there is no way to determine whether the legacy left to them is just or not.⁶⁸²

3.4.3.2.2 *Reinforcement in Soft Law*

The Stockholm Declaration may indeed be seen as the turning point from which generational equity streamed into the express language of modern international environmental law, beginning with the recognition of humanity's "solemn responsibility" to protect and improve the environment and preserve the earth's natural resources and

⁶⁸¹ Maggio, *supra* Note 465 at 186.

⁶⁸² It is with respect to this problem perhaps that the famous case of *Minors Oposa v. Secretary of Environment and Natural Resources* ([1993] S.C. 101083, 224 S.C.R.A. 792; also reprinted in 33 I.L.M. 173 (1994)) offered its real innovation. by allowing minors standing to sue, as representatives of future generations, for relief from present policies of the State with the expectation of preserving and enjoying the same amenities that their immediate ascendants enjoyed. In this case, a group of minors filed a class suit against the Philippine Department of Environment and Natural Resources seeking an injunction against the issuance of Timber License Agreements which would have permitted the logging of the country's remaining virgin forest stands. The minors specifically alleged that they were doing so in representation of "future generations." The Supreme Court ruled that the minors could sue the government to compel it to stop issuing Timber License Agreements, citing their constitutional right to a healthful ecology and on the grounds of intergenerational justice.

representative ecosystems ‘for present and future generations.’⁶⁸³ In doing so, it also appears to have caused a subtle shift in the focus of generational equity away from social-economic concerns of the present (intra-generational) and toward the potential environment of the future (inter-generational). The shift is difficult to distinguish, but may be discerned from declarative language couched in terms such as ‘long-term’ and ‘legacy’ which express a view directed toward the future.

The weight of soft law instruments in the post-Stockholm era indicates this shift in emphasis occurring in the early 1980s, beginning with the Nairobi Declaration⁶⁸⁴ that reaffirmed the international community’s commitment to the Stockholm Declaration and Action Plan, and revitalized official interest in the environment. It particularly urged “all Governments and peoples of the world to discharge their historical responsibility, collectively and individually, to ensure that our small planet is passed over to future generations in a condition which guarantees a life in human dignity for all.”⁶⁸⁵

The emphasis on safeguarding the environment was reiterated in the World Charter for Nature⁶⁸⁶ and heightened by the UNEP.⁶⁸⁷ But by the 1990s the threat of nuclear war

⁶⁸³ Stockholm Declaration, Principle 1 and 2.

⁶⁸⁴ United Nations Environment Programme. "Nairobi Declaration on the State of the Worldwide Environment," (1982) 21 I.L.M. 676.

⁶⁸⁵ *Ibid.*, para. 10.

⁶⁸⁶ *World Charter for Nature*, Preamble 6: “Conscious of the spirit and terms of its resolutions 35/7 and 36/6, in which it solemnly invited Member States, in the exercise of their permanent sovereignty over their natural resources, to conduct their activities in recognition of the supreme importance of protecting natural systems, maintaining the balance and quality of nature and conserving natural resources, in the interests of present and future generations,”

⁶⁸⁷ United Nations Environment Programme. "Governing Council Decision 20(III) at its Third Session," (1975) 14 I.L.M. 1070, Para. 9.c: “The United Nations Environment Programme must be concerned with prompt and effective implementation of co-ordinated and integrated strategies to enhance and safeguard the environment for the benefit of present and future generations of man. Elements of a balanced programme of the United Nations Environment Programme must be based upon continuous assessment of environmental concerns;”

receded and more ‘conventional’ threats to the environment came to the forefront, no doubt buoyed by the concept of sustainable development espoused in *Our Common Future*.

Inter-generational equity thereafter tied more closely to a qualitatively different concern, atmospheric pollution. At first, it was a very real and concrete threat, after the discovery of the “ozone hole” in the Antarctic and subsequent issuance of the Helsinki declaration on the protection of the ozone layer.⁶⁸⁸ It then moved on to a similar but related threat, rising GHG emissions and climate change.⁶⁸⁹ The UN and international community recognized and initiated preparatory action on climate change as a global problem.⁶⁹⁰ Early on, States recognized the social and economic impact of this phenomenon, but there was feeble attribution to the human hand in its cause.⁶⁹¹ Since that time, though, the

⁶⁸⁸ "Declaration on the Protection of the Ozone Layer," (1989) 28 I.L.M. 1335, Preamble 1: “Aware of the wide agreement among scientists that depletion of the ozone layer will threaten present and future generations unless more stringent control measures are adopted”

⁶⁸⁹ See *Protection of Global Climate for Present and Future Generations of Mankind*, GA Res. 43/53, UN GAOR, UN Doc A/RES/43/53 (1989); *Environmental Protection of Extraterritorial Spaces for Present and Future Generations*, GA Res. 44/451, UN GAOR, UN Doc A/DEC/44/451 (1989); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 44/207, UN GAOR, UN Doc A/RES/44/207 (1990).

⁶⁹⁰ GA Res. 43/53; also United Nations Environment Programme, "Governing Council Decision 15/36 on Global Climate Change," (1989) 28 I.L.M. 1330. The *Hague Declaration on the Environment* also encapsulated the justification for viewing the matter as a global concern thus:

Because the problem is planet-wide in scope, solutions can only be devised on a global level. Because of the nature of the dangers involved, remedies to be sought involve not only the fundamental duty to preserve the ecosystem, but also the right to live in dignity in a viable global environment, and the consequent duty of the community of nations vis-a-vis present and future generations to do all that can be done to preserve the quality of the atmosphere.” *The Hague Declaration on the Environment*, 11 March 1989, (1999) 28 I.L.M. 1308 at 1309.

⁶⁹¹ GA Res. 43/53, Preamble 3: “Concerned that certain human activities could change global climate patterns, threatening present and future generations with potentially severe economic and social consequences,”

UN has treated the concept of inter-generational equity as practically inseparable from the issue of climate change.⁶⁹²

While global instruments tend mainly to be ‘legacy’ documents declaring an intention to convey a certain state of environment or natural resources to the future, regional instruments exhibit more express awareness of the need to link the legacy to the future

⁶⁹² *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 45/212, UN GAOR, UN Doc A/RES/45/212 (1991); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 46/169, UN GAOR, UN Doc A/RES/46/169 (1992); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 47/195, UN GAOR, UN Doc A/RES/47/195 (1993); UN GAOR, *Protection of the global climate for present and future generations of mankind*, GA Res. 49/102, UN GAOR, UN Doc A/RES/49/102 (1995); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 51/184, UN GAOR, UN Doc A/RES/51/184 (1997); *Protection of the Global Climate for Present and Future Generations of Mankind*, Res. 51/184, UN GAOR, UN Doc A/RES/51/184 (1997); *Protection of the global climate for present and future generations of mankind*, GA Res. 52/199, UN GAOR, UN Doc A/RES/52/199 (1998); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 54/222, UN GAOR, UN Doc A/RES/54/222 (2000); *Protection of the global climate for present and future generations of mankind*, GA Res. 56/199, UN GAOR, UN Doc A/RES/56/199 (2002); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 57/257, UN GAOR, UN Doc A/RES/57/257 (2003); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 63/656, UN GAOR, UN Doc A/RES/58/656 (2004); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 58/243, UN GAOR, UN Doc A/RES/58/243 (2004); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 59/234, UN GAOR, UN Doc A/RES/59/234 (2005); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 60/197, UN GAOR, UN Doc A/RES/60/197 (2006); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 61/201, UN GAOR, UN Doc A/RES/61/201 (2007); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 62/86, UN GAOR, UN Doc A/RES/62/86 (2008); *Protection of the Global Climate for Present and Future Generations of Mankind*, GA Res. 63/32, UN GAOR, UN Doc A/RES/63/32 (2009).

with current needs and concerns. In the Declaration of Brasilia,⁶⁹³ for example, Latin American and Caribbean countries recognized “the imperative need to strike a balance between socioeconomic development and environmental protection and conservation” and emphasize “the indissoluble relationship that exists between environmental affairs and socioeconomic development and about the obligation to ensure the rational exploitation of resources for the benefit of present and future generations.”⁶⁹⁴ South American countries that joined the Amazon Declaration⁶⁹⁵ reiterated that their Amazon heritage must be preserved through the rational use of the resources of the region, so that present and future generations may benefit from this legacy of nature.”⁶⁹⁶ Small-island Developing States parties to the Youande Declaration⁶⁹⁷ expressed that they were “(d)etermined to ensure the long-term conservation and sustainable use, in particular for human food consumption, of highly migratory fish stocks in the western and central Pacific Ocean for present and future generations.”⁶⁹⁸ These are qualitatively different from soft law instruments by Northern countries such as the Arctic Protection Strategy⁶⁹⁹ designed “to guide development in a way that will safeguard the Arctic environment for future generations and in a manner that is compatible with nature.”⁷⁰⁰

⁶⁹³ *Latin American and Caribbean Summit Declaration of Brasilia on the Environment*, 31 March 1989, (1999) 28 I.L.M. 1311.

⁶⁹⁴ *Ibid.* at para. 1.

⁶⁹⁵ *The Amazon Declaration*. Manaus, 06 May 1989, 28 I.L.M. 1303.

⁶⁹⁶ *Ibid.* at para. 2.

⁶⁹⁷ *Summit of the Central African Heads of State on the Conservation and Sustainable Management of Tropical Forests: The Yaounde Declaration*. Yaounde, 17 March 1999, (1999) 38 I.L.M. 738.

⁶⁹⁸ *Ibid.*, Preamble 1.

⁶⁹⁹ *Arctic Environmental Protection Strategy*, 14 June 1991, (1991) 30 I.L.M. 1624.

⁷⁰⁰ *Ibid.* at 1629.

Meanwhile, international case law has not referred to intergenerational equity as a decisive principle, although as pointed out by Weiss⁷⁰¹ and Maggio⁷⁰² it has appeared as *obiter dicta* in the dissenting opinions of Judge Weeramantry in the cases of *Maritime Delimitation in the Area between Greenland and Jan Mayen (Denmark v. Norway)*,⁷⁰³ *Nuclear Tests (New Zealand v. France)*,⁷⁰⁴ and *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons (Nuclear Weapons Advisory Opinion)*.⁷⁰⁵ In each case, he argued for the International Court of Justice to apply the principle in the resolution of issues; unfortunately, the Court chose to resolve the cases on other grounds. This did not deter Judge Weeramantry from claiming, though, that:

(T)he rights of future generations have passed the stage when they were merely an embryonic right struggling for recognition. They have woven themselves into international law through major treaties, through juristic opinion and through general principles of law recognized by civilized nations.⁷⁰⁶

Despite their status as *dicta*, opinions such as those of Judge Weeramantry offer alternative interpretations that could contribute to the progressive development of international law on controversial issues.⁷⁰⁷ Given the number of times it both hard and soft law have invoked intergenerational equity, there is little cause to doubt that States believe themselves obligated to take some action “for the benefit of present and future

⁷⁰¹ Edith Brown Weiss, "A Reply to Barresi's "Beyond Fairness to Future Generations"" (1997) 11 Tul. Env'tl. L. J. 89 at 93-97.

⁷⁰² Maggio, *supra* Note 465 at 189-92.

⁷⁰³ *Case Concerning the Maritime Delimitation in the Area Between Greenland and Jan Mayen (Denmark V Norway)* [1993] ICJ Reports 38.

⁷⁰⁴ *Request for Examination of the Situation in Accordance With Paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests (New Zealand V France) Case* [1995] ICJ Reports 288.

⁷⁰⁵ *Advisory Opinion on the Legality of the Threat Or Use of Nuclear Weapons*, [1996] ICJ Reports 809.

⁷⁰⁶ *Ibid.*, at 888; also cited in Maggio, *supra* Note 465 at 190.

⁷⁰⁷ Maggio, *ibid.* at 191, citing H. Lauterpacht, *The Development of International Law by the International Court* (Cambridge: Cambridge University Press, 1996).

generations.” So far this action has mainly taken the form of negotiating and entering into environmental treaties, the notable exception being the case of the European agreements on public participation, which present democratic environmental decision-making as a means of further discharging the responsibility.⁷⁰⁸

Regardless, it is clear that the ICJ has yet to deal squarely with the *intra*-generational equity. Unless concerned with a transboundary environmental dispute between border communities, issues of justice between social forces and groups are likely to be issues of national concern and jurisdiction that will not easily be put before international arbitration.

3.4.3.3 Intra-generational Equity

3.4.3.3.1 *Development of Treaty Law*

Though few in number, environmental treaty provisions that specifically deal with intra-generational equity, i.e. identifying and affect relations between specific social sectors, may at least be a little more substantial than inter-generational equity texts. Sands notes that as early as 1892, in the Bering Sea Fur Seal Arbitration,⁷⁰⁹ consideration of the impact of indiscriminate exploitation and lack of regulatory measures on marginalized aboriginal peoples in Alaska played a role in the development of a multi-lateral treaty regime governing access to and utilization of fur seal fisheries.⁷¹⁰ But this seems to be an oddity in a sea of other international agreements which do not often go beyond State-to-State relationships. Relative to the corpus of international environmental agreements worldwide, distributive provisions are indeed rare and of more recent vintage,⁷¹¹ whether in hard or soft law.

⁷⁰⁸ See next section.

⁷⁰⁹ Sands, *supra* Note 447 at 253; also Maggio, *supra* Note 465 at 195-96.

⁷¹⁰ Maggio, *ibid.* at 196-98.

⁷¹¹ Maggio points to European colonial policies that also theoretically recognized the rights of colonial peoples, though at the same time disenfranchised and abrogated the rights of native local communities, as further indication of early forms of intra-

Compared with inter-generational justice, intra-generational justice provisions took a longer time to penetrate international lawmaking. To a certain extent, the 1973 Agreement on Conservation of Polar Bears⁷¹² incorporates intra-generational equity insofar as it acknowledges the right of local peoples using traditional means of taking polar bears as against the duty of the States Parties to conserve and protect them.⁷¹³ Later, the preamble of the 1978 Treaty for Amazonian Cooperation spoke of the need “to permit an equitable distribution” of the development of the Amazon region in order to raise the people’s standard of living while maintaining a balance between economic growth and conservation of the environment.⁷¹⁴ Ten years later the cooperating parties would reiterate this especially on behalf of the indigenous populations of the Amazon region.⁷¹⁵

At its opening for signature, the 1982 United Nations Convention on the Law of the Sea stood apart from its predecessors in aspiring for a globally equitable distribution of the

generational equity norms. Maggio, *supra* Note 465 at 198-200. This merits further thought however, since at first glance the legal aspects of colonialism and colonial relations do not seem fairly comparable to the present-day legal relations between sovereign states. The fact that such policies had the reverse effect on the subject natives seem to make them better examples of Trojan legal regimes rather than progenitors of equity principles in law.

⁷¹² *Agreement on the Conservation of Polar Bears*, 23 April 1969, (1974) 13 I.L.M. 13 (entered into force 26 May 1978).

⁷¹³ *Ibid.*, art. 3.

⁷¹⁴ *Treaty for Amazonian Cooperation*, 03 June 1978, (1978) 17 I.L.M. 1045 (entered into force 03 August 1980); also noted in Maggio, *supra* Note 465 at 208-09.

⁷¹⁵ *The Amazon Declaration*, Paragraph 3: “We express our support for the recently created Amazonia Special Environmental Commission and the Amazonia Special Commission on Indigenous Affairs, aimed at fostering development, conserving the natural resources, the environment and the respective Amazonian populations, and we reiterate our full respect for the right of indigenous populations of the Amazonian region to have adopted all measures aimed at maintaining and preserving the integrity of these human groups, their cultures and their ecological habitats, subject to the exercise of that right which is inherent in the sovereignty of each State. Furthermore, we reiterate our support for actions aimed at strengthening the institutional structure of the Treaty for Amazonian Cooperation, in accordance with the Declaration of San Francisco de Quito.”

benefits of the world's oceans. This is indicated in its objective of contributing to "the realization of a just and equitable international economic order which takes into account the interests and needs of mankind as a whole and, in particular, the special interests and needs of developing countries, whether coastal or land-locked."⁷¹⁶ Apart from seeking an innovative distribution of ocean resources and jurisdictions, the LOSC also demonstrated an early form of the principle of the common but differentiated responsibilities by paying special attention to the differences in economic situations and technical capacities between States. Numerous provisions of the LOSC encouraged States Parties to consider the conditions or special requirements of developing States,⁷¹⁷ and recognized certain rights in favor of 'land-locked' and 'geographically-disadvantaged' States.⁷¹⁸ Unfortunately, the LOSC's most innovative provisions that were intended to effect an equitable distribution of deep seabed mining resources and technologies between industrialized and developing States were later lost under the 1994 Agreement to Implement Part XI of the LOSC. These provisions included the original intention to obligate industrialized countries to share and transfer seabed mining technologies to

⁷¹⁶ LOSC, Preamble 6.

⁷¹⁷ For example, LOSC, art 61.3 (measures to produce Maximum Sustainable Yield in the EEZ); 61.2 (grant of access to the EEZ); 82.3 and 82.4 (payments and contributions with respect to exploitation or resources in the continental shelf beyond 200M); 119.1[a] (conservation of living resources of the high seas); 202 (scientific and technical assistance in the protection and preservation of the marine environment and prevention, reduction, and control of marine pollution); 203 (preferential treatment by international organizations in prevention, reduction, control of marine pollution); 207 (measures to control pollution from land-based sources); 244 (flow of scientific data and information and transfer of knowledge from marine scientific research); 266 (development and transfer of marine science and technology); 268 (capacity building in marine scientific research); 271-72 (transfer of marine technology and programs); and 276 (establishment of regional centers for marine scientific research).

⁷¹⁸ LOSC, art. 69 (right to surplus of the EEZ); 124-32 (right of access to and from the sea and freedom of transit); and 254 (right to be notified of and participate in marine scientific research).

developing countries to enable them to also explore and exploit seabed resources,⁷¹⁹ and the establishment of an international fund through which developing countries could receive royalties from seabed mining activities.⁷²⁰ Nonetheless, it is clear that the framers meant the LOSC to address primarily intra-generational equity at the inter-State level,⁷²¹ and it was the first global environmental agreement to do so.

In subsequent global environmental conventions, this balancing of scales between industrialized and developing States recurs to address the disparity in social and economic conditions and respective financial, human, and technical resources and capacities. In other fields of international law such intellectual property and trade, these may be found in provisions dealing with capacity-building, financial assistance, or technology transfer that acknowledge differences in socio-economic status among States Parties and seek to level the playing field between them.

The greater attention to issues of social equity between States are particularly prominent in the 1992 UN Framework Convention on Climate Change and the 1992 Convention on Biological Diversity⁷²² and their related protocols which all provide for capacity-building, technology transfer, and financial assistance between the developed and developing country States-Parties. Aside from directing the issue of equity expressly, the UNFCCC gives prominence to the principle of common but differentiated

⁷¹⁹ LOSC, art. 144.

⁷²⁰ LOSC, art. 82. Maggio notes that with the effective amendment of Part XI of the LOSC, only wealthy and industrialized States will benefit from deep seabed mining. Maggio, *supra* Note 465 at 210.

⁷²¹ However, the LOSC does also contain some provisions addressed to equity at the local level. These include art. 61 (conservation of living resources of the EEZ must also take account of the economic needs of coastal fishing communities), 69.2[b], 69.4, 70.3[a], and 70.5 (need to avoid detriment to fishing communities when allocating EEZ surplus to land-locked and geographically disadvantaged States).

⁷²² *Convention on Biological Diversity*, 05 June 1992, (1992) 31 I.L.M. 818 (entered into force 29 December 1993). [CBD]

responsibilities. This is highlighted especially in its declaration of principles, the first two of which state:

1. The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.
2. The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.⁷²³

The differential treatment between States Parties embedded in these provisions are fundamentally measures for equitable, rather than merely equal, treatment. These are consistent with a basic axiom of justice, most often invoked in relation to the principle of equal protection of law, that similar classes should be treated similarly and different classes should be treated differently.

The preambular clauses of the UNFCCC particularly shed light on upon how cooperation on climate change between States may be undertaken in a way that is “in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions.”⁷²⁴ At the outset, it recognizes that the developed countries have historically emitted the greater share in global emissions of GHG, compared to the relatively low emissions of developing countries, and thus due consideration should be given to their relative contributions to the problem.⁷²⁵ It acknowledges that the emissions of developing countries will continue to grow to meet their own social and development needs,⁷²⁶ and recognizes that the enactment of

⁷²³ UN FCCC, art. 3.1 and 3.2.

⁷²⁴ *Ibid.*, Preamble 6.

⁷²⁵ *Ibid.*, Preamble 3 and 17.

⁷²⁶ *Ibid.*, Preamble 3.

implementing measures “should reflect the environmental and developmental context to which they apply.”⁷²⁷ It notes that States’ different situations (particularly developing countries) may result in some environmental standards may be “inappropriate and of unwarranted economic and social cost.”⁷²⁸ It also identifies especially vulnerable States,⁷²⁹ and acknowledges that the limitation of greenhouse gas emissions pose “special difficulties” to them.⁷³⁰ The UNFCCC finally accepts that responses to climate change should avoid adverse impacts on social and economic development and “take into full account the legitimate priority needs of developing countries for the achievement of sustainable economic growth and the eradication of poverty.”⁷³¹ This foundation leads to treaty articles that more overtly bring the differences between States to the surface.

The CBD includes a number of provisions addressed to promoting intra-generational equity at the local levels within States. One of these provisions refer specifically to respecting and preserving the traditional ecological knowledge embedded in the cultures of indigenous and local communities, and encourages “the equitable sharing of benefits arising from the utilization of such knowledge, innovations, and practice.”⁷³² States Parties are also obliged to take measures to promote access to the results and benefits

⁷²⁷ *Ibid.*, Preamble 10.

⁷²⁸ *Ibid.*

⁷²⁹ These vulnerable States are described as “low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems,” (UN FCCC, Preamble 18 and art. 4.8(a) to 4.8(c), 4.8(e), and 4.8(g)), “countries with areas prone to natural disasters, or areas of high urban atmospheric pollution, and land-locked and transit countries” (*Ibid.*, art. 4.8(d), 4(8) ss. f, and 4(8) ss. i); as well as “developing countries, whose economies are particularly dependent on fossil fuel production, use and exportation.” (*Ibid.*, Preamble 19 and art. 4.8(h)); Note that while the vulnerability of the first two groups enumerated above are seen in terms of environmental impacts or conditions, the vulnerability of the last class of States is with respect to economic effects.

⁷³⁰ UN FCCC, Preamble 19.

⁷³¹ *Ibid.*, Preamble 20.

⁷³² CBD, art. 8.j.

arising from biotechnologies “on a fair and equitable basis,”⁷³³ which imply some leeway in establishing distributive mechanisms that convey biotechnology benefits to distinct social groups, including the marginalized and disadvantaged. The CBD also recognizes that implementation by developing country State Parties “will take fully into account the fact that economic and social development and eradication of poverty are the first and overriding priorities,”⁷³⁴ which could involve the integration of poverty alleviation concerns in biodiversity management.⁷³⁵

The trend to give due regard to inter-State social equity continued with the 1997 Convention on the Law on Non-navigational Uses of International Watercourses,⁷³⁶ which speaks of “equitable and reasonable utilization” among State parties, taking into account the social and economic needs of the watercourse States concerned, the population dependent on the watercourse in each watercourse State.⁷³⁷

The 1999 Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes⁷³⁸ focuses more specifically on the marginalization of social groups. It expressly takes account of “the consequences for public health of shortfalls of water in the quantities, and of the quality, sufficient to meet basic human needs, and of the serious effects of such shortfalls, in particular on the

⁷³³ CBD, art. 19.2.

⁷³⁴ CBD, art. 20.4.

⁷³⁵ Maggio however notes that the CBD cannot adequately protect the claims and interests of indigenous and local communities, since it does not provide mechanisms (directly or through the host government) to ensure for them a share in the profits and other benefits of their biodiversity resources through legal sanctions and obligations. Neither does it include a means of compensating local communities for biodiversity resources taken from their area. Maggio, *supra* Note 465 at 212-14.

⁷³⁶ *Convention on the Law on Non-Navigational Uses of International Watercourses*, 21 May 1997, 36 I.L.M. 700.

⁷³⁷ *Ibid.* at art. 6(1) ss. b and ss. c.

⁷³⁸ *Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes*, London, 17 June 1999, UN Doc. MP.WAT/AC.1/1999/1. (entered into force: 04 August 2005)

vulnerable, the disadvantaged and the socially excluded.”⁷³⁹ Among the key principles it espouses is the provision of equitable access to adequate water “for all members of the population, especially those who suffer a disadvantage or social exclusion.”⁷⁴⁰ This is the first time that an international environmental agreement refers to the “socially excluded,” which though undefined apparently refers to an open-ended category of people within the respective societies of the States Parties. Presumably, each State Party has the discretion to determine who falls within this grouping.

After the 2001 Stockholm Convention on Persistent Organic Pollutants,⁷⁴¹ which expressed concern over the effect of pollution on specifically vulnerable groups such as women and indigenous peoples,⁷⁴² there is a noticeable drop in treaty texts referring to specific social sectors. However, this could be related to a distinct rise in attention toward affording the public, with ample opportunities and rights to participate in government environment decision-making, whatever their group membership.

3.4.3.3.2 *Development of Soft Law*

The relationship between social equity and environmental policy was articulated initially with respect to natural resources in the global commons such as outer space and the seabed. In the 1969 *Declaration on Social Progress and Development*,⁷⁴³ these were referred

⁷³⁹ *Ibid.*, Preamble 5.

⁷⁴⁰ *Ibid.*, art. 5(1)

⁷⁴¹ *Convention on Persistent Organic Pollutants*, 22 May 2001, (2001) 40 I.L.M. 532.

⁷⁴² *Ibid.*, Preamble 2 and 3:

Aware of the health concerns, especially in developing countries, resulting from local exposure to persistent organic pollutants, in particular impacts upon women and, through them, upon future generations,

Acknowledging that the Arctic ecosystems and indigenous communities are particularly at risk because of the biomagnification of persistent organic pollutants and that contamination of their traditional foods is a public health issue,”

⁷⁴³ GA Res. 24/2542, UN GAOR, UN Doc A/RES/24/2542 (1969).

to simply as matters of “common” concern or interest⁷⁴⁴ that implied a need for equal access and distribution of their benefits among all States. The reluctance to deal specifically with environment and resources that were not part of these commons were likely because these came at a time when the world community was still dealing with standing issues of decolonization. In particular, the UN General Assembly had just spent considerable time and effort to ensure the clear recognition of all States’ permanent sovereignty over natural resources within their jurisdiction.⁷⁴⁵ The developing countries’

⁷⁴⁴ *Ibid.*, art. 9 states:

Social progress and development are the common concerns of the international community, which shall supplement, by concerted international action, national efforts to raise the living standards of peoples.

Social progress and economic growth require recognition of the common interest of all nations in the exploration, conservation, use and exploitation, exclusively for peaceful purposes and in the interests of all mankind, of those areas of the environment such as outer space and the sea-bed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, in accordance with the purposes and principles of the Charter of the United Nations.

⁷⁴⁵ As late as 1952, the issue of interference with State sovereignty over natural resources, particularly those of developing countries and newly-independent States or dependent territories working toward independence, was still serious enough to warrant the attention of the General Assembly. *Right to Exploit Freely Natural Wealth and Resources*, GA Res. 626 (VII), UN GAOR, UN Doc Res. No. 626 (VII) (1952); see also *Recommendations Concerning International Respect for the Right of Peoples and Nations to Self-Determination*, GA Res. 1314 (XIII), UN GAOR, UN Doc Res. No. 1314 (XIII) (1958). It took another 10 years for the UN to declare a set of principles governing the exercise (or respect therefor) of sovereignty over natural resources, especially in order to advance the sovereignty of former colonies. *Permanent Sovereignty Over Natural Resources*, GA Res. 1803 (XVII), UN GAOR, UN Doc Res. No. 1803 (XVII) (1962). A successive series of reaffirmations and assurances was necessary for the developing countries and former colonies to fully realize this right, which extended well into the 1970s (See *Permanent Sovereignty Over Natural Resources*, GA Res. 2158 (XXI), UN GAOR, UN Doc Res. No. 2158 (XXI) (1966); *Permanent Sovereignty Over Natural Resources of Developing Countries and Expansion of Domestic Sources of Accumulation for Economic Development*, GA Res. 2692 (XXV), UN GAOR, UN Doc Res. No. 2692 (XXI) (1970); *Permanent Sovereignty Over Natural Resources of Developing Countries*, GA Res. 1737 (LIV), UN GAOR, UN Doc Res. No. 1737 (LIV) (1973). This was complicated by the fact that the full realization of the right was impeded by the

reluctance to allow environmental concerns to erode their sovereignty over their own natural resources were highlighted in a resolution⁷⁴⁶ that accompanied the finalization of the Stockholm Conference agenda.⁷⁴⁷ Developing countries were very careful to ensure that the environmental initiative would not undermine their hard-won control.⁷⁴⁸ Even

dominance of foreign investors, transnational corporations, and economic interest groups not working directly through (but supported by) their home-States (See *Activities of Foreign Economic and Other Interests Which Are Impeding the Implementation of the Declaration on Granting of Independence to Colonial Countries and Peoples in Southern Rhodesia, South West Africa and Territories* , GA Res. 2258 (XXII), UN GAOR, UN Doc Res. No. 2258 (XXII) (1967); *Activities of Foreign Economic and Other Interests Which Are Impeding the Implementation of the Declaration on the Granting of Independence to Colonial Countries and Peoples in Southern Rhodesia, Namibia and Territories under Portuguese domination and in all other Territories under colonial domination and efforts to eliminate colonialism, apartheid and racial discrimination in southern Africa* , GA Res. 2979 (XXVII), UN GAOR, UN Doc Res. No. 2979 (XXVII) (1972).

⁷⁴⁶ *Development and Environment*, GA Res. 2849 (XXVI), UN GAOR, UN Doc Res. No. 2849 (XXVI) (1971).

⁷⁴⁷ *United Nations Conference on the Human Environment*, GA Res. 2850 (XXVI), UN GAOR, UN Doc Res. No. 2850 (XXVI) (1971).

⁷⁴⁸ GA Res. 2849 (XXVI), para. 4 particularly specified that the Stockholm Conference must:

- a) Respect fully the exercise of permanent sovereignty over natural resources, as well as the right of each country to exploit its own resources in accordance with its own priorities and needs and in such a manner as to avoid producing harmful effects on other countries;
- b) Recognize that no environmental policy should adversely affect the present or future development possibilities of the developing countries;
- c) Recognize further that the burden of the environmental policies of the developed countries cannot be transferred, directly or indirectly, to the developing countries;
- d) Respect fully the sovereign right of each country to plan its own economy, to define its own priorities, to determine its own environmental standards and criteria, to evaluate its own social costs of production, and to formulate its own environmental policies, in the full understanding that environmental action must be defined basically at the national level, in accordance with locally prevailing conditions and in such a manner as to avoid producing harmful effects on other countries; and

after the conclusion of the Stockholm Conference, the threat of losing control over natural resources seemed substantial enough to warrant repetition in successive General Assembly resolutions.⁷⁴⁹ It may be for this reason that in the Stockholm Declaration, the international community formally, though imprecisely, articulated a connection between social justice and environmental policy. Principle 1 states:

-
- e) Avoid any adverse effects of environmental policies and measures on the economy of the developing countries in all spheres, including international trade, international development assistance and the transfer of technology.

⁷⁴⁹ Take for example, the emphatic declaration in *Permanent Sovereignty Over Natural Resources of Developing Countries*, GA Res. 3016 (XXVII), UN GAOR, UN GA Res. 3016 (XXVII) (1972), paras. 1-3:

1. (The General Assembly...) Reaffirms the right of States to permanent sovereignty over all their natural resources, on land within their international boundaries as well as those found in the sea-bed and the subsoil thereof within their national jurisdiction and in the superjacent waters;
2. Further reaffirms its resolution 2625 (XXV) of 24 October 1970, containing the Declaration of Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations, which proclaims that no State may use or encourage the use of economic, political or any other type of measures to coerce another State in order to obtain from it the subordination of the exercise of its sovereign rights and to secure from it advantages of any kind;
3. Declares that actions, measures or legislative regulations by States aimed at coercing, directly or indirectly, other States engaged in the change of their internal structure or in the exercise of their sovereign rights over their natural resources, both on land and in their coastal waters, are in violation of the Charter and of the Declaration contained in resolution 2625 (XXV) and contradict the targets, objectives and policy measures of the International Development Strategy for the Second United Nations Development Decade.

The principles were reiterated the following year in *Permanent Sovereignty Over Natural Resources*, GA Res. 3171 (XXVIII), UN GAOR, UN GA Res. 3171 (XXVIII) (1973), para. 3, which also added a justification for the nationalization “as an expression of their sovereignty in order to safeguard their natural resources.” Notably, it also “deplore(d) acts of States which use force, armed aggression, economic coercion or any other illegal or improper means in resolving disputes concerning the exercise of (its) sovereign rights.” *Ibid.* at para. 4.

Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations. In this respect, policies promoting or perpetuating apartheid, racial segregation, discrimination, colonial and other forms of oppression and foreign domination stand condemned and must be eliminated. (emphasis provided)

The second sentence is, in all respects, a plea for the establishment of social justice against various forms of oppression and domination. It impliedly recognizes that social justice is a necessary condition to enable Man to enjoy *all* his fundamental rights and a decent life, including that to a correspondingly supportive quality of environment. Social justice is also required to discharge the responsibility for environmental protection and enhancement. In this light, therefore, there can be no true ‘environmentalism’ without social justice: one cannot truly protect Nature without protecting the rights and autonomy of any persons who may depend upon it for survival.⁷⁵⁰

Two decades after Stockholm, the Rio Conference marked a ‘re-opening of the gates’ for a closer consideration of the need to address social equity issues conjointly with environmental problems. The main instruments intended to implement the recommendations of the Rio Declaration called for international attention to intra-generational justice in the context of the environment or its resources.

⁷⁵⁰ It is, of course, possible to imagine the opposing argument to this proposition. Historical experience with the national park as a conservation tool would certainly prove that excluding people completely from an ecologically sensitive area through the national park is an effective measure that tends to conserve and preserve a threatened natural area. But it should be noted at its core this technique is no different from, say, a military reservation and gunnery range to keep people safe from peacetime military operations. Coercion and the threat of sanctions are what keep people out; once the coercion or threat is gone, people would have no reason to not go into the park area.

The 1992 UNCED Agenda 21 is the international community's blueprint and action plan for "a global partnership for sustainable development."⁷⁵¹ While this implementation instrument is not normative in nature, at the very least, it is evidence of reasoning that could some day be the basis of more concrete and specific norms. It may still frame issues and problems in ways that point to principled solutions, thus pointing to the development of appropriate norms in the future. Agenda 21's chapters on "combating poverty"⁷⁵² and "changing consumption patterns"⁷⁵³ argue that environmental problems are substantive issues of global social justice, not mere individual managerial problems of productive efficiency or regulatory compliance within States. They acknowledge that resource conservation and protection must take due account of people who directly depend on such resources for livelihood, while development should not focus exclusively on expanding economic growth without regard for resource limits.⁷⁵⁴ Otherwise, these efforts will further aggravate poverty.⁷⁵⁵

While poverty and environmental degradation are linked together, the unsustainable pattern of consumption and production, particularly in industrialized countries, is seen as the major cause of environmental degradation.⁷⁵⁶ Integral to this unsustainable pattern are the greatly unbalanced levels of consumption between different parts of the world, and between different segments of societies.⁷⁵⁷ This creates excessive and unsustainable lifestyles in favor of the rich that stress the environment and resources while the poor are unable to meet even their basic needs.⁷⁵⁸

⁷⁵¹ Agenda 21, para. 1.1 and 2.1.

⁷⁵² *Ibid.*, Chapter 3.

⁷⁵³ *Ibid.*, Chapter 4.

⁷⁵⁴ *Ibid.*, para. 3.2.

⁷⁵⁵ *Ibid.*, para. 3.2.

⁷⁵⁶ *Ibid.*, para. 4.3.

⁷⁵⁷ *Ibid.*, para. 4.5.

⁷⁵⁸ *Ibid.*, para. 4.5.

Eight years later through the 2000 *United Nations Millennium Declaration* and the UN MDG,⁷⁵⁹ the international community offered a concise statement of specific values and principles that promote social justice on a global level, including particularly those with respect to the environment. It identifies six “fundamental values” to govern international relations in the new millennium: freedom, equality, solidarity, tolerance, respect for nature, and shared responsibility.⁷⁶⁰ Of these values, two are directly relevant to defining the interface between social justice and the environment. The first is ‘solidarity’ which advocates the fair distribution, “in accordance with the principles of equity and social justice,” of the costs and burdens of managing global challenges.⁷⁶¹ It expresses a variation of the Rawlsian difference principle by declaring that “(t)hose who suffer or who benefit least deserve help from those who benefit most.”⁷⁶² The second is “respect for nature” which calls for the prudent management of all living species and natural resources “in accordance with the precepts of sustainable development” in order to enable the preservation and passing on of nature’s riches to future generations.⁷⁶³ It particularly highlights that “(t)he current unsustainable patterns of production and consumption must be changed in the interest of our future welfare and that of our descendants.”⁷⁶⁴ The MDG also reaffirms the international community’s support for the principles of sustainable development and Agenda 21.⁷⁶⁵

The 2002 Johannesburg Plan of Implementation reflects these lines of reasoning by devoting significant chapters to poverty reduction and protecting and managing the

⁷⁵⁹ *United Nations Millennium Declaration*. GA Res. 55/2, UN GAOR, UN Doc A/RES/55/2 (2000).

⁷⁶⁰ *Ibid.*, para. 6.

⁷⁶¹ *Ibid.*

⁷⁶² *Ibid.*

⁷⁶³ *Ibid.*

⁷⁶⁴ *Ibid.*

⁷⁶⁵ *Ibid.*

resource base of economic and social development.⁷⁶⁶ It reiterated the centrality of social justice by describing the essential objectives and requirements of sustainable development to be “poverty eradication, changing unsustainable patterns of production and consumption, and managing the natural resource base of economic and social development.”⁷⁶⁷

As with inter-generational equity, international case law has been somewhat muted on intra-generational equity, although the ICJ has had occasion to touch upon (if not squarely address) the issue. Maggio argues that in the *Gulf of Maine* case,⁷⁶⁸ the Court “squarely addressed” intra-generational equity by considering the livelihood of dependent fishing communities in its resolution of the maritime boundary dispute between the US and Canada.⁷⁶⁹ But he also observed that the Court refused to consider intra-generational equity issues in the *Case Concerning the Land, Island, and Maritime Frontier Dispute (El Salvador v. Honduras, Nicaragua intervening)* when it refused the parties’ arguments for the Court to consider “demographic pressures” and “crucial human necessity” as a factor in the resolution of the boundary dispute.⁷⁷⁰

More recently, in the *Dispute Regarding Navigational and Related Rights (Costa Rica v. Nicaragua)*, the Court did consider an issue of intra-generational equity when it recognized that Costa Rica had a customary right with respect to subsistence fishing by its inhabitants on the banks of the San Juan river that formed its boundary with Nicaragua, a right entitled to respect by the latter.⁷⁷¹ The recognition of a customary right

⁷⁶⁶ *Plan of Implementation of the World Summit on Sustainable Development*..

⁷⁶⁷ *Ibid.*, para. 2.

⁷⁶⁸ *Delimitation of the Maritime Boundary in the Gulf of Maine Area (Canada V. United States)*, [1984] ICJ Reports 246.

⁷⁶⁹ Maggio, *supra* Note 465 at 218.

⁷⁷⁰ *Ibid.* at 219.

⁷⁷¹ *Case Concerning the Dispute Regarding Navigational and Related Rights (Costa Rica V. Nicaragua)*, Judgment of 13 July 2009 (online: International Court of Justice

in favor of the riparian inhabitants for subsistence purposes (clearly non-State entities) implies that indeed social group rights vis-à-vis States may be recognized as a matter of international law. But in the most recent *Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, the Court expressed the view that even though there exists in international law a requirement for States to conduct EIA especially for proposed industrial activity that could have adverse transboundary impact or impair shared transboundary resources,⁷⁷² such obligation does extend to a requirement to consult affected populations as part of EIA processes.⁷⁷³

It would seem therefore, that international case has yet to deal squarely and expressly with the issue of intra-generational equity. There may be an opportunity in the near future, though. In the case of *Aerial Herbicide Spraying (Ecuador v. Columbia)* initiated on 21 March 2008, the Government of Ecuador sought relief against Columbia's herbicide spraying activities along their common border, which was part of the latter's anti-drug production and trafficking campaign. In its Application, Ecuador clearly identified specific communities and social groups (indigenous peoples, border communities) on whose behalf the suit was brought.⁷⁷⁴ It may be possible to construct legal arguments of intra-generational justice in a transboundary context around the situation in the Ecuador-Columbia border, given that the act complained of clearly has adverse environmental effects. At the time of this writing, however, the case had not yet reached the stage at which States Parties are to submit their respective memorials.

< <http://www.icj-cij.org/docket/files/133/15321.pdf>> Date accessed: 07 July 2010.), para. 140-44.

⁷⁷² *Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Judgment of 20 April 2010, (online: International Court of Justice < <http://www.icj-cij.org/docket/files/135/15877.pdf>> Date accessed: 07 July 2010), para. 204.

⁷⁷³ *Ibid.*, para. 215-16.

⁷⁷⁴ *Letter From the Ambassador of Ecuador (Appointed) to the Kingdom of the Netherlands to the Registrar of the International Court of Justice, dated 31 March 2008*, online: International Court of Justice <<http://www.icj-cij.org/docket/files/138/14474.pdf>> Date accessed: 07 July 2010, at paras. 18, 35-36.

3.2.2 Social Justice in Decision-making

Apart from distributive norms, the other noticeable trend in treaty provisions related to social justice are those that concern the environmental decision-making processes of States, especially in the last 20 years. The 1990s onward evince a far greater regard to democratizing decision-making procedures described in international environmental agreements. These provisions pay special attention to promoting mechanisms of public participation in environmental decision-making.

One of the earliest of these agreements is the 1991 *Espoo Convention on Environmental Impact Assessment in a Transboundary Context*.⁷⁷⁵ It obligates the States Parties mutually and reciprocally to provide each other's citizens the opportunity to participate in environmental impact assessment processes on certain activities that affect them from across national borders.⁷⁷⁶ The 1992 *Convention on the Transboundary Effects of Industrial Accidents* quickly followed.⁷⁷⁷ It seeks to ensure that any public that could be affected by industrial accidents arising from hazardous activities would have adequate information on the risk, enough opportunities to know accident prevention and preparedness measures, and reciprocal access to/treatment in the relevant administrative and judicial processes of the State Parties.⁷⁷⁸

Also in the following year, the 1992 *Convention for the Protection of the Marine Environment in the North-East Atlantic*⁷⁷⁹ incorporated provisions for greater public participation. It guaranteed the public of access to any available information on the maritime area of the convention, including all activities or measures that affect or are

⁷⁷⁵ *Convention on Environmental Impact Assessment in a Transboundary Context*, 25 February 1991, 30 I.L.M. 800 (entered into force 10 September 1997).

⁷⁷⁶ *Ibid.*, art. 2(6).

⁷⁷⁷ *Convention on the Transboundary Effects of Industrial Accidents*, 17 March 1992, 31 I.L.M. 1330 (entered into force 19 April 2000).

⁷⁷⁸ *Ibid.*, art. 9(1) to 9(3).

⁷⁷⁹ *Convention for the Protection of the Marine Environment in the North-East Atlantic*. Paris, 22 September 1992, 32 I.L.M. 1069 (entered into force 25 March 1998).

likely to affect it.⁷⁸⁰ This did not affect right of the States to refuse such information for the reasonable purposes of confidentiality, public security, protection of commercial & industrial property and intellectual property rights, privacy of personal data or files, and matters *sub-judice*,⁷⁸¹ though the reason for refusal must be given.⁷⁸²

The 1994 Desertification Convention⁷⁸³ also reflected the early trend in the above European conventions, and particularly highlighted the linkage between desertification and drought and sustainable development.⁷⁸⁴ In addition, this agreement also called special attention to the important role of women and NGOs in efforts to address desertification and drought.⁷⁸⁵ Its governing principles include the statement that the States Parties should ensure that decisions and programmes are taken with the participation of the population and local communities as a requisite for action.⁷⁸⁶ The parties are also obliged to pay special attention to the socio-economic needs affected by desertification, and promote the awareness and participation of local populations, specially women, youth, and non-government organizations in mitigating the effects of desertification and drought.⁷⁸⁷ Local capacity-building for this purpose is also considered essential,⁷⁸⁸ emphasizing the importance of local communities in addressing environmental problems.

⁷⁸⁰ *Ibid.*, art. 9(1) to 9(2).

⁷⁸¹ *Ibid.*, art. 9(3).

⁷⁸² *Ibid.*, art. 9(4).

⁷⁸³ *United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought And/or Desertification, Particularly in Africa*. Paris, 17 June 1994, 33 I.L.M. 1328 (entered into force 26 December 1996).

⁷⁸⁴ *Ibid.*, Preamble 9.

⁷⁸⁵ *Ibid.*, Preamble 20 and 21.

⁷⁸⁶ *Ibid.*, art. 3.

⁷⁸⁷ *Ibid.*, art. 5(c) , 5(d), 9(1), 10(3) ss. d, and 19(3).

⁷⁸⁸ *Ibid.*, art. 19.

In contrast to this direct community-action approach, the 1993 *North American Agreement on Environmental Cooperation*⁷⁸⁹ places emphasis on administrative and judicial remedies. Although it emphasizes the importance of public participation in environmental conservation and protection,⁷⁹⁰ such public participation is envisioned primarily in terms of taking part in the administrative decision-making process for projects or activities that may affect the environment.⁷⁹¹ This is possible only through adequate public information⁷⁹² and access to judicial, quasi-judicial, and administrative enforcements remedies.⁷⁹³ There is particular attention given to ensuring availability of suit, damages, penalties, injunctions, closures, and similar enforcement measures,⁷⁹⁴ under similar conditions of procedural guarantees (e.g. due process rights) in the legal process.⁷⁹⁵

Possibly the greatest stride in opening up environmental decision-making to social justice is the 1998 *Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice*,⁷⁹⁶ which stands out as a clear attempt to pursue the concept of intergenerational equity through the three mechanisms of its namesake:

In order to contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being, each Party shall guarantee the rights of access to information, public participation in decision-making, and access to

⁷⁸⁹ *North American Agreement on Environmental Cooperation*. Washington DC, Ottawa, Mexico City, 14 September 1993, 32 I.L.M. 1480 (entered into force 01 January 1994).

⁷⁹⁰ *Ibid.*, Preamble 6.

⁷⁹¹ *Ibid.*, art. 1.h.

⁷⁹² *Ibid.*, art. 2.1.a.

⁷⁹³ *Ibid.*, art. 9.2 and 10.

⁷⁹⁴ *Ibid.*, art. 10.3.

⁷⁹⁵ *Ibid.*, art. 11.

⁷⁹⁶ *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters*. Aarhus, 25 June 1998, 38 I.L.M. 517 (entered into force 08 October 2009). [Aarhus Convention].

justice in environmental matters in accordance with the provisions of this Convention. (emphasis added)⁷⁹⁷

The Aarhus Convention, once called “the most ambitious venture in environmental democracy undertaken under the auspices of the United Nations,”⁷⁹⁸ strengthens the role of the public and environmental organizations in environmental governance by recognizing citizens’ rights to information, participation, and justice in environmental matters.⁷⁹⁹ The Convention grants the public greater access to the government environmental information,⁸⁰⁰ the opportunity to express their opinions and concerns and ensure that they are taken due account of,⁸⁰¹ and access to review procedures if their rights to information and participation have been breached.⁸⁰²

The right to be informed is also recognized between States in the 1998 *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade*,⁸⁰³ which provides for a procedural mechanism on the movements of hazardous chemicals and pesticides into or through national borders. Prior informed consent of the State is required before such chemicals are imported into its territory, which obligates the exporting State to provide information thereon.

Subsequent implementation of the CBD introduced opportunities to add other aspects of social justice into the international legal framework. The 2000 *Cartagena Protocol on*

⁷⁹⁷ *Ibid.*, art. 1.

⁷⁹⁸ UN Secretary-General Kofi Annan, quoted in UNECE Secretariat, "Environmental rights not a luxury: Aarhus Convention enters into force (Press release, 29 October 2001)," *United Nations Economic Commission for Europe* online: <<http://www.unece.org/env/pp/press.releases/01env15e.html>> (Date accessed: 15 February 2010).

⁷⁹⁹ *Ibid.*

⁸⁰⁰ Aarhus Convention, art. 4-5.

⁸⁰¹ *Ibid.*, art. 6-8.

⁸⁰² *Ibid.*, art. 9.

⁸⁰³ *Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade*, 11 September 1998, 38 I.L.M. 1 (entered into force 24 February 2004).

*Biosafety to the Convention on Biological Diversity*⁸⁰⁴ mandates the use of procedural and participatory mechanisms that may contribute to social justice in decision-making in relation to the conservation and sustainable use of biological diversity. These include the duty to promote and facilitate public awareness; education, participation, and access to information on living modified organisms, including their safe transfer, handling and use;⁸⁰⁵ and to consult the public in decision-making and inform them of the results of such decisions.⁸⁰⁶ State Parties may also “take into account, consistent with their international obligations, socio-economic considerations arising from the impact of living modified organisms on the conservation and sustainable use of biological diversity, especially with regard to the value of biological diversity to indigenous and local communities,”⁸⁰⁷ and are encouraged to cooperate in research and information exchange to this end.⁸⁰⁸

Later, the 2001 *Stockholm Convention on Persistent Organic Pollutants*⁸⁰⁹ provide for public information, awareness, and education⁸¹⁰ especially for women, children and the least educated.⁸¹¹ Public participation is also required in addressing the health and environmental effects of persistent organic pollutants and developing adequate responses, which adequate opportunity for inputs at national level, access to public information, and updates on developments.⁸¹²

⁸⁰⁴ *Cartagena Protocol on Biosafety to the Convention on Biological Diversity*. Montreal, 29 January 2000, 39 I.L.M. 1027 (entered into force 11 September 2003).

⁸⁰⁵ *Ibid.*, art. 23.1 and 23.3.

⁸⁰⁶ *Ibid.*, art. 23.2.

⁸⁰⁷ *Ibid.*, art. 26.1.

⁸⁰⁸ *Ibid.*, art. 26.2.

⁸⁰⁹ *Convention on Persistent Organic Pollutants*, 22 May 2001, 40 I.L.M. 532.

⁸¹⁰ *Ibid.*, art. 10.

⁸¹¹ *Ibid.*, art. 10.1.b.

⁸¹² *Ibid.*, art. 10.1.d and 10.2.

The trend toward greater non-State participation in international organizations was not evenly reflected in all areas of the world, though. In the 2000 *Western and Central Pacific Fisheries Convention*,⁸¹³ the opportunity is relatively limited, as apart from an assurance of transparency, the Commission retained the option to regulate the same through its rules of procedure instead of treaty guarantees.⁸¹⁴ A little more ambiguous is the 2003 *Convention for the Protection of the Marine Environment of the Caspian Sea*,⁸¹⁵ where the parties commit only to “endeavour to ensure public access” to environmental information on the Caspian Sea and management measures undertaken or planned.⁸¹⁶

The European Community, by far, has made the greatest strides in enhancing public participation through international law, especially as it implements previous agreements. In 2003, two major agreements greatly enhanced public participation in European environmental decisions. The first was the 2003 Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in A Transboundary Context.⁸¹⁷ It reinforced the Espoo Convention’s provision on public participation by providing a more detailed account of the States Parties obligation to allow for adequate opportunities for public participation,⁸¹⁸ and the conduct of transboundary stakeholder consultations.⁸¹⁹ The second was the 2003 Protocol on Pollutant Release and Transfer

⁸¹³ *Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean*, 05 September 2000, 40 I.L.M. 278 (entered into force 19 June 2004).

⁸¹⁴ *Ibid.*, Article 21.

⁸¹⁵ *Convention for the Protection of the Marine Environment of the Caspian Sea*. Teheran, 11 November 2003, 44 I.L.M. 1 (entered into force 12 August 2006)

⁸¹⁶ *Ibid.*, art. 21.2.

⁸¹⁷ *Protocol on Strategic Environmental Assessments to the Convention on Environmental Impact Assessment in a Transboundary Context*, 21 May 2003, (Not yet in force). [2003 SEA Protocol].

⁸¹⁸ *Ibid.*, art. 8.

⁸¹⁹ *Ibid.*, art. 10.

Registers to the Aarhus Convention,⁸²⁰ otherwise known as the “pollutant right-to-know treaty.”⁸²¹ The protocol commits the European Community to establish national registries of polluting substances,⁸²² which provides the public with better access to information about pollutants and the transfer of wastes in their surroundings. It establishes detailed reporting requirements for factories and smaller widespread sources like traffic, agriculture, and small- to medium-scale businesses.⁸²³ The public is provided opportunities to participate in the development of the registers,⁸²⁴ and the State Parties are to ensure that information about and the basis of their decisions affecting the register are timely made available to the public.⁸²⁵

Perhaps taking a cue from the Europeans’ progress, interest in expanding the role of the public in environmental decision-making has made headway in the soft law arena. This time it was done through the implementation of formal treaties by international organizations or in subsequent meetings of States Parties convened for the purpose.⁸²⁶ This happened with the implementation of the CBD, which has undoubtedly had the most direct impact on marginalized indigenous and local communities and challenged the social equity of government decisions. It has become a focal point for debates on the issue of participation in decision-making in view of the obligation to respect traditional ecological knowledge.⁸²⁷ This led the Conference of Parties to adopt the 2004 *Akwé: Kon*

⁸²⁰ *Protocol on Pollutant Release and Transfer Registers*, 21 May 2003 (entered into force 08 October 2009). [Pollutant Registers Protocol]

⁸²¹ UNECE Secretariat, "European Community ratifies pollutant right-to-know treaty (Press release, 3 March 2006)," *United Nations Economic Commission for Europe* online: <<http://www.unece.org/env/pp/press.releases/01env15e.html>> (Date accessed: 15 February 2010).

⁸²² Pollutant Registers Protocol, art. 4-6.

⁸²³ UNECE Secretariat, *supra* note 821; See also Pollutant Registers Protocol, Annex I: Activities and Annex II: Pollutants.

⁸²⁴ Pollutant Registers Protocol, art. 13.1 and 13.2.

⁸²⁵ *Ibid.*, art. 13.3.

⁸²⁶ Sands, *supra* Note 447 at 77.

⁸²⁷ CBD, art. 8.j.

Voluntary Guidelines on the Conduct of Cultural, Environmental, and Social Impact Assessment, designed specifically for “proposed developments on, or which are likely to impact, sacred sites, lands, and waters traditionally occupied or used by indigenous or local communities.”⁸²⁸

These detailed guidelines are intended to provide advice on impact assessment processes, with special attention being paid to full and effective participation in planning; consideration of cultural and social concerns; taking into account of traditional knowledge, innovations and practices; use of appropriate technologies; prevention and mitigation of impacts; and consideration of the interrelationship of cultural, environmental, and social elements.⁸²⁹ They recommend parameters for the conduct and construction of planning and decision-making processes pertaining to biodiversity conservation and protection initiatives. This includes numerous recommendations on specific matters such as notification and public consultation; stakeholder identification; participation mechanisms, including the provision of support to enable participation; recording of views and concerns; establishment of management and monitoring plans; responsibility for liability, redress, and compensation; agreements between the affected communities and project proponents; and appeals and reviews.⁸³⁰ It also describes and recommends distinct processes of “cultural impact assessments”⁸³¹ and “social impact assessments”⁸³² to be part of environmental impact assessment regimes. Advice also extends to the consideration of prior informed consent of affected communities; gender;

⁸²⁸ CBD Secretariat. *Akwé: Kon Voluntary Guidelines for the Conduct of Cultural, Environmental, and Social Impact Assessment regarding Developments proposed to take place on, or which are likely to impact on, Sacred Sites and on Lands and Waters Traditionally Occupied or used by Indigenous and Local Communities*. CBD Guidelines Series. (Montreal: CBD Secretariat, 2004.) at 5. [Akwé: Kon Guidelines] “Akwé: Kon” is pronounced as “agway-goo”, a Mohawk term meaning “everything in creation.” The official title of the document is indeed unusually long.

⁸²⁹ *Ibid.* at 4-5.

⁸³⁰ *Ibid.* at 6-13.

⁸³¹ *Ibid.* at 13-17.

⁸³² *Ibid.* at 17-20.

community development plans; law; ownership protection and control of traditional knowledge and technologies; mitigation and abatement measures; transparency; and review and dispute resolution procedures.⁸³³

On the whole, the Akwé: Kon attempts to provide very detailed procedural guidance to compensate for the existing disadvantages and constraints upon indigenous and local communities often marginalized from decision-making processes. As voluntary guidelines, the Akwé: Kon is a rich and innovative soft law instrument that might someday be a source of international practice and treaty norms.

3.2.3 The Persistence of Social Justice

From the manifestations in treaty and soft law above, provisions related to social justice in treaty law may be broadly categorized as either (a) substantive but more abstract norms encouraging equitable distribution of benefits across different generations, or (b) procedural but more concrete norms obligating the observance of public participation mechanisms for the use of the present generation. Both are facets of the principles of generational equity that most closely reflect the idea of social justice in the specialized terminology of international environmental law.

The repeated invocation of the principle of intergenerational equity in many environmental treaties hints at the idea of distribution, implying a normative aspiration to establish an equitable distribution between present and future generations. Yet, substantiating the aspiration remains rather elusive. This is reflected in legal literature, where relatively less appears to have been written on the practical implications of generational equity expressed in treaties. Apart from some theoretical explorations that tend to be quite abstract explorations in how to accommodate the principle of intergenerational equity within constitutional and legal regimes,⁸³⁴ a number of articles

⁸³³ *Ibid.* at 21-25.

⁸³⁴ See for example Weiss, *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity, Innovation in International Law*,

have revolved around the issue of standing to litigate,⁸³⁵ apparently touched off by the case of *Minors Oposa v. Secretary of Environment and Natural Resources* decided by the Philippine Supreme Court.⁸³⁶

It also appears that emphasis on equitable distribution within the present generation is somewhat lost in hard law. It is mainly in soft law that it is actually articulated in greater detail. Treaty law, however, has lately tended to devote less attention to allocating special entitlements for specifically identified (and presumably disadvantaged) groups through distributive rules, and instead turned to developing more open processes of public participation. It is notable that both treaty provisions and legal literature on the practice of public participation in environmental law and decision-making increased in the 1990s. Jonas Ebbeson identifies two very distinct streams of discourse on public participation, the international, which revolves around recent trends in international environmental

supra Note 520; Weiss, "What Obligation Does Our Generation Owe to the Next? An Approach to Global Environmental Responsibility: Our Rights and Obligations to Future Generations for the Environment," *supra* Note 595; Jeffrey M. Gaba, "Environmental Ethics and Our Moral Relationship to Future Generations: Future Rights and Present Virtue" (1999) 24 Colum. J. Envtl. L. 249; Paul A. Barresi, "Beyond Fairness to Future Generations: An Intragenerational Alternative to Intergenerational Equity in the International Environmental Area" (1997) 11 Tul. Envtl. L. J. 59; Weiss, "A Reply to Barresi's 'Beyond Fairness to Future Generations'" *supra* Note 701; Paul A. Barresi, "Advocacy, Frame and the Intergenerational Imperative: A Reply to Professor Weiss on 'Beyond Fairness to Future Generations'" (1998) 11 Tul. Envtl. L. J. 425; and Barton H. Thomson, "The Trouble With Time: Influencing the Conservation Choices of Future Generations" (2004) 44 Natural Resources Journal 601.

⁸³⁵ See Mank, *supra* Note 616; Mary Christina Wood, "Advancing the Sovereign Trust of Government to Safeguard the Environment for Present and Future Generations (Part 2): Instilling a Fiduciary Obligation in Governance" (2009) 39 Envtl. L. 91; Trevor R. Updegraff, "Morals on Stilts: Assessing the Value of Intergenerational Environmental Ethics" (2009) 20 Colo. J. Int'l. Envtl. L. & Pol'y 367.

⁸³⁶ *Minors Oposa v. Secretary of Environment and Natural Resources* [1993], S.C. 101083, 224 S.C.R.A. 792. Also reprinted in 33 I.L.M. 173 (1994). But, see Barresi, *supra*. For a critique of the decision and its implications from a Philippine perspective, see also Dante B. Gatmaytan, "The Illusion of Intergenerational Equity: *Oposa V. Factoran* As Pyrrhic Victory" (2003) 15:3 Geo. Int'l. Envtl. L. Rev. 457.

management that have opened treaty negotiation and implementation processes to NGOs, and the national, which is concerned with the more familiar issues of enhancing the ability of ordinary citizens and public to influence or seek remedies from government decisions and policies.⁸³⁷ Thus, a significant amount of such literature revolves around at least three prominent topics:

- the increased involvement and role of NGOs *vis-à-vis* States in international law-making and implementation,⁸³⁸
- mechanisms for expanding and enhancing local citizen participation in government decision-making processes,⁸³⁹ and

⁸³⁷ Jonas Ebbeson, "Public Participation." In *The Oxford Handbook of International Environmental Law*, ed. Daniel Bodansky, Jutta Brunnée, and Ellen Hey (Oxford UK: Oxford University Press, 2007) at 689-96.

⁸³⁸ See, for example, Scott Barrett and Robert Stavins, "Increasing Participation and Compliance in International Climate Change Agreements" (2003) 3 *International Environmental Agreements: Politics, Law and Economics* 349; Kal Raustiala, "The "Participatory Revolution" in International Environmental Law" (1997) 21 *Harv. Envtl. L. Rev.* 537; and Mark J.D. Spaulding, "Transparency of Environmental Regulation and Public Participation in the Resolution of International Environmental Disputes" (1995) 35 *Santa Clara L. Rev.* 1127.

⁸³⁹ See for example, Maria Lee and Carolyn Abbot, "The Usual Suspects? Public Participation Under the Aarhus Convention" (2003) 66 *The Modern Law Review* Limited 80; Bernd Kasemir et al., eds., *Public Participation in Sustainability Science: A Handbook* (Cambridge: Cambridge University Press, 2003); Bernd Kasemir, Carlo C. Jaeger, and Jill Jager, "Citizen Participation in Sustainability Assessments." In *Public Participation in Sustainability Science: A Handbook*, ed. Bernd Kasemir, Jill Jager, Carlo C. Jaeger, and Matthew T. Gardner (Cambridge: Cambridge University Press, 2003); Nancy Perkins Spyke, "Public Participation in Environmental Decisionmaking at the New Millennium: Structuring New Spheres of Public Influence" (1998) 26 *B.C. Envtl. Aff. L. Rev.* 263; Katherine A. McCormas and Clifford W. Scherer, "Reassessing Public Meetings As Participation in Risk Management Decisions" (1998) 9 *Risk: Health, Safety & Environment* 347; David L. Markell, "The North American Commission for Environmental Cooperation After Ten Years: Lessons About Institutional Structure and Public Participation in Governance" (2004) 26 *Loy. L.A. Int'l. & Comp. L. Rev.* 341; Juan R. Palerm, "Public Participation in Eia in Hungary: Analysis Through Three Case Studies" (1999) 19 *Environmental Impact Assessment Review* 201; Julie Catherine Sors, *Public Participation in Local Agenda 21: A Review of Traditional and Innovative*

- the linkage between local and global environmental management initiatives.⁸⁴⁰

Generally, there is agreement on the need and vital utility of public participation as an integral element of sound environmental decision-making,⁸⁴¹ as originally expressed as

Tools, (Fondazione Eni Enrico Mattei, 2001); Terje Synnestvedt, "Debates Over Environmental Information to Stakeholders As a Policy Instrument" (2001) 8 Eco-Management and Auditing 165; Edward E. Yates, "Public Participation in Economic and Environmental Planning: A Case Study of the Philippines" (1994) 22:1 Denv. J. Int'l L. & Pol'y 107; Thomas C. Beierle, *Public Participation in Environmental Decisions: An Evaluation Framework Using Social Goals* (Washington DC: Resources for the Future, 1998); L. Del Furia and J. Wallace-Jones, *The Effectiveness of Provisions and Quality of Practices Concerning Public Participation in the EIA Procedures in Italy and the UK*, (Fondazione Eni Enrico Mattei, 1998).; Deborah Harten, "The Public Participation Requirement in Environmental and Public Land Decision-Making: Politics Or Practice?" (1990) 11 Pub. Land L. Rev. 153; Mark D. Abkowitz et al., "Environmental Information Disclosure and Stakeholder Involvement: Searching for Common Ground" (1999) 6:4 Corporate Environmental Strategy 415; and Royal C. Gardner, "Public Participation and Wetlands Regulation" (1992) 10 UCLA J. Env'tl. L. & Pol'y 1.

⁸⁴⁰ See for example, David A. Wirth, "Public Participation in International Processes: Environmental Case Studies at the National and International Levels" (1996) 7 Colo. J. Int'l. Env'tl. L. & Pol'y 1; Joyeeta Gupta, "Glocalization: The Precautionary Principle and Public Participation, With Special Reference to the Un Framework Convention on Climate Change." In *The Precautionary Principle and International Law: The Challenge of Implementation*, ed. David Freestone and Ellen Hey, *International Environmental Law and Policy Series* (Hague, London, Boston: Kluwer Law International, 1996); Amy K. Wolfe, Nichole Kerchner, and Tom Wilbanks, "Public Involvement on a Regional Scale" (2001) Environmental Impact Assessment Review 431; Lucy H. Ford, "Challenging Global Environmental Governance: Social Movement Agency and Global Civil Society" (2003) 3:2 Global Environmental Politics 120; Mukul Sanwal, "Trends in Global Environmental Governance: The Emergence of a Mutual Supportiveness Approach to Achieve Sustainable Development" (2004) 4:4 Global Environmental Politics 16; Emery Roe, "Sustainable Development and the Local Justice Framework" (1997) 23:2 Philosophy & Social Criticism 97; and Anne C. Bellows and Michael W. Hamm, "Local Autonomy and Sustainable Development: Testing Import Substitution in Localizing Food Systems" (2001) 18 Agriculture and Human Values 271.

⁸⁴¹ See Usha Iyer-Raniga and Graham Treloar, "A Context for Participation in Sustainable Development" (2000) 26:4 Environmental Management 349; Thomas C. Beierle and Jerry Cayford, *Democracy in Practice: Public Participation in*

soft law in Principle 10 of the Rio Declaration⁸⁴² and transformed into hard law (albeit only regional in scope) in the Aarhus Convention. But the Akwé: Kon shows that there is much ground that still remains to be covered.

There are at least two ways by which international law has accommodated the participation of social forces, including non-State actors. First, on a regional level the Aarhus Convention and other European conventions explicitly articulate how public participation is to actually work and factor into environmental policy- and decision-making. Second, on the global level, international environmental law has allowed the participation of non-government organizations in international conferences⁸⁴³ and in some cases recognized that social forces have a legitimate role to play in the planning and

Environmental Decisions. (Washington DC: Resources for the Future Press, 2002); and Maarten A. Hajer and Hendrik Wagenaar, eds., *Deliberative Policy Analysis: Understanding Governance in the Network Society, Theories of Institutional Design* (Cambridge: Cambridge University Press, 2003; reprint, 2004).. The principle is not entirely without criticism, though, as explained in Cliff Prophet, "Public Participation, Executive Discretion and Environmental Assessment: Confused Norms, Uncertain Limits" (1990) 48 U.T. Fac. L. Rev. 279.

⁸⁴² United Nations, Principle 10 states:

Environmental issues are best handled with participation of all concerned citizens at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

⁸⁴³ The most celebrated case is the Rio Conference in 1992; NGOs were similarly prominent in the Johannesburg Summit in 2002, and recently most visible in the Copenhagen Summit in 2009. For more incisive discussions of this trend, see Farhana Yamin, "NGOs and International Environmental Law: A Critical Evaluation of Their Roles and Responsibilities" (2001) 10:2 Review of European Community & International Environmental Law 149; also Ann Marie Clark, Elisabeth J. Friedman, and Kathryn Hochstetler, "The Sovereign Limits of Global Civil Society: A Comparison of NGO Participation in UN World Conferences on the Environment, Human Rights, and Women" (1998) 51:1 World Politics 1.

decision-making processes associated with the implementation of international agreements.⁸⁴⁴

Reflection on the nature of the texts spread out in treaty and soft law further show that they also roughly correspond to the three types of claims that Schlosberg identified for the global environmental justice movement: distribution, participation, and recognition. Texts concerning the allocation of environmental amenities (both inter-generationally and intra-generationally) and the establishment of various requirements and standards for public participation undeniably demonstrate the first two. The last, though not expressly indicated as such, is integral to the manner in which the texts attempt to identify particular groups with varying precision, ranging from ‘developing countries’ to the ‘socially disadvantaged,’ and at different levels of governance from the international to local community.

3.4 Ecological Social Justice as an Alternative Analytical Approach

In the absence of a suitably robust concept of environmental justice, there is a need to return to the original problem of sustainable development: how to address social needs equitably within an ecological context. The previous section shows that when understood from the ‘Third World’ discourse of ‘equitable sharing,’ the principles of sustainable development expressly include the aspirations to this end. The term “environmental justice” tends to gloss over and mask the social dimensions that are integral to every problem or issue arising from the use of Nature and its resources. For this reason, this research does not view it as a suitable term or framework. It is argued that it is more

⁸⁴⁴ See for example, the SEA Protocol. Also, the OSPAR Commission has accredited 34 non-government organizations representing many different interests to take part in its meetings, assist in the development of policies and making of decisions, as well as their implementation. See OSPAR Commission, "OSPAR Commission - Observers," *OSPAR Commission* online: http://www.ospar.org/content/content.asp?menu=00390108120000_000000_000000 0> Last updated: 01 June 2010 (Date accessed: 01 July 2010).’

appropriate to think in terms of a broader *ecological social justice* perspective to discharge the conceptual baggage and limitations implied by the term “environmental justice,” and to always emphasize the fact that all environmental problems are ultimately *social* problems.⁸⁴⁵ The constellation of principles comprising sustainable development elaborated in Section 3.3.2, include an initial and broad outline of this ecological social justice framework, through the sub-group of principles directly inter-linked to the core value of social equity: generational equity (both inter- and intra-), common but differentiated responsibilities, and the polluter pays principle.

‘Ecological’ is used here as a *descriptive*, not a constitutive, term. “Ecological social justice,” simply put, is social justice in the utilization of Nature and its resources; it is about how the members of a human society share the benefits and disadvantages of their environment. Benefits here refer to either direct material benefits in the form of a raw resource or the useable goods the resource can be transformed into (e.g. energy, objects) or indirect benefits which arise from the fact that the resource is being used (e.g. local economic development from the existence of an activity), while disadvantages refer to either the direct but contingent risks, actual harms, or indirect adverse effects that diminish or downgrade an affected group’s original abilities and options in life.

Ecological social justice pursues equitable terms of access, control, and distribution for living in and using the natural world, to the end that no persons, groups, or societies should be deprived unduly of their fair and equal rights, entitlements, or opportunities to satisfy their basic needs and live a decent and dignified life. It is not fundamentally opposed to the *limits to growth* discourse, however, it differs from this discourse by defining the main problem to be the attainment not of *optimal* growth, but rather an *equitable* one. It is not about rendering justice to the environment, it is about rendering

⁸⁴⁵ As noted in Section 3.1 above, the re-conceptualization that is required for environmental justice actually brings it back to the main ideal of social justice in any case. The interrelated system of principles of sustainable development as explained in Section 3.3.2 above, particularly the principles directly linked to the core value of ‘equity’, support the concept of ecological social justice.

justice to *people*. Ecological social justice particularly concerns the development of principles and norms of equity to govern society's relationship with Nature, which is manifest through the economy in all its different levels and scales from local to international. These norms and principles are manifest in customary and written law, as well as the values and traditions of any given community of people. Thus, ecological social justice also seeks an understanding of law and legal culture.

Whereas a 'generic' conception of social justice is concerned with the creation of ideal and just social institutions, ecological social justice is focused on how the existing institutionalized economy interacts with Nature and its resources in ways that promote or prevent social justice or injustice in a locality, particularly through the terms of access, control and distribution of benefits and disadvantages. This is done by examining how specific technologies affect the institutions of distribution, participation, and recognition. By comparing and contrasting trends or tendencies in the effects of technologies on the institutions of distribution, participation, and recognition in the present, ecological social justice attempts to anticipate the conditions of access and distribution in the future.

3.4.1 An Anthropocentric Character

There should be no doubt that social justice in whatever shape or form, including ecological social justice, concerns an anthropocentric ethical framework. After all, the framework can emerge and be adopted only through human rationality, communication, and deliberation and nothing else; to date humans have not developed the facility for language with either non-human life forms or any divine intercessors. The principles and norms of ecological social justice cannot extend to the natural cycles and interactions of Nature, nor its material components; for the most part, these are beyond social control.⁸⁴⁶

⁸⁴⁶ Although human societies have developed the means to modify parts of Nature to create "artificial environments" that suit their own needs and work in ways that they expect (e.g. industrial farms, cities in the desert, artificial islands), the control they exercise over such areas are often illusory: such artificial environments will not last

It does not pretend to control Nature, and instead accepts it as the basic condition from which principles and norms should be derived.

Since the scope of human rationality and communication is limited to its own kind, the subject of justice cannot expand beyond the limits of human social relations.⁸⁴⁷ As such, there is an absolute limit to what actions or events may be questioned and evaluated as 'just' or 'unjust.' There can be no question about the justice of the natural distribution of typhoons and earthquakes, for example. Unless a 'natural' event is traced back to a deliberate and conscious human action, which actually makes the 'natural' event an 'unnatural' one, then the human ethical framework cannot be properly applied. On the other hand, the conversion of minerals to infrastructure (say, steel and concrete), or prairies to farmland, are subject to ecological social justice analysis since technological interventions are necessary ingredients to such actions. Such technological interventions are definitely the product of conscious human decisions.

This, of course, brings up the question of uncertainty: to what extent should one follow and examine a chain of causality, in order to determine its ultimate link to a human decision or action? If a causal connection cannot be determined, or is contested, a problem might to be seen beyond the scope of ecological social justice. Actually it is, because the principles of ecological social justice incorporate and account for the notion of uncertainty. Against this, the principle of precaution has already been devised.⁸⁴⁸

without continuous human maintenance and the input of massive resources from elsewhere (e.g. food, water, energy) and without Nature somehow "fighting back."

⁸⁴⁷ This takes a clear stand on the nature and extent of the "community of justice" of ecological social justice. See Andrew P. Dobson, "The Dimensions of Social Justice." In Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*, *supra* Note 54, 62-64, particularly at 67-68.

⁸⁴⁸ Precaution is a principle of ecological social justice because the idea of avoiding unanticipated harms is consistent with the idea of ensuring that a person should not be made to bear the detrimental consequences of a situation with which s/he had nothing to do in creating, but is rather the responsibility of someone else. To make others suffer the damages from one's acts or omissions violates the basic Justinian

A humanistic ethical device cannot consistently incorporate or influence as direct participants the non-humans that form the majority of life on the planet. In the absence of direct communication and shared ethical values, other life forms can only be *subjects* of the framework, not *participants*. Justice is a human construct, the outcome of the application of human values established in human society. In this sense, justice will also always be ‘social’ in the sense of existing and agreed upon between members of human society and regulating human decisions and actions. It is not appropriate to speak of ‘environmental justice’ or ‘ecological justice’ as proposed by various authors, as if it were possible to place either Nature or ecology under rules of justice.⁸⁴⁹ Neither would it be appropriate to speak of non-human “rights” because to do so would be to anthropomorphize non-human species, which presumes that ultimately they should think

principle of “giving every one his due.” For useful literature on precaution, see David Freestone and Ellen Hey, *The Precautionary Principle and International Law: The Challenge of Implementation.*, ed. David and Ellen Hey Freestone, vol. 31. International Environmental Law and Policy Series (The Hague; Boston: Kluwer Law International, 1996); Joel A. Tickner, *Precaution, Environmental Science, and Preventative Public Policy.*, ed. Joel A. Tickner (Washington DC: Island Press, 2003); Arie Trouwborst, *Evolution and Status of the Precautionary Principle in International Law.*, ed. Daniel and David Freestone Bodansky, vol. 62. International Environmental Law and Policy Series (The Hague; London; New York: Kluwer Law International, 2002); John S. Applegate, "The Taming of the Precautionary Principle" (2002) 27 Wm. & Mary Env'tl. L. & Pol'y Rev. 13; David Vanderzwaag, Susanna D. Fuller, and Ransom A. Myers, "Canada and the Precautionary Principle/approach in Ocean and Coastal Management: Wading and Wandering in Tricky Currents" (2002) 34 Ottawa L. Rev. 117; Jaye Ellis and Alison Fitzgerald, "The Precautionary Principle in International Law: Lessons From Fuller's Internal Morality" (2004) 49 McGill L. J. 779

⁸⁴⁹ On the contrary, it is Nature or ecology that ultimately place justice under their rules. There is no “climate justice” in the sense that the climate does not dispense justice, nor is there “climate injustice” because the climate imposes its adverse effects indiscriminately. On the contrary, the justice or injustice arises from the fact that the abilities and decisions of some groups enable them to either contribute to or protect themselves from worsening climate conditions. The climate has nothing to do with this: it is humans (working through social groups) that exercise these abilities and makes these choices. To refer to “climate justice” therefore masks and distracts from the ultimately direct responsibility of societies: social justice.

and speak like humans, or that humans have the right to speak on their behalf.

Considering the historical experience with colonialism to date, non-human species would probably be well advised to resist any attempt by humans to speak for them.

As demonstrated by the experience with environmental justice, presuming to place Nature under human rules of justice only masks deeper social and political biases and agendas with the apparently benign face of concern for Nature. In this light, ecological social justice makes no excuse for its anthropocentrism and does not pretend to encompass the concerns of ecocentrism; although this does not necessarily imply a rejection of its values and objectives. It is merely a pragmatic recognition of the limits to which certain forms of reasoning (in this case, reasoning on the basis of ecological social justice) may be pursued. Its main concern is the behavior of humans within the environment over which they ultimately have little power. The answers to the question of whether or not Nature should be considered to exist merely to be exploited by humans, and whether non-human species and Nature have intrinsic values, must be found through other modes of reasoning and worldviews independently of ecological social justice.⁸⁵⁰

⁸⁵⁰ There is nothing wrong with ecological social justice not being able to encompass everything and answer all issues and questions about the environment. Sen notes that even a theory of justice need not attempt to explain everything before it can address concrete issues of injustice:

When we try to determine how justice can be advanced, there is a basic need for public reasoning, involving arguments coming from different quarters and divergent perspectives. An engagement with a contrary argument does not, however, imply that we must expect to be able to settle the conflicting reasons in all cases and arrive at agreed positions on every issue. Complete resolution is neither a requirement of a person's own rationality, nor is it a condition of reasonable social choice, including a reason-based theory of justice. Sen, *supra* Note 63 at 392.

However, for a good starting point for considering a much broader and alternative perspective with which to consider the place of non-human species and the rest of the Earth, the author recommends the work of Bruce Morito, *Thinking Ecologically: Environmental Thought, Values and Policy*. (Halifax: Fernwood Publishing, 2002). In place of anthropomorphizing Nature and other species, Morito suggests that *respect* and *gratitude* are the key values that must be explored and cultivated.

3.4.2 Ecological Social Justice on the Economy

This research is concerned with issues relating to economic activities and their effects on Nature. A concept of ecological social justice should squarely address and ‘regulate’ this interface through which human society affects Nature, recognizing that they are ecologically intertwined at multiple levels from local to global. Instead of using the more conventional theories of ‘formal’ economics, the analysis relies upon the thought of Karl Polanyi, who elucidated upon the ‘substantivist’ concept of the economy as part of his studies of economic systems throughout history.⁸⁵¹

Substantivism has been used mainly by anthropologists in the study of prehistoric, non-Western, non-urban/industrial societies, particularly looking into their cultures and how their economies work.⁸⁵² Although it receded into the academic background when formalism gained dominance in the 1960s and 1970s, it has experienced a renaissance of sorts in recent years and is increasingly relevant to contemporary social policy.⁸⁵³ Polanyi’s thesis has been seen as an alternative theory for understanding and explaining

⁸⁵¹ See Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time*. (Boston: Beacon Press, 1944); also Karl Polanyi, "The Economy as Instituted Process." and Karl Polanyi, "The Place of Economies in Societies." Both in *Trade and Market in the Early Empires*, ed. Karl Polanyi, Conrad M. Arensberg, and Harry W. Pearson (Glencoe IL: The Free Press, 1957). The ‘formal’ and ‘substantivist’ labels derive from Polanyi’s distinction between “the two root meanings of ‘economic’”:

The substantive meaning of economic derives from man’s dependence for his living upon nature and his fellows. It refers to the interchange with his natural and social environment, in so far as this results in supplying him with the means of material want satisfaction.

The formal meaning of economic derives from the logical character of the means-ends relationship, as apparent in such words as ‘economical’ or ‘economizing’. It refers to a definite situation of choice, namely, that between the different uses of means induced by an insufficiency of those means. *Ibid.*, at 243.

⁸⁵² James G. Carrier, *A Handbook of Economic Anthropology*. (Cheltenham UK: Edward Elgar Publishing, 2005) at 21.

⁸⁵³ *Ibid.* at 22-23.

many of the problems that have arisen in the wake of economic globalization and the expansion of the free market.

3.4.2.1 Polanyi's Substantivist Perspective of the Economy

Polanyi described the economy as the interaction between society and Nature through which human needs are satisfied.⁸⁵⁴ This definition is particularly sensitive to the fact that there is not just *one* Economy, but *multiple* economies existing at different scales and spanning different places and communities. Each discrete community essentially has its own (local) economy, though it may be networked in varying degrees to other local economies and contributes to the total aggregated Economy that is the concern of national governments and macro-economics. It is further recognized that in the modern era, most national economies are likely networked to other national economies on a global scale.⁸⁵⁵

⁸⁵⁴ See Polanyi, "The Economy as Instituted Process," *supra* Note 851.

⁸⁵⁵ For an illuminating work on the the global economy as a network of interlinked economies and activities, see Manuel Castells, *The Rise of the Network Society*, 2nd ed. The Information Age: Economy, Society and Culture (Malden; Oxford; Victoria: Blackwell Publishing, 2000). Castells proposes that the structure of modern society, whether on a local, national, or international scale, is now better described by the metaphor of the network, rather than the pyramid more commonly known. Networks are defined by a series of interconnected nodes, in contrast to hierarchies with strata. In *The Rise of the Network Society*, he asserts that

[A]s a historical trend, the dominant functions in the Information Age are increasingly organized around networks. Networks constitute the new social morphology of our societies, and the diffusion of networking logic substantially modifies the operation and outcomes in processes of production, experience, power, and culture. While the networking form of social organization has existed in other times and spaces, the new information technology paradigm provides the material basis for its pervasive expansion throughout the entire social structure... this networking logic induces a social determination of a higher level than that of specific social interests expressed through the networks: the power of the flows takes precedence over the flows of power. Presence or absence in the network and the dynamics of each network vis-à-vis others are critical sources of domination and change in our society: a society that, therefore, we may properly

In Polanyi's view, the economy is "an instituted process of interaction between man and his environment, which results in a continuous supply of want-satisfying material means."⁸⁵⁶ "Material means" here refer to either goods like food and shelter, or services such as medical care. Every society in history has required a system for providing these

call the network society, characterized by the pre-eminence of social morphology over social action. Castells 2000 at 500.

The network is therefore a *supra*-entity created by the synergy between its components. And even though it may not have its own intelligence, separate from that of its nodes, in its operation it does have the ability to adapt and adjust to the changing conditions of its environment:

[T]he basic unit of economic organization is not a subject, be it individual (such as the entrepreneur, or the entrepreneurial family) or collective (such as the capitalist class, the corporation, the state)...the unit is the network, made up of a variety of subjects and organizations, relentlessly modified as networks adapt to supportive environments and market structures. *Ibid.* at 198.

The 'social morphology' Castells speaks of creates the need to reconfigure the representation of society, and implicitly the structure of power, from the relatively simple vertically-drawn, and often pyramidal hierarchical framework with clear lines of superiority and subordination among different components, into a more intricate, flattened, and circular web-work of nodes of differing size and influence. Each node may also be independently linked to other nodes, and are not confined to channels between levels as they might often be in hierarchies. The degree of influence that any one node can exercise over decisions and actions within the network, is also not necessarily bound by its location, but by the degree of its inter-connection with other nodes.

The view of society as a network has serious implications, because it supposes that the key social, economic, and political actors have far greater decision-making autonomy than in a hierarchical and centralized State system.

⁸⁵⁶ Polanyi, "The Economy as Instituted Process," *supra* Note 851 at 145. Also published in *Trade and Market in the Early Empires*, ed. Karl Polanyi, Conrad M. Arensberg, and Harry W. Pearson (Glencoe IL: The Free Press, 1957), at 243-70. Polanyi distinguishes this definition of the economy from the classical 'economistic' definition as follows:

The [formal meaning] derives from logic, the [substantive meaning] from fact. The formal meaning implies a set of rules referring to choice between the alternative uses of insufficient means. The substantive meaning implies neither choice nor insufficiency of means; man's livelihood may or may not involve the necessity of choice and, if choice there be, it need not be induced by the limiting effect of a "scarcity" of the means. *Ibid.* at 243.

for personal and community life.⁸⁵⁷ All human societies without exception (whether seen as a whole or broken down into various organizations such as the village or nation-State) require the use of natural resources, technology, and social cooperation in order to produce goods and services necessary for survival.⁸⁵⁸

The provisioning of society is undertaken through systematic processes of moving and/or appropriating goods and services from their original place or condition (e.g. food, raw materials) or ‘hands’ (e.g. the farmer, the hunter) to other places, conditions, or ‘hands.’⁸⁵⁹ These processes include all kinds of social activities and technological interventions meant to achieve those movements and/or appropriations. However, a random occurrence of such processes is not enough; there must also be a unity and stability over time in those processes such that they acquire a function and significance in a society’s history, and establish a consistent foundation for its values, motives, and policies. These characteristics are imparted through the institutionalization of those processes in society through social relations.⁸⁶⁰ Thus, the economy is an instituted process, “embedded and enmeshed in institutions, economic and non-economic.”⁸⁶¹

⁸⁵⁷ George Dalton, "Introduction." In *Primitive, Archaic, and Modern Economies: Essays of Karl Polanyi*, ed. George Dalton (Boston: Beacon Press, 1968) at xxxiv.

⁸⁵⁸ *Ibid.* at xli-xliii.

⁸⁵⁹ Polanyi, The Economy as Instituted Process, *supra* Note 851 at 146. ‘Movements’ are therefore either locational (things move in relation to other things) or appropriational (things move in relation to the persons who need or dispose of them) or both. See Karl Polanyi, "Redistribution: The State Sphere in Eighteenth-Century Dahomey." In Dalton, *supra* Note 857, 207-37 at 207.

⁸⁶⁰ *Ibid.* at 147-48. Polanyi offers the following to explain the importance of social relations:

...(M)an’s economy is submerged in his social relationships. He does not act so as to safeguard his individual interest in the possession of material goods; he acts so as to safeguard his social standing, his social claims, his social assets. He values material goods only insofar as they serve his end.

⁸⁶¹ Polanyi, The Economy as Instituted Process, *supra* Note 851 at 148.

Polanyi found that historically, these economic institutions settled into at least three different “patterns of integration:” reciprocity, redistribution, and market exchange.⁸⁶² These transactions allow goods to flow from their natural state in the environment and transform into useable goods for consumption by humans; they also determine who gets what, when, and why as resources are extracted and then converted for use. They are not mutually exclusive, and they may be practiced in different degrees simultaneously.

An example of reciprocity is when a person gives to another a fish s/he has caught, on the expectation that the other will in return give the former a fish when s/he has caught his/her own. Symmetry in the transaction is not strictly limited to duality, though; a person or group may stand in symmetry with respect to two or more others in analogous situations, such as when a person has a responsibility to her/his spouse’s family members. Reciprocity implies economic activity founded on mutual obligations between individuals: transfers of the necessities of life occur as a matter of social duty.

Redistribution, meanwhile, requires the presence of an allocative center in the community, charged with receiving the organization’s goods and distributing them among its members. An example is the storage of a village’s harvest in a central storehouse from which the members may withdraw respective shares according to certain

⁸⁶² *Ibid.* at 149. He says:

Empirically, we find the main patterns to be reciprocity, redistribution, and exchange. Reciprocity denotes movements between correlative points of symmetrical groupings; redistribution designates the appropriational movements toward a center and out of it again; exchange refers here to *vice-versa* movements taking place as between “hands” under a market system. Reciprocity, then, assumes for a background symmetrically arranged groupings; redistribution is dependent upon the presence of some measure of centricity within the group; exchange in order to produce integration requires a system of price-making markets.

pre-defined rules.⁸⁶³ A system of redistribution forms the foundation for community governance systems, and ultimately the State.⁸⁶⁴

Finally, market exchange refers to situations where goods change hands on the basis of a bargained rate, i.e. a rate decided between parties attempting to maximize their gains, in a system that tends to spread the effect of the rate to markets other than those directly affected. It is not enough, for example, that two parties agree to barter one sack of grain for two baskets of fruits; the transaction must occur in a way that influences other parties bartering the same items do so at the same rate of one basket/two fruits respectively.⁸⁶⁵ Polanyi believes that market exchanges arose as a means for different communities to engage in trade, thus the respective parties need not be bound by the same social obligations or allocative centers as in reciprocity or redistribution.

Market exchange transactions differ from transactions of reciprocity and redistribution in terms of the cause for goods to pass from one 'hand' to another. Market exchange may be undertaken purely on the basis of "market rationality" or choosing the best price: goods are transferred and services are traded or rendered in exchange for a corresponding consideration in goods or money. Reciprocity and redistribution, on the other hand, could be anchored on social obligations defined by custom or tradition;⁸⁶⁶ so an actual exchange may not be a necessary and goods 'move' due to social ties such as mere kinship and membership in a community. In these cases, cultural practices and norms play a much bigger role in determining the flow of goods and services than in the case of market exchange.

⁸⁶³ Karl Polanyi, "Societies and Economic Systems." In Dalton, *supra* Note 857, 3-25 at 9-10.

⁸⁶⁴ *Ibid.* at 14-15. See also Burke 1978 at 7-13. Burke traces the rise of the ancient Egyptian Empire from the use of the simple scratch plough in the Nile river delta. A key factor in this process was the creation of agricultural surplus, which had to be stored in granaries administered by the community administrators, that necessitated the development of writing, mathematics, architecture, and other sciences.

⁸⁶⁵ Polanyi, *The Economy as Instituted Process*, *supra* Note 856 at 148-55.

⁸⁶⁶ Dalton, *supra* Note 857 at xiv-xv.

For Polanyi, the nature and characteristics of the economy depend on the extent of institutionalization of the patterns of integration. Since these patterns are not mutually exclusive, they may be woven into each other in the cultural fabric. One pattern of integration may employ the others as subordinate or complementary methods. It is also possible for one to become the dominant integrative pattern.⁸⁶⁷ The degrees to which a pattern dominates the others both demonstrate and determine the extent to which social values influence the economic decisions and actions of societies.

3.4.2.2 Implications of Substantivism to Ecological Social Justice

In *The Great Transformation*, Polanyi argued that the 19th century saw the rise of market exchange as the dominant mode of economic integration in national and international economies.⁸⁶⁸ He says that prior to this, each economy was geared toward the guaranteed subsistence of society's members. The birth and growth of the Industrial Revolution in Great Britain induced a radical transformation of the economy by re-organizing it into a system of markets no longer devised for everyone's subsistence but for the ever-expanding profit of a few.⁸⁶⁹

Polanyi asserted that the principles for this re-organization were expressed in the classical economists' doctrine of market autonomy, based on Adam Smith's hypothesis about man's distinctive and innate "propensity to truck, barter or exchange" and the 'hidden hand' of self-interest in the market.⁸⁷⁰ Ricardo's belief in "man's salvation through the self-regulating market" provided the ideological support for a system of elaborate, specialized, and expensive industrial facilities devoted to production under purely private

⁸⁶⁷ *Ibid.* at xliv.

⁸⁶⁸ Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time*, *supra* Note 851.

⁸⁶⁹ *Ibid.* at 78-79.

⁸⁷⁰ Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*. The Great Books (Chicago: Encyclopedia Britannica, 1952) at 6 and 194.

control and not subject to direct regulation by society.⁸⁷¹ He saw the classical economists to have “established the modern concept of a separate autonomous economic system, governed by economic motives, and subject to the economic principle of formal rationality (i.e., economizing).”⁸⁷² Humans were regarded not as social animals acting in accordance with social relations in a society, but as economic machines acting solely on the basis of self-interest in the free market.⁸⁷³ This ideology disregarded and seriously undermined the role of social relationships and social obligations in economic activity, by separating and insulating the ‘economic sphere’ from all other social institutions, including culture, government, and politics.⁸⁷⁴ This is the process of ‘dis-embedding’ of the economy from social controls, marking the rise of the “market society,” a society whose economy is integrated and dominated by a system of exchanges in price-making markets.⁸⁷⁵

⁸⁷¹ Beverly J. Silver and Giovanni Arrighi, "Polanyi's 'Double Movement': The Belle Epoque of British and U.S. Hegemony Compared" (2003) 31:2 *Politics & Society* 325 at 330.

⁸⁷² Karl Polanyi, "The Place of Economies in Societies." In Dalton, *supra* Note 863, 116-38 at 132.

⁸⁷³ Polanyi referred to this as “the delusion of economic determinism,” which interpreted all human activities in terms of market exchange and rational utilitarian economic behavior. This, he said, tended to see the market economy ever where there was none, and severely limited the perception of social reality and the power to act upon its needs. The attribution of rational utilitarian behavior Polanyi saw as an ‘economistic fallacy,’ as he believed that no human motive is *per se* economic, and hunger and pain (the basic motivations in the market society) were intrinsically no more economic than any other motive such as love, hate, or prejudice. Karl Polanyi, "Our Obsolete Market Mentality." In Dalton, *supra* Note 857, 59-77 at 63, 70-74.

⁸⁷⁴ *Ibid.* at 63-75.

⁸⁷⁵ See Polanyi, *The Great Transformation*, *supra* Note 851 at 60. As Fred Block emphasizes, though, the ‘disembedding’ is never complete, resulting in what Polanyi calls “double movement,” a constant contest between social forces seeking to expand the market society into all aspects of life on the one hand (e.g. private sector, corporate alliances) and social forces attempting to self-defensively restrain such expansion (e.g. labor unions, small enterprises) on the other hand. Fred Block, "Introduction." *Ibid.*, at xxviii.

There is a definite correlation between the rise of the market society and the emergence of the idea of social justice: scholars note that the term “social justice” itself appeared in political writings also in the 19th century, though preceded by even earlier thought on natural and distributive justice.⁸⁷⁶ It is not difficult to understand the reason for this connection when one takes account of the nature of the patterns of integration (reciprocity and redistribution) that market exchange sought to suppress, and the timing of the concept’s emergence: the height of the Industrial Revolution.

Reciprocity and redistribution are patterns established and maintained mainly by a system of social relations between the social actors, defined by obligations and duties contained within a society’s culture. Such obligations and duties manifest the social system of values that determine, culturally and politically, what counts as “giving every one his due.” As such, it furnishes a basis for a community’s sense of the justice attending a transaction between individuals, which in turn influences its outlook on the social justice of economic activities that affect the community as a whole.

In contrast, market exchanges represent physical exchange of commodities⁸⁷⁷ without necessarily establishing durable social relations between the transacting parties. It is sufficient that there is a mutual transfer of goods of similar value between social actors. No “social baggage” attaches to the transactions, and therefore no higher social obligations or duties (apart from those needed to maintain the integrity and enforceability of the contract) need guide or limit the flow of goods. The relations that attend these transactions do not need to be other than purely commercial and essentially transient relationships.

⁸⁷⁶ Miller, *Principles of Social Justice*, *supra* Note 56 at 3-7.

⁸⁷⁷ Commodities here include what Polanyi described as ‘real’ and ‘fictitious’ commodities: land, labor, and money. See Karl Polanyi, “The Self-Regulating Market and the Fictitious Commodities: Land, Labor and Money.” In Dalton, *supra* Note 857 at 26-37.

The rise of the market society since the 19th century counters and attempts to suppress the remaining two patterns of integration. In essence, it seeks to ‘sterilize’ the economy of ‘non-rational’ social relations, obligations, and duties, and transform economic relations into purely ‘economistic’ transactions aimed at the maximizing of utility or profit.⁸⁷⁸ It seeks to shield market exchanges from social considerations of justice, since the presence of absence of justice is a mainly a judgment based on a context of socially accepted values, norms, and relations.⁸⁷⁹ In so doing, the market society also tends to remove all possible social limits and restraints on economic activity, including those that serve to protect the members of society from harms and risks of excessive activity and appropriation. In this light, environmental degradation, in any form, may thus be viewed not only as a matter of “externalizing costs” as it is often described by the classical economic perspective, but also as an issue of avoiding social limits and disregarding potential social obligations and duties as defined by a society’s culture.

Such limits, obligations, and duties also guide a relevant community’s collective perception whether or not the conduct of any activity is attended by social justice or injustice. At a fundamental level, the culturally-defined ‘balance’ of values and norms that establish the patterns of reciprocity, redistribution, and market exchange determine what is “due” in the Justinian sense of the word. Substantivism therefore enables the

⁸⁷⁸ Polanyi notes that the principle of freedom of contract, the fundamental tenet of the market, required the “annihilation” of all “noncontractual organizations of kinship, neighborhood, profession and creed.” Polanyi, *The Great Transformation*, *supra* Note 851 at 171.

⁸⁷⁹ Moral and ethical standards, whether developed through experience or imbibed through instruction and upbringing, largely determine an individual’s appreciation of justice or injustice. This could explain why the Roman Catholic Church found it necessary to issue encyclicals such as the *Rerum Novarum* at the dawn of the industrial revolution: the widespread poverty produced by the free market and industrialization contradicted the Christian teachings of charity and love for fellow men. The rise of the market society delimited and constricted the relevance of socially-determined considerations such as morality and tradition to the exchange of goods between people, and thus undermined the ability of society as a whole to impose limits or responsibilities upon its members.

understanding of what a community perceives to be a socially-just (and impliedly acceptable) means of utilizing Nature and its resources. It is not limited to merely the elimination of costs or harm, but more importantly is directed mainly to the question of allocation of 'benefits' or positive effects.

3.4.3 Ecological Social Justice on Culture and Power

Culture (defined as a web of behaviors) establishes and perpetuates the patterns of integration; these are the means that a society develops to enable all its members to have the necessary access to ecosystem services and goods of Nature. In this sense, culture determines the regulation of all manner of technology; if not directly through explicit rules (e.g. cultural practices surrounding fishing) then indirectly through rule-making institutions. This connection between culture and technology clearly exists regardless of whether the technology has harmful or beneficial biophysical effects.

The introduction of any 'new' technology is a potential influence on any community's culture, through either (a) the way the new technology interacts with existing technologies that allow the local community access to ecosystem services or goods, or (b) the way the local community is integrated into the larger society of which it is part (e.g. the State). In both instances, the issue of control and allocation is central: new technology may require new rules that define new social duties and obligations, and/or adjustment of old ones. The resulting configuration of acceptable behavior and enforceable rules thus implicates the cultural and political structures that allocate power in society, since the values, norms, and rules that 'regulate' all economic activities also define the relations and distribution of power within society. So, an examination of a technology from an ecological social justice perspective includes an inquiry into culture and the structures of power, which control access to resources and the distribution of benefits and disadvantages.

Ecological social justice therefore turns great attention to the relationships of power within and between communities, because these relationships necessarily affect the ability of individuals and groups to decide for themselves the options for their own

survival. Decisions that directly affect the lives of the community and its members should, as a matter of justice, be decisions that they make for themselves instead of being imposed upon them by others. Otherwise, they would be considered as being subject to a relation of domination and oppression by that other group, as aptly described by Young. For this reason, the principles of subsidiarity and local autonomy are key values in ecological social justice. How political power is distributed determines whether they are either active or passive agents in decisions and actions that affect the course of their lives, particularly the way in which they relate to Nature and the way in which Nature's benefits are transferred and allocated among them.⁸⁸⁰ Thus, ecological social justice necessarily seeks to reveal, address, and eliminate institutionalized domination and oppression in all human societies. The point is made, though, that these patterns of domination and oppression exist not only in 'overt' institutional structures which may be seen as directly affecting distribution and allocation (e.g. government agencies that grant licenses), but may also be entrenched in the very technologies that society employs to satisfy its wants.

3.4.4 Ecological Social Justice as a Guarantee of Social Minimums

Combining the elements of both the 'distributive' and 'institutionalist' theories explained in Section 3.2, social justice is concerned with both the distribution of goods and bads in society, and the elimination of institutional structures that maintain patterns of domination and oppression. Both paradigms focus upon the social institutions that affect distribution and clearly establish social justice as the outcome of social interactions

⁸⁸⁰ This gives ecological social justice a decidedly 'communitarian' aspect that attempts to ground ideas of justice upon its social context, including its history, culture, and traditions. See Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*, *supra* Note 54 at 71-72; also Clara Sabbagh, "The Dimension of Social Solidarity in Distributive Justice" (2003) 42:2 Social Science Information 255 at 256-58. For a deeper examination of how and why local contexts (instead of universalist principles) should be the main pillars of any conception of justice, see Georgia Warnke, *Justice and Interpretation* (Cambridge MA: MIT Press, 1993).

between humans.⁸⁸¹ These interactions may create injustices, which in turn trigger claims to social justice. They may be actual injustices in the sense of unequal material distributions that may be quantifiable: e.g., when work is done by ten people each contributing the same amount of time and effort, but for no acceptable reason one receives 80% of the compensation therefor while the rest share what remains. Or, they may be perceived injustices in the sense of unequal freedoms or restrictions to human decision and actions, as when for no acceptable reason a minority is absolutely denied access to resources, means, or opportunities that the rest of the population are completely free to use. The former is perceived more clearly in terms of traditional economics, while the latter is brought to light by an understanding of politics.

The key element in both injustices is that the outcome is “for no acceptable reason,” i.e., for causes that are ethically objectionable, whatever the concerned society’s ethical system may be. With respect to environmental issues, the Stockholm Declaration very clearly identifies some of these reasons as apartheid, racial segregation and discrimination, colonial oppression and foreign domination.⁸⁸² This makes ecological social justice ‘social’ in the sense of referring to the regulation of human relationships within society. While human societies exhibit a great deal of cultural diversity, which in turn define a multitude of value systems that may affect what is acceptable or not, there is at least one value system that has very clearly achieved a high degree of formal recognition and approval. This is expressed in the Universal Declaration of Human Rights,⁸⁸³ and further elaborated in the International Covenant on Civil and Political

⁸⁸¹ Although animals are known to also exhibit social behavior by co-existing in groups with their own forms of hierarchies and communication, they are simply unable to communicate with humans, which is necessary to determine distributions or identify and eliminate oppressive institutional structures.

⁸⁸² Stockholm Declaration, Principle 1; *cf.* Rio Declaration, Principle 23.

⁸⁸³ *Universal Declaration of Human Rights*, GA Res. 217(III), UN GAOR, 3d Sess., Supp. No. 13. UN Doc A/RES/810 (1948) 71.

Rights⁸⁸⁴ and the International Covenant on Economic, Social and Cultural Rights.⁸⁸⁵ For this reason, human rights are at the core of ecological social justice.

At a fundamental level, ecological social justice seeks to protect every individual person's right to life without discrimination and in fairness to all. Its objective is to guarantee that all persons (as life forms) have the fair and equal opportunity and entitlement to live dignified lives from the bounty of Nature.⁸⁸⁶ Ecological social justice is consistent with Miller's position that the entitlement to basic social minimums is a fundamental rule of distributive justice.⁸⁸⁷ It is also in accord with Rawls' principles of fairness as a basis for the recognition and distribution of such social minimums. For example, a rule recognizing that all persons have the right to a balanced and healthful ecology would be consistent with Rawls' principle of equal liberties, while a rule that grants compensation to communities displaced by development projects, using a portion of the proceeds from such projects, would be consistent with the difference principle. This is especially important in cases where there are prominent pre-existing inequalities between social groups.

Considering the fact of social inequality, ecological social justice assumes that there is no absolute and unrestricted right to more than what a person needs to live a dignified and decent life; excessive appropriation is anathema. While no one is entitled to excess, everyone is entitled to a minimum. As a result, society may rightfully establish institutions for redistribution in order to prevent anyone from being deprived of their own social minimums by such kinds of unrestrained and prejudicial excessive appropriation by some individuals or groups.

⁸⁸⁴ *International Covenant on Civil and Political Rights*, GA Res. 2200A (XXI), UN GAOR, 21st Sess., Supp. No. 16. UN Doc A/6316 (1966) (1966) 52.

⁸⁸⁵ *International Covenant on Economic, Social and Cultural Rights*, GA Res. 2200A (XXI), UN GAOR, 21st Sess., Supp. No. 16. UN Doc A/6316 (1966) (1966) 49.

⁸⁸⁶ The term "dignified" here is used in same sense as that of the Universal Declaration of Human Rights, especially in Preamble 1 and 4 and art. 1 and 22.

⁸⁸⁷ Miller, Social Justice, *supra* Note 32 at 90.

Protection from such ‘indirect’ violations also provide the basis for a right to a healthy environment. Even in the absence of direct acts accompanied by the social ills above, respect for the entitlement should not be circumvented by indiscriminate or undirected harm-causing actions such as pollution. Thus, ecological social justice entails the formal recognition of an ecological or environmental right *erga omnes*: an entitlement to the specific environmental quality or conditions necessary to supply everyone’s basic social minimums, whether regarded as an individual or a community or social group. Such quality or conditions may pertain to an identifiable material good, such as potable water, or continuing ecological service, such as productive natural habitat as a source of edible food.

As noted in the previous section, a community’s survival should not have to depend on the decisions or actions of other persons (individually or collectively) without the affected people’s knowledge or consent, whether directly or indirectly. This is precisely what happens under the conditions of apartheid, racial segregation and discrimination, colonial oppression and foreign domination that the principles of sustainable development abhor. These social ills are not only morally objectionable as direct violations of human rights, but are also ecologically unacceptable for denying equal opportunity and access to the resources and benefits of Nature, to which all humans (as well as all life forms) are entitled as a matter of survival. Inequity and imbalance are the results of permitting some individuals or groups to be entitled to excess, i.e., more than what they actually need, to the extent of depriving others of their respective social minimums.

3.4.5 Ecological Social Justice and Technology

The application of an ecological social justice framework begins with an understanding of the local community and its context and conditions, especially how it is able to supply its “material wants” from its surroundings. Technology is the means by which these wants are supplied: it is through the application of technology that local communities are

able to access the “ecosystem services” and “ecosystem goods” necessary for daily life.⁸⁸⁸ Since all economic activities take place through the intervention of technology, attention then zeroes in on the operations that allow the transfer and transformation of the services/goods of Nature into services /goods of society. Technology may be used to enhance such services, concentrate their effects or improve the production of needed goods (e.g., agriculture), or make their effects or products available to more people (e.g., transportation); this is a necessary foundation for social stability and growth.⁸⁸⁹ Ecological social justice examines how and what technologies are chosen (e.g., hunting and gathering vs. cultivation); how resources and activities are allocated (e.g., farms, pasturelands, and forest reserves); and how the goods procured from Nature (e.g., harvested grain, hunted animals, gathered fruits) are conveyed and distributed to the members of society.

These questions are pertinent because some technologies require more tools, operations, and divisions of labor than others. Many technologies can co-exist or compete with one another. Any other ‘material means’ that address a human need, like energy, are likewise procured technologically through the series of operations and machineries that form the conventional economic sectors and industries that all governments are concerned about. The introduction and use of any new technology is potentially an issue of choice and allocation among the different technologies that society employs to procure the goods necessary to satisfy its needs for survival: at the same time, it is an issue that potentially

⁸⁸⁸ “Ecosystem services” refer to “conditions and process through which natural ecosystems, and the species that make them up, sustain and fulfill human life.” Such services maintain and produce all basic goods for survival and include all conditions necessary for supporting life. Gretchen C. Daily, ed., *Nature's Services: Societal Dependence on Natural Ecosystems* (Washington DC: Island Press, 1997) at 3.

⁸⁸⁹ Agricultural technologies, for example, from the simple family plow to the agro-industrial farm, establish processes by which society provisions itself from resources in Nature. Indeed, the spread of technologies of cultivation and rise of agricultural production has been found to be the threshold of all civilizations in the past. See for example the work of Burke, *supra* Note 22 and Diamond, *Guns, Germs and Steel: The Fates of Human Societies*, *supra* Note 228.

affects the distribution of such goods among, and impliedly the survival of, its members. For this reason, ecological social justice puts technology at the very center of inquiry. It is therefore an appropriate framework for for analyzing all forms of technology, including ocean energy technologies.

3.4.6 Applying Ecological Social Justice to Law: Three *Focii*

Law is a major component of a society's culture. Since Law can act as an extension of technology, it plays a vital role in determining whether a technology tends to either consolidate or destabilize an existing cultural and political structure. When the Law disturbs the settled patterns of behavior through which a local community satisfies its own needs from Nature, it interferes with the local culture, including the social relations that it defines.⁸⁹⁰ For example, when a fishing community is prevented from fishing in order to make way for petroleum development, or a farming community is resettled in order to make way for a dam impoundment, Law essentially clashes with local culture and power. This affects local communities in different ways and to different degrees. Ecological social justice is particularly concerned with the effect of Law (and the technology it regulates) on the local community's access and use of its surrounding environment.

Ecological social justice is 'ecological' because it is directed toward the economy as the ecological link between society and Nature and the injustices that arise from the manipulation of this link through technology. It sees the economy as an essential part of a social-ecological system with complex integrated and interactive levels and structures.⁸⁹¹

⁸⁹⁰ Local cultures in this sense do not need to be characterized by elaborate and exotic rituals: they need only manifest and support a community's direct access to Nature and its resources.

⁸⁹¹ Conservation biologists and ecologists describe the interdependence of society and Nature as a "social-ecological system," a term coined by Fikret Berkes and Carl Folke to "emphasize the integrated concepts of humans-in-nature"⁸⁹¹ in the search for sustainability within concurrent ecological, social, and economic dimensions. When the definition is dismantled according to its original conception, SES imply

All activities that affect the environment, whether local, national, or global are thus considered economic activities, and these activities represent the ecological linkage through which components of Nature are transformed for the use of society. This broader perspective permits a more comprehensive analysis of “environment law” and “natural resource law” traditionally understood in distinct sectoral terms (as well as other laws such as those on property, public administration, and the economy) as integral components of the social-ecological system. This analysis enables the assessment of the impact of such laws on society’s use of Nature.

In applying ecological social justice to Law, attention must turn to the three dimensions that Schlosberg found to recur repeatedly in the global “environmental justice” movement: distribution, participation, and recognition.⁸⁹² These dimensions are evidently important because they resonate in both the different manifestations of social justice in

two distinct but conjoined systems. *Social* systems refer to “property rights, land and tenure systems, systems of knowledge pertinent to environment and resources, and world views and ethics concerning environment and resources” while *ecological* systems refer simply to “the natural environment.” See Fikret Berkes and Carl Folke, *Linking Social and Ecological Systems; Management Practices and Social Mechanisms for Building Resilience*. (Cambridge UK, New York NY: Cambridge University Press, 1998) at 4.

Each of the two distinct primary systems above are themselves perceivable as nested and inter-connected sub-systems, and each in one system may in turn also be cross-linked with sub-systems in the other, either on the same or across different scales. Crawford Holling refers to this structure as *panarchy*, “the hierarchical structure in which systems of nature and humans, as well as combined human-nature systems, and social-ecological systems are interlinked.” No single entity has exclusive influence over the entire system, nor can it be considered as a separate entity able to affect the system without also affecting itself. Even the managers are themselves are considered integral components of the system and thus sooner or later are also influenced by whatever actions it takes through feedback loops within the system. See Crawford S. Holling, “Understanding the Complexity of Economic, Ecological and Social Systems” (2001) 4 *Ecosystems* 390 at 392, and Lance Gunderson and Crawford S. Holling, eds., *Panarchy: Understanding Transformations in Human and Natural Systems* (Washington DC: Island Press, 2001).

⁸⁹² Schlosberg, “Reconceiving Environmental Justice: Global Movements and Political Theories,” *supra* Note 54 at 517-22.

international environmental law and in actual struggles over environmental issues. As Schlosberg argues, their existence as overlapping and interlinked demands point toward a “unified theory and practice of justice.”⁸⁹³ As shown in Section 3.4 above, the three dimensions are reflected in the emergence in international environmental law of provisions concerning either distribution or decision-making. The first coincides with the ‘distributive’ paradigm of social justice, while the latter two fit the ‘institutional’ alternative. Closer consideration of these three dimensions under the substantivist and social justice lenses further leads to the conclusion that it is in the areas of participation and recognition that one is able to identify the patterns of institutionalized domination and oppression, which in turn have a direct influence on the distribution of benefits and disadvantages from the Nature. At the end of Chapter Two, the question was asked as to what were the ‘gates’ at which society should defend against technological Trojan machines of social inequity: these three dimensions of distribution, recognition, and participation are those ‘gates.’

3.4.6.1 Distribution

Ecological social justice seeks to direct the distribution of resources, their benefits, and their burdens as well, to their locality and local users. Normally, local communities survive due to some degree of direct access to the productive capacity, i.e. the ecosystem services, of Nature; the basic necessities for subsistence (included in Miller’s “social minimums”) are provided by their surroundings. This is why ‘local’ communities tend to connote less urban and more agricultural (or sometimes isolated frontier) communities.⁸⁹⁴

⁸⁹³ *Ibid.* at 518.

⁸⁹⁴ This is not to imply, though, that there would then be no ‘local community’ in a city. In a city, though, the ecosystem services are replaced by ‘artificial’ services. Commercial establishments replace natural reserves as far as the urban inhabitant is concerned (e.g. supermarkets instead of rivers and farms), and public services take the place of natural processes (e.g., waste management contractors instead of natural scavengers). Obviously, the nature of the community changes from one which is self-sufficient to one which is entirely dependent on external inputs. But issues of distribution may still arise.

The provision of the basic necessities in such communities are at least subsidized, if not completely provided, by ecosystem services from their immediate surroundings (e.g. clean water from a mountain spring, produce from nearby cultivation), services that would not otherwise be available in highly urbanized settings.⁸⁹⁵

The process of ‘provisioning,’ historically maintained, creates a web of necessary and expected social values, norms, and behaviors, thus giving rise to cultures, which also establish patterns of power within the community. The localized culture and power also define the rules for the use and taking of resources, which may determine, after a long process of trial and error, the best norms and practices for extending the productive life of such resources while maximizing their beneficiaries, and point to the means for ecological sustainability. Ecological social justice therefore permits reflection on how laws and regulations on technology affect the integrity of local culture and distribution of power over the long term.

Rules of Law can influence and direct the distributive effects of any given technology. For this reason, an ecological social justice analysis must necessarily examine the ways in which legal and policy regimes channel the benefits and burdens of any economic activity. The inquiry should be concerned not only with the distribution of risks, as the environmental justice movement appears to have been largely preoccupied with,⁸⁹⁶ but

⁸⁹⁵ Thus, urban areas such as large towns and cities tend to be the opposite; they are demographically dense but geographically confined, do not have ‘natural’ self-sustaining productive capacities, and must derive the means to support life within the city from elsewhere. The subordination of local communities (that were more directly dependent on ecosystem services from their surroundings) to the urban centers (essentially divorced from similar ecosystem services) is an outcome of the latter’s need to support itself from the production of the other communities. While highly urbanized communities function as markets for others in the periphery, they also acquire a dominant/superior political and economic position vis-à-vis non-urbanized ones.

⁸⁹⁶ From its inception as a powerful reaction to the siting of toxic dumps to contemporary application to issues such as climate change (with a focus on emissions) and e-waste (with a focus on waste materials recovery), environmental

more importantly with the distribution of advantages produced by the activity. Since the economy involves the delivery of ‘want-satisfying means’ then no analysis can be complete without also weighing the distribution of such means with the risks and adverse impacts that the process of delivery entails. Benefits may be tracked as ‘flows’ of want-satisfying means that run along the path of the technology; each stage in the operation may or may not create benefit-flows to affected stakeholders. Although in many cases international environmental law mainly refers to inter-generational distribution, ecological social justice primarily seeks norms that affect intra-generational distribution. This springs from the assumption that no society can address future distributive issues unless present distributive problems are resolved. Besides, it is directed toward existing issues of procurement, allocation, and distribution in the present, rather than the future.

3.4.6.2 Participation

Participation concerns the involvement of sectors or stakeholders in the collective decisions to adopt, implement, or operate a technology. Participation takes place through the procedures and processes established by Law to enable the adoption or implementation of a technology. The degree of participation allowed, the kind of participants and participation process permitted, and the extent to which participation affects the actual operation and management of a technology are all matters identified and defined by Law. Each component operation of a technology may require or allow for a corresponding relevant degree of public participation and decision. Each place may have its own definition of what constitutes public participation, depending on the requirements of such Law. The Aarhus Convention for example identifies access to information, involvement in decision-making, and access to judicial or administrative remedies as the three main modes of participation. Other conventions and laws may focus

justice studies seem to be more pre-occupied with adverse impacts rather than positive benefits derived from an activity. Even Schlosberg falls into this perspective, as he describes the issue of distribution as involving mainly the distribution of risk. Schlosberg, "Reconceiving Environmental Justice: Global Movements and Political Theories," *supra* Note 54 at 518.

on other elements and processes. An ecological social justice analysis investigates the presence and operation of these types of participatory mechanisms and how they contribute to society's use of Nature and its resources.

3.4.6.3 Recognition

Recognition is a cause or requisite of participation and distribution; it is the acknowledgment that an identified group has unique qualities or interests that may be affected, or to the qualities or interests itself, thus necessitating their inclusion in a decision-making process. Such unique qualities or interests often arise on account of the group's identity and culture, which in turn emerge from the group's historical interaction with their environment and resources. Unless people and their 'stakes' in the environment are recognized, they will not be able to access participatory mechanisms effectively (if at all), and such mechanisms will not realize their presumed objective of promoting inclusiveness and openness in decision-making. Instead, they may themselves only become the source of injustice, because they transform into empty formalities whose only purpose is to legitimize someone else's rule over others. Thus, recognition is a function of group identity, which is bound to culture, which in turn determines institutions of participation and distribution.

International law demonstrates two ways by which recognition is encouraged: by identifying distinct groups as entitled to closer attention,⁸⁹⁷ or by promoting open-ended mechanisms and opportunities for participation by groups that may coalesce and self-identify themselves.⁸⁹⁸ Recognition, in a sense, defines the relevant and legitimate

⁸⁹⁷ For example, *Agreement on the Conservation of Polar Bears*, art. 3; *The Amazon Declaration*, para. 3; *Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes*, art. 5(1).

⁸⁹⁸ This is the effect of the Aarhus Convention model, since it does not identify any particular social group or sector, and instead encourages governments to be open to all inputs, whatever may be the source and for any reason or interest that the source may so choose.

stakeholders for any given issue, and determines how such stakeholders' interests and demands are to be treated and addressed. Ecological social justice looks into whether and how the law and technology hinders or encourages such groups to express themselves and partake in the decision-making and distribution processes involved.

As shown previously in Section 3.4.3.3 above on intra-generational equity, international environmental law in both hard and soft law forms already recognizes certain differences among stakeholders affected by an activity. At the inter-State level, some treaties identify the special needs of developing countries, pointing to the recognition of difference among the members of the international community. This is manifest in the general distinction between industrialized or developed States and developing States, and the classification of States under varied criteria in other conventions. Recognition is also integral to the principle of common but differentiated responsibilities between States.

Other agreements, meanwhile, refer to specifically identified social groups; their distinctive character or status is made the basis of particular benefits or entitlements (e.g. indigenous peoples' claims to traditional resource rights), or a condition or quality attributable to a group which is entitled to protection or consideration (e.g. cultural identity). Treaties with these types of stipulations *pour autrui* are less frequent, but nonetheless evince an underlying need to render justice to non-State actors' interests (e.g. indigenous peoples' rights) even as their home States attempt to regulate their relations on the international plane.

The Akwé: Kon is the premiere example of a mechanism intended to facilitate recognition of claims previously unknown or unnoticed (at least insofar as the States Parties' organs are concerned).⁸⁹⁹ This indicates that at best, there is still a long way to go for international treaty law and practice (in this case, with respect to the CBD) to ensure that international environmental efforts do not end up being used as instruments of oppression. There is a need to look into whether the decision-making process for the

⁸⁹⁹ See Akwé: Kon Guidelines, *supra* Note 828

operation of a particular technology either suppresses or provides the opportunity to ventilate and satisfactorily address (even if not to actually accommodate) all possible claims.

In practice, it is difficult to make recognition depend on a prior identification of specific groups: no listing can ever be fully exhaustive and social groups may also self-identify and coalesce depending on their perceptions of an issue and the nature of the problem that is faced. Instead, recognition should be accorded by adapting a principle from Habermas' communicative ethics: everyone who can offer arguments about an issue should be allowed to participate in the deliberative process, and any illegitimate or invalid claims may be weeded out through the process of argumentation.⁹⁰⁰ In simpler terms, all persons who claim a stake in an issue and put forward arguments for consideration should be permitted to do so, and considered until their positions are eliminated by better arguments.⁹⁰¹ What is important is for the process to be as open and transparent as possible to the reception of inputs, and such inputs are accorded the attention and responses that they deserve. This is one more reason why effective public participation processes are important: not only do they allow for diverse public inputs that may improve the quality of decisions, they can also allow the means for proper and more accurate stakeholder identification and recognition.

⁹⁰⁰ See Habermas, *supra* Note 57 at 318-23.

⁹⁰¹ This begs the question of how to determine what is a "better" argument. First, such reasoning should, at minimum, be consistent with the other two principles of distribution and participation. Second, such arguments should accord proper respect to the local cultural context, since ecological social justice draws upon the local conception of justice. Narrowing differences in opinions about what is fair and just as between the locals and the 'outsiders' (which is how proponents of projects involving new technologies are likely to be regarded) is one of the objectives of participation.

3.5 Ecological Social Justice in the Assessment of Ocean Energy Technologies

It is clear that the broad aspiration for social justice permeates the concept of sustainable development. However, the precise scope and framework of social justice within which to pursue these aspirations is not as well defined, leaving room for each society to work them out for itself. To this end, an ecological social justice framework is proposed, to apply social justice principles to the relationship between the two spheres of society and Nature as they manifest themselves in economic activities at the relevant scale.

Perceiving the economy as the bond between society and Nature should remove any lingering doubt as to whether social justice is relevant to environmentalism; it makes any activity that affects the environment a potential issue of social justice. In the absence of such a link, environmentalism alone is unable to bridge the apparent gap between environmental concerns and social concerns.⁹⁰²

Generally, ecological social justice has three goals: (a) promoting the equitable distribution of benefits and burdens created by economic activity, (b) increasing and enhancing the participation of all affected social groups in the determination of such distributions, and (c) promoting the recognition of affected groups and their entitlements

⁹⁰² In 1998, Andrew Dobson observed that modern environmentalism did not seem to address distributive justice. He attributed this to the underlying divergence in the concerns and objectives of the environmentalist and social justice advocacies. On the one hand, environmentalism was essentially concerned with ‘aggregate economic production,’ particularly reducing or regulating it to levels that sustained the environment. On the other hand, social justice was concerned with ‘disaggregated distribution,’ or the division among the different sectors of the benefits of economic production, not the levels it attained. As a result, social justice advocacy and environmentalism had historically been independent streams of social activism, motivated by widely different interests and having evolved in separate spheres. He concluded that the relationship between social justice and environmental sustainability “can only ever be a contingent one.” Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*, *supra* Note 54 at 12-13, 121-30. Such a disjointed relationship between society and Nature could only be attributable to a conceptual separation of the two spheres by not recognizing the economy as an integral link.

to participation and distribution. An ecological social justice analysis brings to the surface the aspects of a technology that raise issues connected with these three goals. These “interlinked, overlapping concerns” of distribution, participation, and recognition provide the *focii* for closer analysis and investigation of whether or not a system of Law established to regulate the use of ocean energy adequately considers the latter’s impact on the ecological relationship between society and Nature, and results in ecological social justice.

3.5.1 Local Context and Ecological Social Justice

Since each social situation affected by an ocean energy technology is unique, it is necessary to establish a detailed understanding of the physical, economic, and social conditions of a community or communities affected. Surveying the ‘legal seascape’ from the perspective of ecological social justice is necessary in order to consider adequately the impact of an ocean energy technology on other technologies of the local economy. In addition, Franklin offers relevant advice on the assessment of technological impacts:

In order to make socially responsible decisions, a community requires three sets of books. One is the customary dollars-and-cents book, but with a clear and discernible column for money saved. The second book relates to people and social impacts. It catalogues human and community gains and losses as faithfully as the ongoing financial gains and losses documented in the first book. In the third book, environmental accounting is recorded. This is the place to give detailed accounts of the gains and losses in the health and viability of nature, as well as the built environment.⁹⁰³ (emphasis added)

It is clear that the “books” that Franklin describes correspond exactly with the realms of economy, society, and environment. By suggesting a simultaneous analysis of decisions about technology along those three lines, she is actually recommending an analytical framework that is not only consistent with the concept of sustainable development, but also directs the questions pointedly to the technology’s impacts according to standards other than environmental quality or economic efficiency. The second book on “people

⁹⁰³ Franklin, *supra* Note 62 at 132.

and social impacts” that “catalogues human and community gains and losses” refers to a social balance sheet measured in terms of social justice:

Central to any new order that can shape and direct technology and human destiny will be a renewed emphasis on the concept of justice. The viability of technology, like democracy, depends in the end on the practice of justice and on the enforcement of limits to power.⁹⁰⁴

The defense of the social fabric thus requires ecological social justice to play a pivotal role in the assessment of the introduction of new ocean energy technologies in any given area. Ecological social justice is particularly directed toward anticipating the degree to which the new technology will impact on the local culture and institutional arrangements of power, that in turn influence the promotion or hindrance of social justice. The existence, or the need for establish, such “limits to power” would be brought to light by looking at the impact of technologies and their supporting legal regimes on issues of distribution, participation, and recognition.

At any point in time, each society has its own conception of “what counts” for justice. A comprehensive and authentic account of an experience with technological impacts must incorporate this context to provide a deeper understanding of “the practice of justice” and “the enforcement of limits to power.” Such practices and limits are presumably already embedded in pre-existing cultural practices and/or legal systems. To undertake an ecological social justice analysis, there is a need to examine a society’s particular conception of social justice, expressed collectively in those pre-existing practices and/or systems. It is necessary to analyze the different operations of a new technology and their effects upon the operation of other technologies already in use by a community. The existing technologies provide the context of the accepted values, dominant perceptions, and previous experiences that communities will use to decide whether or not a new technology promotes or inhibits justice.

⁹⁰⁴ *Ibid.* at 5.

This examination provides the starting point with which to compare the changes introduced by a ‘new’ technology and legal regime on issues of distribution, participation, and recognition with respect to a social group, community or communities located in a specific geographic place and social setting. The future impact of the operation of an ocean energy technology depends on those two reference points: the broader conception of social justice and the specific interaction between different technologies within the community. They determine whether an affected community will eventually feel aggrieved or not for being placed in an ‘unjust’ situation.

3.5.2 The Need for a Case Study Approach

Franklin emphasizes grounding the evaluation of the technology on the experiences, discourses, and opinions of the affected public. She argues that one of the reasons why technology has become so intrusive and influential and yet so unnoticed and unanticipated is the separation (and dominance) of expert knowledge from common experience through the authority of ‘scientific’ analysis. In the modern world, there has come to be an over-reliance on science, scientists, scientific analysis, and scientific opinion which place greater value on ‘empirical’ measurements derived from devices, rather than on direct experience based on the public’s human senses, including the “common sense.”⁹⁰⁵ This is one way in which, Franklin says, “scientific constructs have become *the* model of describing reality rather than *one* of the ways of describing life around us.”⁹⁰⁶ It results in much less value being given, if at all, to the experience and opinion of the ordinary person affected by technology. This is an important issue since it is human perception, not scientific analysis, that recognizes issues of inequity. The demotion of the common human being and elevation of the expert marks the beginning of the exclusion of broader social considerations such as fairness and justice. She thus expresses a fundamental skepticism of expert-based and “scientistic” analysis of any technology:

⁹⁰⁵ *Ibid.* at 31.

⁹⁰⁶ *Ibid.*

The downgrading of experience and the glorification of expertise is a very significant feature of the real world of technology. Sometimes it is important to stress that because the scientific method separates knowledge from experience it may be necessary in case of discrepancies to question the scientific results or the expert opinion rather than to question and discount the experience. It should be the experience that leads to a modification of knowledge, rather than abstract knowledge forcing people to perceive their experience as being unreal or wrong.⁹⁰⁷

Instead of being a purely scientific discourse, the evaluation of technology should be both political and participatory, based on personal experiences and perspectives rather than being theoretical and technical. She asserts that

The discourse should be authentic, giving weight and priority to direct experience and reciprocal communication rather than to hearsay and second-hand information. Thus the discourse should seek out those whom technology impacts.⁹⁰⁸

The emphasis Franklin lays on direct experience and reciprocal communication as characteristics of authenticity each establish important criteria for the information that the inquiry into technology seeks. The appreciation of ‘direct’ experience requires the procurement of personal testimony from those in actual contact with technology, not just the gathering of data from books and reports, nor the derived results of experimentation and testing. ‘Reciprocal’ communication necessitates not a passive harvesting of information from the statements of witnesses, but an active engagement and interaction in conversation and perhaps even argument. These requirements ensure the more accurate reflection of a social reality, instead of the acquisition of only a distilled and sanitized description.⁹⁰⁹

In this sense, an ecological social justice analysis is closer to Amartya Sen’s description of an “accomplishment-based understanding of justice” that adequately considers how

⁹⁰⁷ *Ibid.* at 32.

⁹⁰⁸ *Ibid.* at 126.

⁹⁰⁹ *Ibid.* at 42-47, and 126.

people actually live their lives,⁹¹⁰ and emphasizes their actual capabilities to realize social justice.⁹¹¹ It is an assessment based on the values and priorities that people have.⁹¹² Such an assessment also serves a dual purpose: aside from enabling the assessment of whether an ocean energy technology is likely to be in accord with a specific community's own sense of social justice, it also provides a basis for comparison with the experiences of other societies dealing with the same technologies under different situations and legal systems.

3.6 The Next Steps

This chapter has demonstrated the inadequacy of an amorphous concept of “environmental justice” in dealing with the social equity issues raised by the adoption and implementation of environmentally friendly technologies. The survey of the concept of sustainable development and the development of international environmental law reveals that an underlying and globally expressed desire for social justice in access to Nature has largely been submerged by a discourse that directs attention mainly to the bio-physical (the *limits to growth* discourse) at the expense of the social (the *equitable sharing* discourse). The term “environmental justice” itself contributes to this submergence by masking the indubitable social aspects of issues involving the environment with the language of distribution of risks and harms.

The inexorable demands of social justice keep re-surfacing in both hard and soft law, especially since the 1990s. The principles of sustainable development themselves, produced by negotiated consensus at Stockholm and Rio, demand a fundamental shift in emphasis to the integral value of social justice. There is thus an ever-present need to temper eco-centric environmentalism with an indubitably anthropocentric advocacy of social justice. In this light, this research proposes *ecological social justice* as an

⁹¹⁰ Sen, *supra* Note 63 at 18.

⁹¹¹ *Ibid.* at 19.

⁹¹² *Ibid.* at 17.

alternative approach to analyzing the ways in which our economies work through technology in drawing society's sustenance from Nature.

Generally, an ecological social justice analysis poses two thematic questions, originally suggested by Franklin, about the introduction of any new technology into a community. The first asks not what the technology promises to do, but rather to ask *what they prevent*.⁹¹³ The second, in assessing the costs and benefits of any project, asks not "what benefits?" but rather "*whose* benefits and *whose* costs?"⁹¹⁴ But while the questions appear to be simple, the answers are not: ecological social justice demands a deeper and wide-ranging investigation before conclusions can be reached in reply. The succeeding chapters demonstrate the process of answering these questions.

⁹¹³ Franklin, *supra* Note 62 at 51.

⁹¹⁴ *Ibid.* at 126.

CHAPTER 4

JUSTICE IN PARTIALITY: THE PHILIPPINE LEGAL THEORY OF SOCIAL JUSTICE

Ecological social justice begins with understanding the local idea of social justice as an essential starting point: the injustices that may arise from the introduction any new technology into a specific social space must be understood at the outset from the perspective of those affected. This chapter considers the concept of social justice in the Philippines, one remarkably materialized mainly through jurisprudence rather than academic literature. Through varied *doctrina* and *obiter dicta* flowing from expansive Constitutional mandates and legislative enactments, the Law defined the contours of social justice in the Philippines. The most influential Filipino writers on the subject have actually been members of the Bar and Bench drawing upon actual experience and contemplating concrete situations of injustice, rather than philosophers contemplating abstract and universal theory. Philippine jurisprudence on social justice already includes concrete substantive and procedural responses to the demands of a theory still under discussion in Western socio-political literature today.

4.1 The Philippines

The Republic of the Philippines is a Southeast Asian archipelago of over 7,100 islands, reefs, rocks, and other maritime features located on the western flank of the Pacific Ocean and forming the eastern enclosure of the South China Sea. It lies between Taiwan, Malaysia, and Indonesia. Geographically, the islands are usually thought of in terms of three main areas, identified by Luzon to the north, Mindanao to the south, and the many islands of the Visayas in between.⁹¹⁵ The population is estimated to reach 94 Million in

⁹¹⁵ Patricio N. Abinales and Donna J. Amoroso, *State and Society in the Philippines* (Pasig City: Anvil Publishing, 2005) at 10.

2010.⁹¹⁶ Filipinos are divided into numerous ethno-linguistic groups speaking 78 languages and 500 dialects.⁹¹⁷ English and Filipino are the official language in government communications, but Filipino and the regional languages are also legally required to be the medium of instruction.⁹¹⁸ The Philippines is the only predominantly Christian country in Southeast Asia, with Roman Catholics and various Protestant denominations comprising the majority (84.9% and 5.4% respectively), followed by Islam (4.6%), the Philippine Independent Church (2.6%) and *Iglesia ni Kristo* (2.3%), and various other religions (2.2%).⁹¹⁹

The form of government is a constitutional democracy patterned after that of the United States.⁹²⁰ There are three branches of national government, with an Executive Branch led by a President and Vice-President, a bicameral Legislature composed of a Senate and House of Representatives, and a Judiciary led by a Supreme Court. Leaders of the Executive and bicameral Legislature are chosen by popular elections: the President, Vice-President, and 24 members of the Senate serve six-year terms, while 226 members of the House of Representatives serve for three years on behalf of their respective congressional districts or sectoral party-list organizations.⁹²¹ The President appoints the 15 Justices of the Supreme Court and all judges of lower courts upon the recommendations of an autonomous Judicial and Bar Council.⁹²² The President also appoints all the heads of

⁹¹⁶ National Statistics Office. *Philippines in Figures* (Makati City: National Statistics Office, 2010). Also available online: <<http://www.census.gov.ph/>>

⁹¹⁷ Abinales and Amoroso, *supra* Note 920 at 11.

⁹¹⁸ Constitution of the Republic of the Philippines [1987 Const], art. 14, s. 7.

⁹¹⁹ The Philippine Independent Church and *Iglesia ni Kristo* are both “home-grown” Christian religions. The Philippine Independent Church was established by priests who broke away from the Spanish-controlled Roman Catholic Church during the Philippine Revolution against Spain in the 1890s, while the *Iglesia ni Kristo* was founded in 1913 as an alternative means of teaching Christianity to Filipinos. Abinales and Amoroso, *supra* Note 921 at 11-12.

⁹²⁰ Abinales and Amoroso, *supra* Note 920 at 14.

⁹²¹ *Ibid.*

⁹²² 1987 Const., art. 8, s. 4, 8-9.

various other constitutional bodies such as the Office of the Ombudsman, the Civil Service Commission, and Commission on Audit.⁹²³

Filipinos reside in 42,023 *barangay* (villages) that form 1,497 municipalities and 137 cities located in the 80 provinces.⁹²⁴ Collectively known as local government units (LGUs), these structures enable the actual task of governance in the Philippines. Every three years, citizens elect their local chief executives and local members of the *sanggunian* (local legislative councils) by popular vote. LGUs are corporate entities granted a significant degree of local autonomy as prescribed by the Constitution and enabling laws, including the power to generate their own revenues, manage their own affairs, and form associations for cooperative goals and activities.⁹²⁵ Despite the centralization of natural resource management in the national government under the Regalian doctrine, they still play significant roles, particularly the cities and municipalities. Normally, unless specifically devolved by law, the national government retains all management jurisdiction over all lands and natural resources of the country. But, legislation often provides for LGUs to take part in such management, and accord functions that in practice give LGUs the primary and direct responsibility for day-to-day management of natural resources and the local environment. In the marine areas especially, cities and municipalities exercise jurisdiction over fisheries and environmental management seaward up to 15 kilometers away from the shoreline.⁹²⁶

⁹²³ 1987 Const, art. 9, sub-art. B, s. 1(s) and sub-art. D, s. 1(2); and art. 11, s. 9.

⁹²⁴ National Statistics Office 2010 at 1. Highly-urbanized cities attaining a certain population and income may become independently-chartered cities that have the same status and powers as the provinces. Until then, cities are component cities of the province in which they are located.

⁹²⁵ See 1987 Const., art. X: Local Government. The basic law governing the structure and powers of all LGUs is the *Local Government Code of 1991*, R.A. 7160 (1991).

⁹²⁶ *Fisheries Code*, R.A. 8550 (1998), s. 16-18; For additional information, see Jay L. Batongbacal, "Delineation and Delimitation of Sub-National Maritime Boundaries: Insights From the Philippines." In *Ocean Yearbook 20*, ed. Aldo Chircop, Scott Coffen-Smout, and Moira McConnell (New York: University of Chicago Press, 2006), 41-77.

4.2 Justice in the Filipino Language

According to psychologist Virgilio Enriquez, local research on the general meaning and concept of justice show consistently a dissonance in Filipinos' ideas of the law and of right and wrong.⁹²⁷ He explains that unlike European and Anglo-American traditions where concepts of law and justice are assumed to have evolved simultaneously with culture and history, the Philippines' colonial history reveals that law is a foreign imposition upon the indigenous culture.⁹²⁸ Human rights lawyer Jose Diokno noted that the Spanish words *derecho*, the Italian *diritto*, the French *droit*, and German *recht* which refer to 'right' are all used interchangeably with 'law,' which imply a melding between the concept of rights with law.⁹²⁹ He compared this with the Filipino language where the word for law is *batas*, which means a command, order, or decree, and has nothing to do with the Filipino word for rights, which is *karapatan*.⁹³⁰

The root word of *karapatan* is *dapat*, meaning "fitting, appropriate, and correct," which is very similar in meaning to the word *tarong* that stands for "straight, upright,

⁹²⁷ Virgilio G. Enriquez, *From Colonial to Liberation Psychology: The Philippine Experience*. (Quezon City: The University of the Philippines Press, 2008) at 60-61; also Virgilio G. Enriquez, "The Concept of Social Justice in the Philippine Value System" (1987) 9:1 *Kaya Tao* 1

⁹²⁸ Enriquez, *From Colonial to Liberation Psychology: The Philippine Experience*, *supra* at 60.

⁹²⁹ Jose W. Diokno, "A Filipino Concept of Social Justice." In *A Nation for Our Children: Human Rights, Sovereignty, Nationalism - Selected Writings of Jose W. Diokno* (Quezon City: Claretian Publications, 1987) at 18-19.

⁹³⁰ *Ibid.* at 18. This may explain the widespread inconsistency between the letter of the Law and its implementation in the Philippines. If *batas* is culturally-constructed as referring to only the command, and is not necessarily linked to the substance of the law which is concerned with rights, then it becomes easier to ignore the underlying nature and purpose of any particular law in its implementation. The command may also be simply disregarded if no connection is seen between it and an intended and obvious social value or good.

appropriate, and correct.”⁹³¹ *Tarong* is the root word for *katarungan*, the common word for justice and/or equity among the several major languages in the Philippines.⁹³² Diokno pointed out that justice is therefore about rectitude,⁹³³ which is not necessarily linked to Law, though it is related to rights. In the Filipino psyche, then, there is a closer connection between rights and justice than there is between justice and law. The fact that the Filipino language clearly distinguishes between law and justice, Diokno argued, denotes an inherent assumption that the Law is not always just.⁹³⁴ Law therefore becomes less central to the Filipino concept of justice,⁹³⁵ and the legal grounds for justice must be supported by or consistent with other social values.

These social values are found within five different elements of *katarungan*. The first three elements, *karapatan* (rights), *katotohanan* (truth), and *katuwiran* (reason), are similar to Anglo-Saxon legal principles.⁹³⁶ Anthropologist Michael Tan noted that *katuwiran* comes from the root word *tuwid*, which means ‘straight and upright,’ and sometimes translates to ‘righteousness.’⁹³⁷ The melding of rights with truth and reason implies that justice must be constantly created by a process of reasoning and truth-finding in relation to an individual’s recognized rights, and suggests that there can be no pre-determined state of justice, which is sometimes what Law implies for a given situation.

⁹³¹ *Ibid.* at 18-19, citing Jose Villa Panganiban, "English-Pilipino Dictionary, 1938-1966 (mimeoscript)," (Manila: Limbagang Pilipino, 1966) and Jess Stein and Laurence Urdang, *Random House Dictionary of English Language, Unabridged Ed.* (New York: Random House, undated).

⁹³² *Ibid.* at 18. The word *katarungan* is used by the Tagalog, Ilonggo, Cebuano, and Kampampangan, who together comprise over 48% of the population. See National Statistics Office at 25.

⁹³³ *Ibid.*

⁹³⁴ Enriquez, *From Colonial to Liberation Psychology: The Philippine Experience*, *supra* Note 928 at 61; citing Diokno 1987 at 18.

⁹³⁵ Enriquez, *ibid.*, citing Madeleine Avila, Ma. Angeli Diaz, and Cristina Rodriguez, "Konsepto Ng Katarungan" (1987) 9:1 Kaya Tao 47.

⁹³⁶ Enriquez, *ibid.* at 61.

⁹³⁷ Michael Tan, "How We Think of Human Rights," *Philippine Daily Inquirer* (10 December 1997), at 8.

Each state of justice must be the end-product of a corresponding deliberative process. Tan also noted that the three elements create not only a powerful concept of human rights, but also an imperative to defend those rights.⁹³⁸

However, the word *katarungan* does not refer exclusively to justice between individuals and the settlement of their grievances, but also to justice within society as a whole, or social justice. In times of social unrest in the 1970s and 1980s, activists frequently described their demands for redress for grievances and government reforms as demands for justice.⁹³⁹ In this broader context, *katarungan* has two other elements, *kapayapaan* (peace) and *pagkakaisa* (unity or consensus).⁹⁴⁰ These latter two elements arise from the Filipinos' central value of *pakikipag-kapwa*, derived from *kapwa* which roughly translates into 'both,' 'others,' or 'fellow-beings,' implying a unity and shared identity between oneself and others of one's community, and associated values such as sharing and compassion.⁹⁴¹

Justice for Filipinos therefore must achieve both peace and unity in society, as an outcome of both a sense of compassion and shared social life. These latter two often dominate the other elements, and are manifest as a Filipino disposition for actively seeking bilateral compromises to disputes rather than easy acceptance of unilateral impositions.⁹⁴² Social justice must as much as possible also incorporate individual justice, implying that a sense of justice dispensed at multiple levels simultaneously should be present in a just resolution of an issue. Considering the initial proposition that Law is not always just, justice then depends not only on what the law says it is, but also on what the

⁹³⁸ *Ibid.*

⁹³⁹ Enriquez, *From Colonial to Liberation Psychology: The Philippine Experience*, *supra* Note 928 at 60.

⁹⁴⁰ *Ibid.* at 61.

⁹⁴¹ *Ibid.* at 52. *Pakikipag-kapwa* is a Tagalog word roughly means relating with or being with others.

⁹⁴² *Ibid.* at 61-62.

people say or think it should be at a given moment in time.⁹⁴³ Thus, it is relatively easy for those affected by law to challenge the legitimacy and righteousness of laws. It also implies the need for ‘flexibility’ in compliance with the strictures of law: *dura lex sed lex* is definitely not favored. This would seem to introduce a latent instability in the way Filipino society or its members regard any law or regulation: unless the people’s understanding of what the law “is” generally coincides with what they consider it “ought to be,” they may dispute any law and its implementation. It also implies that Law must continually demonstrate itself to be legitimate and worthy of adherence and compliance by the people whom they affect. This allows Law to be subject always to reflection and a critical perspective. In a society beset by serious social and economic inequalities, this is key to examining and understanding the role that Law plays in either the maintenance of the *status quo* or the promotion of effective reforms in social policy. Law is an integral part of any social problem whatever its manifestation, from overt and violent social upheavals to subtle technological change.

4.3 A Legal History of Social Justice

4.3.1 Social Injustice in the Colonial Age

The legal concept of social justice under the 1987 Constitution is the product of a long evolution that began with the birth of the Republic through the 1935 Constitution. However, its causal roots go much further back in time, arising out of the nation’s

⁹⁴³ *Ibid.* This may also explain the rapid and advanced development of Philippine laws without a corresponding improvement in their implementation. Tan argues:

Our distinction between law and justice/rights might help to explain why Filipino legislators love to pass laws, and Filipinos love to “disobey” them. Perhaps it is because Filipinos do not find justice in law. First, the content of the laws themselves (is) often perceived as unjust and second, the implementation of laws, even if good ones, is all too often unequal, mainly directed against the powerless. Laws, then, are often seen by Filipinos as violating our rights. Tan 1997.

experience under Spanish colonial rule beginning in the 16th century.⁹⁴⁴ For nearly 400 years, Spain monopolized the Philippines as a major source of tobacco, sugar, cotton, paper, and wood.⁹⁴⁵ As its furthest colony, the Philippines was also the most prone to abuse by its rulers. Excessive tributes, taxes, and forced labor caused the masses to stage an increasing number of armed insurrections that were violently suppressed. These rebellions under Spanish colonial rule were “*de facto* indicators of a morally obnoxious inequality between the powerful and the weak.”⁹⁴⁶ For the most part, the masses were denied basic education as part of a conscious effort to deny them equal intellectual status with their religious overlords.⁹⁴⁷

By the 19th century, only a handful of the Filipino elite, the *ilustrado*, were able to avail themselves of the privilege of education abroad and move more freely within and outside the country.⁹⁴⁸ This educated elite experienced prejudice and discrimination from the Spaniards, and soon gave birth to the Propaganda Movement which campaigned for

⁹⁴⁴ The Philippines was colonized by Spain beginning in 1521 with the arrival of Ferdinand Magellan in the islands while attempting to find a western route to the spice islands of Maluku (now the Moluccas). Abinales and Amoroso, *supra* Note 920 at 41-74.

⁹⁴⁵ *Ibid.* at 60-84.

⁹⁴⁶ Mahar K. Mangahas, "Distributive Justice in the Philippines: Ideology, Policy and Surveillance." In *Reflections in Development in Southeast Asia*, ed. Lim Teck Ghee (Singapore: Institute of Southeast Asian Studies, 1988) at 84.

⁹⁴⁷ Spanish imperialism was driven partly by the objective of *conquista spiritual* (spiritual conquest) conducted through the Augustinian, Franciscan, Jesuit, Dominican, and Augustinian Recollect missionaries. For over 200 years, the friars had the monopoly of education and refused to implement royal decrees commanding educational reforms to keep the population ignorant. Only the Jesuit order embraced educational reform. Abinales and Amoroso, *supra* Note 920 at 92-94.

⁹⁴⁸ The *ilustrado* (enlightened ones) were distinguishable from the *principalia* by the fact that they were educated in Europe, and able to see the relative backwardness of Spain compared to her neighbors at the time. Abinales and Amoroso, *supra* Note 920 at 104-05.

reforms in Spain's colonial policies and administration.⁹⁴⁹ Through the publication of the underground newsletter *La Solidaridad* between 1889 and 1895, the Propaganda Movement documented and exposed the racial discrimination that pervaded practically all aspects of Spanish governance,⁹⁵⁰ palpably denying Filipinos the social and economic benefits they expected in their own homeland.

At the heart of these agitations was the realization that the colonial rulers did not treat Filipino people equally and fairly in all phases of national life, especially in politics and economics. The period of widespread racial discrimination and oppression crystallized a historical quest for social justice that has been instilled in the national consciousness ever since.⁹⁵¹ Jose Rizal, one of the most prominent and prolific authors of the Propaganda Movement,⁹⁵² wrote in 1889:

The duty of modern man ...is to work for the redemption of humanity, because once man is dignified there would be less unfortunate and more happy men that is possible in this life. Humanity cannot be redeemed so long as there are oppressed peoples, so long as there are some who live on the tears of many, so long as there are emasculated minds and blinded eyes that enable others to live like sultans who alone may enjoy beauty.⁹⁵³

⁹⁴⁹ For a detailed historical account, see John N. Schumacher, *The Propaganda Movement, 1880-1895: The Creation of a Filipino Consciousness, the Making of the Revolution*, Rev ed. (Quezon City: Ateneo de Manila University Press, 1997).

⁹⁵⁰ See *La Solidaridad*, trans. Guadalupe Fores-Ganzon, vol. 1 (Quezon City: University of the Philippines Press, 1967).

⁹⁵¹ See Mangahas, *supra* Note 946 at 82-98, briefly re-examining the Philippines' economic history from the standpoint of socio-economic inequities and distributive justice.

⁹⁵² Rizal was later imprisoned and executed by the Spaniards on 30 December 1896 for rebellion and sedition in connection with the Philippine Revolution. Rizal's writings are credited with inspiring the revolution against Spain. Jose S. Arcilla, *An Introduction to Philippine History*, 4th ed. (Quezon City: Ateneo de Manila University Press, 1998) at 80; Abinales and Amoroso, *supra* Note 920 at 107-09.

⁹⁵³ Rizal, J. Science, Virtue and Labor. Lecture delivered at a Masonic Lodge in Madrid, 1889; quoted in Albert T. Muyot, *Social Justice and Human Rights in the*

Rizal's eloquent statement neatly encapsulates the fundamental element of social injustice that has consistently underlain the country's history: the idea that a few are privileged on account of the burdens of the many. The idea of 'oppression' is clearly linked with social injustice attributed primarily to coercion (by those who "live on the tears of many") and the deprivation of education ("emasculated minds and blinded eyes"), both of which came to symbolize the worst of the Filipino colonial experience under Spain. Political oppression was attributed to the corrupt colonial government and cultural oppression to racial discrimination, both of which were heavily influenced by the Spanish religious orders. At the same time, the passage imagines the ideal goals of equity as a 'dignified' and 'happy' life that allows all people to 'enjoy beauty.' Notable in this perspective is the absence of the conventional measure of 'happiness:' personal economic wealth. Rizal's vision of the just society thus revolved around a more comprehensive version of personal, human development rather than just the acquisition and distribution of material wealth.

The Propaganda Movement ultimately failed in its objective of peaceful reform, but many of its literary products filtered back to the colony and helped to consolidate and fan a mass-based movement that had materialized independently. The revolutionary *Katipunan*,⁹⁵⁴ a secret society of peasants and working class people committed to overthrowing Spanish rule, drew upon translated versions of some of Jose Rizal's writings, as well as works on the French Revolution.⁹⁵⁵ In 1896 the *Katipunan* formally declared a revolution and Philippine independence.⁹⁵⁶ The initial struggle for independence, however, only ended in a new colonial age, this time under the United States which took possession of the islands in the aftermath of American "assistance" to

Philippines. The U.P. Anthology of Filipino Socio-Political Thought Since 1972 Series (Quezon City: University of the Philippines Press, 2003) at 5.

⁹⁵⁴ Short for *Kataas-taasan Kagalang-galang na Katipunan ng Anak ng Bayan* (Highest and Most Honorable Society of the Children of the Country) See Abinales and Amoroso, *supra* Note 920 at 109-13.

⁹⁵⁵ Abinales and Amoroso, *supra* Note 920 at 110.

⁹⁵⁶ *Ibid*.

Filipino revolutionaries, and later “purchased” the Philippines under the Treaty of Paris of 1898 that ended the Spanish-American War.⁹⁵⁷ Attempts to assert full independence, including the writing and approval of its own constitution, were effectively suppressed by US military forces in the short-lived Filipino-American War.⁹⁵⁸ The Philippines ended up as neither American State nor Territory, but one of the unincorporated territories of the Union.⁹⁵⁹

The Filipino elite easily defected from the revolutionary forces and collaborated with the American colonial project as soon as it became clear that their places would be secure under the new dispensation.⁹⁶⁰ The US President organized a Philippine Commission composed entirely of Americans who formally took over the governance of the Philippines in April 1900, representing the transfer of government from military to civilian control. The Philippine Bill of 1902 legalized the Chief Executive’s actions and became the Philippines’ first constitution *de facto*.⁹⁶¹ This was later amended in the Philippine Autonomy Act of 1916, or the Jones Law, which expanded Filipino participation in government through the inclusion of Filipino members in the Philippine

⁹⁵⁷ For a full account of the events leading up to the American takeover, see Frank Hindman Golay, *Face of Empire: United States-Philippine Relations, 1896-1946*, 2nd ed. (Quezon City: Ateneo de Manila University Press, 1998) at 17-45.

⁹⁵⁸ Abinales and Amoroso, *supra* Note 920 at 117-19; Golay, *ibid.* at 51-53.

⁹⁵⁹ *United States v. Bull* [1940], S.C. L-4614, 15 P.R. 7 at 21-29.

⁹⁶⁰ Golay, *supra* Note 957 at 47-51.

⁹⁶¹ *Philippine Bill of 1902*, Pub. L. 235 c. 1369 (1902). It is also referred to as the Philippine Organic Act of 1902. The Act legitimized the Philippine Commission, a five-man body headed by a Governor-General, and establishing a government structure in the Philippines (Sec. 1, 6-11, and 87) and public financing (Sec. 2-3, 66-86). It also provided for civil and political rights in favor of all citizens based on the US Bill of Rights (Sec. 5). Notably, the Act established the system for acquisition and titling of agricultural lands and forest lands (Sec. 12-19) and mineral lands (Sec. 20-62), and the expropriation of lands owned by the Spanish religious orders (Sec. 63-65). These provisions on lands and natural resources actually comprise the most significant and most detailed portions of the Act, and are effectively the historical foundation of lands and natural resources laws in the Philippines.

Commission and the creation of an elected national legislature and holding of local elections.⁹⁶²

American colonial policy shifted colonial economic relations from Europe to the US very effectively by avoiding the mistakes of Spanish rule,⁹⁶³ and officially promising a transition to eventual independence after a period of ‘tutelage’ in self-government.⁹⁶⁴ The perceived benevolence of the American regime in making greater “educational and social investments” deflected any remaining Filipino belligerence against its new colonial master.⁹⁶⁵ Naturally, the inequities between the elites and masses remained, though obfuscated by the illusion of progress under America. US colonial administration brought in a good number of long-sought reforms such as public educational institutions, the separation of the Church and State, a Philippine legislature, a professional civil service, and a system of government that guaranteed individual civil and political rights patterned after the Americans’ own.⁹⁶⁶ Spanish civil laws continued to subsist, but American common law supplemented the statute law and blended into the interpretation of statutes unless repealed or modified by subsequent legislation.⁹⁶⁷ This generated a hybrid

⁹⁶² *Philippine Autonomy Act*, Pub. L. 240 c. 416 (1916) .

⁹⁶³ Mangahas, *supra* Note 946 at 89.

⁹⁶⁴ The perambulatory paragraphs of the Philippine Autonomy Act particularly provided:

Whereas it was never the intention of the people of the United States in the incipency of the War with Spain to make it a war of conquest or for territorial aggrandizement; and

Whereas it is, as it has always been, the purpose of the people of the United States to withdraw their sovereignty over the Philippine Islands and to recognize their independence as soon as a stable government can be established therein; ...

⁹⁶⁵ Mangahas, *supra* Note 946 at 89.

⁹⁶⁶ Abinales and Amoroso, *supra* Note 920 at 119-25.

⁹⁶⁷ *In re. Shoop* [1920], 41 P.R. 213. at 225-38, 254-55.

jurisprudence that draws liberally from both civil and common law concepts and traditions.⁹⁶⁸

While US initiatives addressed many of the main complaints against Spanish colonialism, major changes in the government system were largely limited to the national level. American public laws replaced significant portions of the Spanish public laws,⁹⁶⁹ but the structure of the provincial and local government administration was largely unchanged and indirectly permitted the perpetuation of the established local political elites and Philippine patronage politics.⁹⁷⁰ It would not be unreasonable to assume that this also meant a preservation of the systems of social obligations and norms of behavior at the local level.

Private property rights and relations established in the Spanish era also remained untouched, because the US and Spain had agreed to maintain the property rights existing at the time of the latter's cession of the Philippines.⁹⁷¹ The only exception was that

⁹⁶⁸ This appears similar to the legal system of Quebec, which melds French civil law with English common law. Anglo-American common law doctrines imported into Philippine civil law include basic concepts of torts, laches, and equity. *Shoop* at 239, n. 1.

⁹⁶⁹ *Ibid.*

⁹⁷⁰ Abinales and Amoroso, *supra* Note 920 at 134-39.

⁹⁷¹ Mangahas, *supra* Note 946 at 88. Art. 9 of the Treaty of Paris of 1898 provided: Spanish subjects, natives of the Peninsula, residing in the territory over which Spain by the present treaty relinquishes or cedes her sovereignty, may remain in such territory or may remove therefrom, retaining in either event all their rights of property, including the right to sell or dispose of such property or of its proceeds; and they shall also have the right to carry on their industry, commerce, and professions, being subject in respect thereof to such laws as are applicable to other foreigners. In case they remain in the territory they may preserve their allegiance to the Crown of Spain by making, before a court of record, within a year from the date of the exchange of ratifications of this treaty, a declaration of their decision to preserve such allegiance; in default of which declaration they shall be held to have renounced it and to have adopted the nationality of the territory in which they may reside.

American policy essentially dismantled the dominance of the old Spanish religious elite by excluding them from government and expropriating their lands; but in so doing, it replaced them with a *nouveau-riche* comprised of American citizens and corporations and the Filipino upper class.⁹⁷² It was with the properties of the public domain that the US made major policy changes. American natural resources law reform focused immediately on the establishment of mechanisms for appropriation of Philippine mineral and forest lands.⁹⁷³ These changes made it easier for such properties to be appropriated for exclusive use and ownership by private persons, mainly the Americans and the local elite.

The change in colonial masters certainly liberalized Philippine economic activity and opened new markets for Philippine goods, but the expanded income benefited mainly those few who owned and controlled the land and natural resources.⁹⁷⁴ As far as the masses were concerned, things had not changed except for the increased availability of social services and institutions, and the opportunity to migrate for work both domestically and abroad.⁹⁷⁵ The establishment and consolidation of a new regime did not substantially affect the situation of economic inequality that existed since the Spanish times.⁹⁷⁶

Throughout the early 1900s, the local political elites lobbied and maneuvered persistently with the US administration for greater autonomy and independence.⁹⁷⁷ Eventually they secured a clear framework for transition into an independent Republic through the

The civil rights and political status of the native inhabitants of the territories hereby ceded to the United States shall be determined by Congress.”

⁹⁷² Mangahas, *supra* Note 946 at 89; Abinales and Amoroso, *supra* Note 920 at 124.

⁹⁷³ For a detailed account, see Owen J. Lynch Jr., "Invisible Peoples and a Hidden Agenda: The Origins of Contemporary Philippine Land Laws" (1988) 63:3 Philippine L. J. 249.

⁹⁷⁴ Mangahas, *supra* Note 946 at 89. In the early days, US interests lay in mineral resources Golay, *supra* Note 957 at 71.

⁹⁷⁵ Mangahas, *supra* Note 946 at 89.

⁹⁷⁶ *Ibid.*

⁹⁷⁷ Abinales and Amoroso, *supra* Note 920 at 124-41; Golay, *supra* Note 957 at 201-27.

holding of a constitutional convention.⁹⁷⁸ The convention opened in 1934, and a year later, approved the 1935 Constitution.⁹⁷⁹ It formally established the Philippine Commonwealth with a system of government mimicking that of the United States, and allowed for greater autonomy as well as conditions for the transformation of the country into an independent Republic.⁹⁸⁰

4.3.2 The 1935 Constitution

4.3.2.1 The Birth of a Legal Principle

The 1935 Constitution is significant for containing the first official expression, in legal terms, of the Filipino aspiration for social justice in Article II, Section 5 that declares:

Section 5. The promotion of social justice to insure the well-being and economic security of all the people should be the concern of the State.

This short and simple statement was the product of significant debate; the introduction of the term social justice was controversial among delegates of the Constitutional Convention. The idea of social justice was originally proposed to be included as part of a lengthy Preamble, as it was thought to be an overriding objective of all branches of government. In his sponsorship speech, Delegate Tomas Confesor of the Province of Iloilo began with a passionate critique of the ways in which the economy worked, and the need for a legal response to the situation.⁹⁸¹ He argued:

⁹⁷⁸ *Ibid.* at 303-45.

⁹⁷⁹ Constitution of the Republic of the Philippines [1935 Const].

⁹⁸⁰ Golay, *supra* Note 957 1998 at 333.

⁹⁸¹ Delegate Confesor particularly referred to the absence of any relief or recourse from economic inequity:

Take the case of the tenancy system in the Philippines. You have a tenant. There are hundreds of thousands of tenants working day in and day out, cultivating the fields of their landlords. He puts all his time, all his energy, the labor and the assistance of his wife and children, in cultivating a piece of ground for his landlord but when the time comes for the partition of the products of his toil what happens? If he produces 25 *cavanes* (sacks) of rice, he gets only perhaps five and the twenty goes to the landlord. Now can he go to court? Has he a chance to go to

(L)et us put it so that there may be social justice in the preamble of the Constitution, so that it should serve as an inspiration, as a commanding order to the legislature to enact laws embodying the spirit and the principles of social justice. And also when that appears here in the preamble, it would serve as a guide to the courts of justice in this country in the interpretation of the terms and provisions of this Constitution, and also in the interpretation of laws that might be passed, inspired by a deep and abiding conviction in the necessity of the establishment of social justice in this country.”⁹⁸²

The proposal provoked a lengthy discussion over the meaning of the term “social justice” and the reasons for its inclusion in the text. Members of the Convention sought clarification about this proposed new term. Delegate Confesor’s explanation was probably too general, as he claimed that social justice is “the crystallization of all kinds of justice.”⁹⁸³ But another proponent, Delegate Jose Locsin, defined it simply as

court in order to secure his just share of the products of his toil? No. Under our present regime of law, under our present regime of justice, you do not give that to the poor tenant. Gentlemen, you go to the Cagayan Valley and see the condition under which those poor farmers are being exploited day in and day out. Can they go to court under our present regime of justice, of liberty, or democracy? The other day, workmen were shot by the police just because they wanted to increase or they desired that their wages be increased from thirty centavos a day to forty or fifty centavos. Is it necessary to spill human blood just to secure an increase of ten centavos in the daily wages of an ordinary laborer? And yet under our present regime of social justice, liberty and democracy, these things are happening; these things, I say, are happening. Are those people getting any justice? No. They cannot get justice now from our courts. For this reason, I say it is necessary that we insert “social justice” here and that social justice must be established by law. Proper legal provisions, proper legal facilities must be provided in order that there be a regime not of justice alone, because we have that now and we are seeing the oppression arising from such a regime. Consequently, we must emphasize the term “social justice”. Jose P. Laurel, *Proceedings of the Philippine Constitutional Convention*, ed. Salvador H. Laurel, 7 vols., (Manila: Lyceum Press, 1966), [Proceedings] vol. 1 at 293-94.

⁹⁸² Proceedings, vol. 3 at 295.

⁹⁸³ One of first questions asked of Delegate Confesor was if it was any different from other forms of justice. Delegate Confesor’s regarded social justice as a broad and all-encompassing concept:

...justice to the common *tao*, the ‘little man’ so-called. It means justice to him, his wife, and children in relation to their employers in the factories, in the farms, in the mines, and in other employments. It means justice to him in the education of their children in schools, in his dealings with the different offices of government, including the courts of justice.⁹⁸⁴

Locsin’s definition above evinced an attempt to establish a constitutional safeguard against the historical injustices that previously led to the Philippine revolution against Spain. It sprang from a fundamental desire to assure education for all and protection from abuse at the hands of government. The idea also evinced a distinct focus on social class. Although the proponents were unable to define their idea of social justice positively, they did try to distinguish it from compliance and enforcement of statutes. They clearly thought that it referred to the establishment of equity in economic status and opportunities, which could not be legislated and enforced. They also recognized that it was a relatively new concept that departed from traditional notions of justice.⁹⁸⁵

SR. CONEJERO. *Creo que estará conmigo el Delegado por Iloilo de que existen distintas clases de justicia, como por ejemplo la social, la distributiva, la individual, etc. ¿No cree s.s. que en se case debiéramos incluir allí la justicia individual, la distributiva, y otras clases de justicia?* (I think that the Delegate from Iloilo can agree with me that there are different kinds of justice, for example, social, distributive, individual, etc. In that case, does he not think that we should [also] include here individual, distributive, and other kinds of justice?)

SR. CONFESOR. *Precisamente, la justicia social es la cristalización de todas las justicias.* (Precisely, social justice is the crystallization of all kinds of justice.)

Laurel 1966, vol. 3 at 296. [translated by author. NOTE: Most delegates of the 1934-35 Constitutional Convention were fluent in both Spanish and English, but comfortable in one or the other language. As a result, the records of the debates shift erratically between Spanish and English depending on the speaker’s preference.]

⁹⁸⁴ Muyot, *Social Justice and Human Rights in the Philippines*, *supra* Note 953 at 11, and Joaquin G. Bernas, *The 1987 Constitution of the Republic of the Philippines: A Commentary*. (Manila: Rex Printing, 2009) at 77, both citing Jose Maminta Aruego, *The Framing of the Philippine Constitution (1934-1935)* (Manila: University Publishing, 1936) at 147.

⁹⁸⁵ The struggle over a clear distinction between the term “social justice” and other similar terms is exemplified in an extended exchange between Delegates Jose Delgado and Ruperto Kapunan:

SR. KAPUNAN: ...*Sin ir mas lejos tenemos aquí muchos casos en Manila que reflejan la falta de justicia social. ¿Por qué razón, Senores de la Convencion, los ninos pobres no son admitidos en las escuelas? ¿Por qué razón existen escuelas y asilos para extranjeros? Por qué se niega a los Filipinos igual oportunidad? ¿Por qué no se abren asilos para domesticos, a estos ninos que corren at large? ¿Por que razón no se ofrece una oportunidad a los pobres para mantener a sus hijos? ¿Por qué se les echas a esos fuera cuando hay un padre rico capaz de obtener justicia para sí solamente por ser rico, y por qué esos padres de familias que no son ricos no pueden acudir a esas autoridades para que sus hijos sean admitidos lo mismo que los hijos de los ricos? Esa es la justicia social a que me refiero. No me refiero a la justicia legal.* (... Without going any farther, we have here in Manila many cases reflect the lack of social justice. Why, Gentlemen of the Convention, are poor children not allowed in schools? Why do schools and shelters exist for foreigners? Why are Filipinos denied equal opportunity? Why are domestic homes not open to these children who are at large? Why are no opportunity offered for the poor to keep their children? Why are they excluded when there is a rich father who could obtain justice for only himself because he is rich, and why can those parents who are not rich not go to the authorities so that their children may be admitted, the same as the children of the rich? This is social justice to which I refer. I am not referring to legal justice.)

...

SR. DELGADO: *¿Cree el Delegado por Leyte que la justical social es una nueva justicia? Hasta ahora todos los tratadistas admiten que hay tres clases de justicia: a legal, a distributiva y la commutativa. Ahora pregunto al Sr. Orador: ¿cuál de las es justicias pertenece la justicia social?* (Does the Delegate from Leyte believe that social justice is a new form of justice? So far, all writers agree that there are three kinds of justice: legal, distributive and commutative. Now I ask, Mr. Speaker: to which of these justices does social justice belong?)

SR. KAPUNAN. *Si los clásicos no han tenido en cuenta la clasificación de justicia social, fué porque esa clasificación de justicia social no se conocia en el mundo. Su Senoría sabe muy bien que la justicia social no es más que el efecto de las tiranías causadas por las instituciones antiguas. Dígame Su Senoría, cuando se dieron esas acepciones en Roma, porque creo que Su Senoría se refiere a Roma, si Roma sostenía la idea de que la fuerza era el mayor de todos los derechos.* (If the classics have not taken into account the classification of social justice, it is because this classification of social justice was not known in the world. Your Honor is well aware that social justice is not the effect of tyranny caused by the old institutions. Tell me, Your Honor, when can those meanings be found in Rome, because I believe that you referred to Rome, if Rome held the view that force was the best of all rights.)

Naturally, there was a fear among some delegates that ‘social justice’ meant ‘socialism,’ which in turn implied the Bolshevism that swept Russia and was gaining ground in Europe in 1920s through the 1930s.⁹⁸⁶ The proponents strongly believed that the economic inequalities within Philippine society at the time demanded that the powerless and poor be given a protective shield through government. Despite the larger role they saw for government, they emphasized that this did not mean an advocacy of ‘socialism’ as they understood it; instead, ‘social justice’ was proposed as a kind of alternative and enlightened philosophy.⁹⁸⁷ The policy responses contemplated at the time (e.g. minimum

SR. DELGADO. *No me ha de negar s.s. que los grandes sociólogos modernos al estudiar el concepto de justicia social no han querido crear una nueva modalidad sino simplemente una clasificación entre la justicia legal y justicia distributiva, de tal suerte que la justicia social, según los sociólogos no es más que la aplicación recíproca de la justicia legal y de la justicia distributiva o a la justicia social, según la concepción moderna, no es más que la ampliación de estos conceptos, por lo tanto, no hay nueva justicia. Y, en conclusion, propongo que se adoptase la justicia social en el preámbulo.* (I must deny the previous statement that great modern sociologists who study the concept of social justice will have not wanted to create a new form but merely a classification between legal justice and distributive justice, in such a way that social justice, according to sociologists, is just the reciprocal application of legal justice and distributive justice, or that social justice, according to modern ideas, is merely the extension of these concepts, hence, there is no new justice. And, in conclusion, I propose social justice be adopted in the preamble.)

Just the initial discussion over the proposal to include the term “social justice” in the preamble took most of the day. Proceedings, vol. 3 at 304-05. [translated by author]

⁹⁸⁶ Remigio E. Agpalo, *Jose P. Laurel: National Leader, Political Philosopher* (Quezon City: Vera Reyes, 1992) at 151-60.

⁹⁸⁷ Intervening in support of Delegate Confesor’s proposal to include “social justice” in the Preamble, Delegate Kapunan noted that many countries were succumbing to social unrest and revolution. He argued:

SR. KAPUNAN: ... *Por qué razón Espana ha caído y las otras naciones han caido lo mismo? Porque la justicia social era completamente desconocida. En efecto, ¿por que razon se gozan los beneficios del mundo por algunos pocos y no por todos nosotros? ¿Por que razón han venido otros a gozar de los privilegios que Dios y la naturaleza han concedido a unos pocos? Si los bienes de la naturaleza son para todos, si los hombres han nacido iguales. ¿Por qué razon*

van a ser unos pocos los privilegiados? Porque las oportunidades no se ofrecen a todos y, a cada uno de nosotros. Esta es la razon que sosiente la idea del Caballero por Iloilo, por que la justicia social es una necesidad, queramos o no la queramos. Esta es la idea que ha de imperer en el mundo, y no digo en Filipinos solo, porque ya esta ensenanado su garra el socialism. No se entienda por socialism el Bolshevikismo, no. Socialismo quiere decir ofrecimiento de iguales oportunidades para cada hijo de su madre. No veo la razon porque se da justicia a unos pocos, porque so ricos, y se la niega a otros, porque son pobres. Cuando las constituciones dicen que la justicia tiene que ser abierta para todos, ésta no es más que la manifestación de la justicia social. No quiere decir con las palabras "justicia social," justicia para todos, que se ofrezca igual oportunidad tanta para los pobres como para los ricos. Extendamos nuestra Mirada a nuestro derredor. ¿Qué pasa? Que al lado de unos miles, hay unos millones que están sufriendo las miserias. Y ¿Cual es la razón? Porque se han negado las oportunidas que tienen los otros. (... For what reason has Spain fallen, and other nations have also fallen? Because social justice was completely unknown. Indeed, why should the benefits of the world be enjoyed by a few and not all of us? Why have others come to enjoy the privileges that God and nature have given a few? If the goods of nature are for all, then men are created equal. Why are there the privileged few? Because opportunities are not offered to all and each of us. This is the reason behind the idea of the lone Gentleman from Iloilo, that social justice is a need, whether we want it or not. This is the idea that must prevail in the world, and I don't say in the Philippines alone, because this shows us his understanding of socialism. Socialism is not understood by the Bolshevik, no. Socialism means offering equal opportunities for each child of a mother. I do not see the reason why justice is given to few, because they are rich, and denied to others, because they are poor. When the constitutions say that justice must be open to all, this is no more than a manifestation of social justice. To not say the words "social justice" justice for all, to offer so equal opportunity for the poor and the rich. Let us extend our gaze around us. What [is there]? That next to a few thousand, there are millions who are suffering in misery. And what is the reason? Because they [the few] have denied the opportunities of others.) Proceedings, vol. 3 at 301-03. [translated by author]

Convention Chairman Laurel reiterated the positioning of social justice vs. communism two decades later in his academic writings, stating:

Republicanism can only compete with communism successfully in a country like the Philippines by centering its effort principally on the wide though fairly concrete area of social justice and social and economic reforms. Jose P. Laurel, *Thinking for Ourselves*. (Manila: 1958), quoted in Agpalo at 329.

Laurel further explained:

wage legislation, a social security system) drew primarily upon US policy in the aftermath of the Great Depression; apparently the framers intended to “constitutionalize” the attractive features of Roosevelt’s New Deal.⁹⁸⁸

The advocates advanced social justice as a middle-ground between two ideological extremes: communism and *laissez-faire*. On one hand, some delegates sought assurances against any implication of socialism and total centralization associated with the Bolsheviks, but on the other hand, others sought to counter free market doctrines such as

Maintaining all these essential requirements (representation, renovation, and popular control), we should furthermore have a socialized democracy, or form of state socialism by which the State is permitted to intervene and control in matters necessarily connected or involved in the promotion of economic security and social justice. Jose P. Laurel, "Political and Moral Philosophy." In *Jose P. Laurel: Leader for All Seasons*, ed. Jose P. Lansang (Manila: Jose P. Laurel Memorial Foundation, 1970), quoted in Agpalo at 329.

⁹⁸⁸ When criticized by one delegate about the Convention’s “fascination exerted by current tendencies” in other jurisdictions, particularly the inclusion of policy directives and the expansion of the government’s regulatory reach in business and industry, Delegate Manual Roxas replied:

My answer is that this constitution has a definite and well defined philosophy, not only political but social and economic. A constitution that in 1776 or in 1789 was sufficient in the United States, considering the problems they had at that time, may not now be sufficient with the growing and ever-widening complexities of social and economic problems and relations. If the United States of America were to call a constitutional convention today to draft a constitution for the United States, does any one doubt that in the provisions of that constitution there will be found definite declarations of policy as to economic tendencies; that there will be matters which are necessary in accordance with the experience of the American people during these years when vast organizations of capital and trade have succeeded to a certain degree to control the life and destiny of the American people? If in this constitution the gentleman will find declarations of economic policy, they are there because they are necessary to safeguard the interests and welfare of the Filipino people because we believe that the days have come when in self-defense, a nation may provide in its constitution those safeguards, the patrimony, the freedom to grow, the freedom to develop national aspirations and national interests, not to be hampered by the artificial boundaries which a constitutional provision automatically imposes. See Proceedings, vol. 3 at 177-78.

State non-intervention and the unbridled freedom of contract, which were also embedded in the constitution but were seen as a cause of economic inequities.⁹⁸⁹ The government was to play the key role in treading this path toward national development in a way that reduced economic inequalities, whether as tangible incomes or opportunities, and benefited the majority of the population who were poor.⁹⁹⁰ Government was perceived to

⁹⁸⁹ Even after agreement was reached on the inclusion of the social justice principle in the constitution, Delegate Locsin at one point particularly expressed his fear thus: “...*si por justicia social entendemos la distribución equitativa de la economía social, forzosamente esta disposición sera imposible frente a los deseos de la Asamblea Nacional, en virtud de este enunciado de la inviolabilidad de las obligaciones contractuales.*” (...if we understand social justice as the equitable distribution of the social economy, this provision will be impossible to enforce against the wishes of the National Assembly under the principle of the inviolability of contracts.”) Proceedings, vol. 3 at 427 [translated by author]. At that time, the American-dominated Supreme Court sometimes still ruled against social legislation on grounds of the principle of inviolability of contracts. One stark example was *People v. Pomar* [1924], S.C. 22008, 46 P.R. 440. in which the Supreme Court declared upon that very basis that a statute granting 30-day maternity leave for female employees was unconstitutional.

⁹⁹⁰ Delegate Locsin noted:

SR. LOCSIN. *El Sub-comité de Siete, tuvo la inspiración feliz de consignar en su esbozo, el postulado de la justicia social. Para la población proletaria, justicia social es todo un programa de acción, que ha de romper los diques del egoismo que concentran la riqueza y el bienestar en el predio de algunos privilegiados, para desparramarlos por las planicies donde se acampan las masas de pueblo. Para la efectividad de esta acción se requiere un gobierno fuerte, celoso y avaro de todas sus prerrogativas, de orientación colectivista.* (“The Sub-Committee of Seven was happily inspired to enter in the draft, the postulate of social justice. For the proletarian population, social justice is an entire program of action, that can break down the barriers of egoism (individualism) that concentrate wealth and benefits on the estates of the privileged, to scatter across the plains where the masses of people are camped. To be effective, this action will require a strong government, jealous and greedy of all its prerogatives, [and a] collectivist orientation.”)

The “Sub-committee of Seven” Locsin referred above to was a committee of seven delegates who were given the task of finalizing the draft of the Constitution, led by Delegate and Commissioner Chairman Jose Laurel. Proceedings, vol. 3 at 491 [translated by author].

be both regulator, enforcer, and referee in the inevitable interactions between economic interests and groups, as explained by Delegate Delgado at one point:

SR. DELGADO. ... *El Estado, al consignar en el precepto o en la Constitución de que es deber suyo regular la cuestión social o las relaciones entre el capital y el trabajo y entre los empleadores y empleados, se compromete a guiarse por las demandas y por los preceptos de la justicia social. Como ustedes comprenderán, la justicia social no es mas que la justicia que regula el orden al bien común de las relaciones entre los grupos sociales y los individuos como miembros de esos grupos sociales. Si el gobierno, que tiene por fin el bien común, viendo que estas relaciones están en peligros y que, por lo tanto, el bien común está también en peligro, tiene el estricto deber de regularlas para salvaguardar ese bien común y el bien de los componen la comunidad...* (“... The State, in entering into this provision of the Constitution, acknowledges its duty to regulate social questions or the relations between capital and labor and between employers and employees. It undertakes to abide by the demands and precepts of social justice. As you understand, social justice is no more than justice that regulates relations for the common good between social groups and individuals as members of these social groups. If the government, which aims at the common good, sees that these relations are in danger and that, therefore, the common good is also in danger, it has the strict duty to regulate [in order to] safeguard such common good and the good of the components of the community...”⁹⁹¹ (emphasis added)

Prima facie, it would appear that the social justice provision of the Constitution was influenced by Marxist analysis even in the absence of specific reference to Marx and Marxist philosophy in the deliberations (other than Bolshevism). Movement away from *laissez-faire*, interventionism in the then-inviolable freedom of contract, regulation of relations between capital and labor, and the regulatory responsibilities placed upon the State on behalf of the common good are hallmarks of the State-centric characteristics of socialism.⁹⁹² Even the fledgling Philippine Left embraced the Constitutional concept.

⁹⁹¹ Proceedings, vol. 5 at 471 [translated by author].

⁹⁹² It may be reasonably speculated, however, that since there was no strong communist movement at the time, Marxist analysis indirectly filtered into Filipino political discussions through the *Quadragesimo Anno*, which was likely to have been read or preached upon in all the Catholic churches sometime after its release in 1931. Even

Writing in the *Philippine Law Journal* in 1938, a young Jose Lava, who would later become the Secretary-General of the first Communist Party of the Philippines,⁹⁹³ endorsed it as part and parcel of “ethical due process”.⁹⁹⁴

...A thing cannot have utility or value independent of individual who ultimately desire to consume that thing. Hence, in the final analysis, goods produced have value only in so far as there are individuals who desire them. It is thus seen that both the physical objective thing itself, and its subjective value, are the products of the cooperative efforts and aggregate desires of individuals forming society –in short are social products.

Having thus established the fact that wealth and its value are social products, it is easy to appreciate the ethical validity of the claim for social justice. If wealth can only be produced by the combined pains and privations of individuals in society, and if its greater or lesser utility is determined by these same individuals, it is natural that the income derived therefrom should be apportioned to those responsible for its production, in proportion to the pains and privations severally exerted by those participating in the productive process. It is an admitted fact that an individual alone, whatever his abilities cannot produce as much as he could than if he were aided by others. Hence, it is obvious that technical training and individual ability are not sufficient to produce efficiently. Cooperation on the part of the less able personnel is necessary to render possible efficient production. It follows that in the distribution of income

up to the present, Papal encyclicals, or parts thereof, and other important “letters to the flock” from superiors in the Catholic hierarchy are read as part of the sermons in Catholic masses when they are issued. The *Quadragesimo Anno*, in reiterating and expounding upon the earlier *Rerum Novarum*, may be seen as essentially a response to Marxist socialist theory, and thus engages with the latter’s various distinct constructs and ideas.

⁹⁹³ Jose Lava, together with brothers Jesus and Vicente, are credited with a seminal influence on the Philippine Left, having overseen the birth of the first *Partidong Komunista ng Pilipinas* (Philippine Communist Party). See Jose Jr. Y. Dalisay, “The Lava Brothers: Blood and Politics” (1998) 2:3 Public Policy 87.

⁹⁹⁴ Jose Lava, “Unwarranted Application of the Due Process Clause (Part I)” (1938) 18:3 Philippine L. J. 113 at 136-39. “Ethical due process” meant “the ethical harmonization of possible conflicting interests, the unifying principle in an otherwise anarchic state of selfish interests.”

from production there should be the least disparity between the incomes of the several individuals, who cooperated in the productive process. ...”⁹⁹⁵

It is clear that socialism was far from an attractive philosophy for the elite-dominated Constitutional Convention. Anti-communist sentiment was quite high, fueled in no small measure by the Roman Catholic Church at the time.⁹⁹⁶ The *Partidong Komunista ng Pilipinas* (Community Party of the Philippines) was outlawed by judicial fiat in 1932, less than two years after it was officially organized,⁹⁹⁷ and just prior to the election of the Convention delegates. In the absence of a Marxist basis for the Constitutional Commission’s acceptance of the social justice concept, it is reasonable to speculate that the majority of the delegates did so not because of Marxism, but rather the influence of the Roman Catholic Church.⁹⁹⁸ At the time of the Convention, it was only about 3 years

⁹⁹⁵ Jose Lava, "Unwarranted Application of the Due Process Clause (Part IV)" (1938) 18:6 Philippine L. J. 317 at 318-19.

⁹⁹⁶ Early Filipino Marxists were decidedly anti-“clerico-fascist,” seeing in the religious orders the continuation of the feudal order that had prevailed throughout colonial history. This position was consistent with the anti-religious sentiment of *illustado* politics, which the Roman Catholic Church also attempted to suppress. In the 1930s, the Church was practically battling with Marxists for ideological leadership of the reformist trends in Philippine politics. See Mario Bolasco, "Marxism and Christianity in the Philippines: 1930-1983." In *Marxism in the Philippines: Marx Centennial Lectures*, ed. Third World Studies Center (Quezon City: Third World Studies Center, 1984) at 101-08.

⁹⁹⁷ *People v. Evangelista* [1932], S.C. 36275, 57 P.R. 354.; *People v. Evangelista* [1932], S.C. 36278, 57 P.R. 375.. In both cases, the Supreme Court ruled that the communist party was an illegal association prohibited by the Penal Code. See also Alfredo B. Saulo, *Communism in the Philippines: An Introduction*. (Quezon City: Ateneo de Manila University Press, 1969) at 23-28.

⁹⁹⁸ Despite the oppressive role they played during the Spanish colonial period, Filipinos distinguished the religious orders and the religion, i.e. they disassociated the men who perpetrated the injustice from the faith they practiced. Other than the expropriation of friar lands by the government, there was no other major backlash against the Roman Catholic Church (in terms of membership) for its complicity in Spanish rule, and up to the present the Philippines remains predominantly Roman Catholic. It has been argued that in fact, while many of the reformist *illustado* were driven to eschew Catholicism and into anti-clerical Freemasonry, the revolutionary masses ironically embraced religion even more strongly because they saw

since Pope Pius XI issued his papal encyclical *Quadragesimo Anno*,⁹⁹⁹ which certainly filtered into the perspectives of the predominantly Catholic delegates.¹⁰⁰⁰

The *Quadragesimo Anno* was a restatement and update of the Roman Catholic Church's understanding and positions on the relations between capital and labor, originally expressed in 1891 by Pope Leo XIII's *Rerum Novarum*.¹⁰⁰¹ The lengthy encyclical defined the Church's doctrine on social justice:

(N)ot every distribution among human beings of property and wealth is of a character to attain either completely or to a satisfactory degree of

themselves in the struggle against Spain as embodying The Passion. The metaphor was even more strongly reinforced by the public execution of Dr. Jose Rizal, whose writings also partly inspired the revolution. The integration of religion into the revolution also explained the emergence of the Philippine Independent Church and the series of local uprisings against Spain (and later the United States) in which variations of folk Christianity formed the ideological basis and prime motivation for the rebellion. The Passion is seen to have provided a framework through which the masses articulated the values and ideals for their liberation. The elite *principalia*, on the other hand, as the privileged class during Spanish rule, really had no reason to turn against the Church, other than to acquire the friar lands expropriated by the American government. Thus, the Roman Catholic religion and its priests and orders survived the revolution intact, even if some of its temporal properties did not. See Reynaldo C. Ileto, *Pasyon and Revolution: Popular Movements in the Philippines, 1840-1910*. (Quezon City: Ateneo de Manila University Press, 1979); also Abinales and Amoroso, *supra* Note 920 at 110-12, and 128.

⁹⁹⁹ Pope Pius XI, *Quadragesimo Anno, on Reconstruction of the Social Order, 15 May 1931*. (The Vatican: Libreria Editrice Vaticana, 1931). Also available in electronic format, The Vatican Online <http://www.vatican.va/holy_father/pius_xi/encyclicals/documents/hf_p-xi_enc_19310515_quadragesimo-anno_en.html> 08 May 2007, Date accessed: 10 March 2010

¹⁰⁰⁰ The influence of the Roman Catholic Church's moral teachings is evident in Convention Chairman Jose Laurel's outlook, which he documented during his later academic writings. See Agpalo, *supra* Note 986 at 304-07, 317-26.

¹⁰⁰¹ Pope Leo XIII, *Rerum Novarum, on Capital and Labor, 15 May 1891*. (The Vatican: Libreria Editrice Vaticana, 1891). Also available in electronic format, The Vatican Online <http://www.vatican.va/holy_father/pius_xi/encyclicals/documents/hf_p-xi_enc_19310515_quadragesimo-anno_en.html> 08 May 2007, Date accessed: 10 March 2010

perfection the end which God intends. Therefore, the riches that economic-social developments constantly increase ought to be so distributed among individual persons and classes that the common advantage of all, which Leo XIII had praised, will be safeguarded; in other words, that the common good of all society will be kept inviolate. By this law of social justice, one class is forbidden to exclude the other from sharing in the benefits. Hence the class of the wealthy violates this law no less, when, as if free from care on account of its wealth, it thinks it the right order of things for it to get everything and the worker nothing, than does the non-owning working class when, angered deeply at outraged justice and too ready to assert wrongly the one right it is conscious of, it demands for itself everything as if produced by its own hands, and attacks and seeks to abolish, therefore, all property and returns or incomes, of whatever kind they are or whatever the function they perform in human society, that have not been obtained by labor, and for no other reason save that they are of such a nature...¹⁰⁰² (emphasis added)

The debates and interpellations certainly document a discourse consistent with the *Quadragesimo Anno*'s attempt to find a middle ground between individual rights and social obligations involved in the functioning of the economy.¹⁰⁰³ And despite its socialist leanings, the delegates assured themselves that it was not an acceptance of socialist or Bolshevik (as most delegates labeled it) ideology. It is fair to say that social justice, as one of the fundamental principles of its Constitution, firmly establishes the Philippines as a liberal democratic State, though decidedly 'activist' in its inclination. Delegate Jose P. Laurel, Chairman of the Convention,¹⁰⁰⁴ emphasized that the draft Constitution

¹⁰⁰² Pope Pius XI, *supra* Note 999 at para. 57.

¹⁰⁰³ Review for example, the excerpts of the debates reproduced in notes 977, 979, and 981, *supra*. The questions on "commutative justice" and "distributive justice" certainly reflect the rationales of the *Quadragesimo Anno*. Pope Pius XI 1931 at paras. 5, 47, 57-58, 110, 136-37. This would later be corroborated by the Supreme Court in *Philippine Sugar Estates v. Prudencio* [1946], S.C. L-75, 76 P.R. 111, where the Court referred to "Christian charity" as one basis for the social justice policy of the 1935 Constitution.

¹⁰⁰⁴ A former lecturer at the University of the Philippines College of Law in the 1920s, educated in Yale as one of the first American *pensionados* (Filipinos granted scholarships to study in the US for government service in the Philippines), Jose Laurel was the greatest influence on the formative years of Philippine jurisprudence, especially on the judicial interpretation of social justice. His impact on the

maintained the protections for individual liberties, and this meant that social justice required “equilibrium between liberty and authority,” a task that befell both society and the individual.¹⁰⁰⁵ By accepting the need to juxtapose individual rights liberties with social duties and prerogatives, Chairman Laurel placed the ultimate burden of promoting social justice upon the Judiciary:

SR. LAUREL. ... In the very draft itself of the Constitution that we are considering we find provisions pertaining to social justice and of socialistic tendencies... And yet, our proposed Bill of Rights, I dare say, may be made to adapt itself to these perchance “revolutionary” provisions, through proper interpretation and application of the reserve “police power” of the State. The task in this respect will be thrown mainly on the judiciary and to some extent on the political departments of the government. We shall need to summon not only the learning but the vision and patriotism of our judges, so that in the process of exposition and construction of the fundamental law, they may emulate the “judicial statesmanship” of the great John Marshall of the Supreme Court of the United States. Let our judges be, as it were, the vestal keepers of the purity and sanctity of our Constitution and the protection and vindication of popular rights will, I trust, be safe and secure in their reverential guardianship.¹⁰⁰⁶

development of the doctrine was personal, as a member of the Constitutional Commission and later the Supreme Court, and generational, through his students, some of whom also became the Justices of the Supreme Court including Chief Justice Enrique Fernando. See Agpalo, *supra* Note 986.

¹⁰⁰⁵ He later explained that these liberties assumed primary importance because Liberty is a blessing without which life is a misery, but liberty should not be made to prevail over authority because then society will fall into anarchy. Neither should authority be made to prevail over liberty because then the individual will fall into slavery. The citizen should achieve the required balance of liberty and authority in his mind through education and personal discipline, so that there may be established the resultant equilibrium, which means peace and order and happiness for all. Jose P. Laurel, "Commentaries on the Moral Code," quoted in Muyot, *Social Justice and Human Rights in the Philippines*, *supra* Note 953, 5-10 at 7.

¹⁰⁰⁶ Proceedings, vol. 3 at 674.

A few years after the approval of the Constitution, Chairman Laurel sought to discharge precisely this task of ‘judicial statesmanship’ as soon as he was appointed as Associate Justice of the Supreme Court of the Philippine Commonwealth that he helped create.

4.3.2.2 Laying the Doctrinal Foundations in the Pre-War Era

The inauguration of the Philippine Commonwealth provided the means to further develop the concept of social justice mandated in the 1935 Constitution. The first President of the Commonwealth, Manuel L. Quezon, embraced the task of promoting social justice at his inauguration.¹⁰⁰⁷ One of Quezon’s first acts to this end was to appoint former Chairman Jose P. Laurel as Associate Justice of the first all-Filipino Supreme Court. This established a philosophical continuity between the Constitutional Convention’s original ideas and the Judiciary’s implementation of the social justice provision of the 1935 Constitution. Indeed, Justice Laurel was instrumental in the further development of the concept of social justice through the decisions that act as fundamental precedents in court cases even today. It began with the government’s pursuit of social justice through

¹⁰⁰⁷ In his inaugural speech, President Quezon remarked:

In the field of public welfare, I have been unflagging in my efforts to promote social justice and to ameliorate social conditions among the masses of our people.... I have stamped practically all the important activities of the Government with a social purpose, because I believe intensely in the principle that it is the duty of the State, not only to keep order, administer peace, and safeguard individual rights and property, but also to promote the people’s welfare, assuring to everyone an equal economic opportunity, wholesome living conditions, a chance to work for a decent livelihood, a fair share in the fruits of the country’s material progress, and the enjoyment of a standard of living in accordance with the basic needs of self-respecting, intelligent men.” Speech at Jose Rizal Memorial Field, 19 August 1938, reprinted in Muyot, *Social Justice and Human Rights in the Philippines*, *supra* Note 953, 5-10 at 9.

Although he was not a delegate, Quezon was also partly responsible for the insertion of the social justice clause in the Constitution. As Senate President prior to the ratification of the 1935 Constitution, he spearheaded many of the social welfare laws that were a great influence in the formative years of the Republic. Social justice was Quezon’s main political platform in addition to independence from the United States. Saulo, *supra* Note 997 at 31-32.

intervention with legally sacrosanct contractual relations;¹⁰⁰⁸ there was no shortage of opportunities for this in light of the constant friction between capital and labor. It was no accident that cases that turned on the interpretation of the social justice clause were decided by Justice Laurel: as one of the framers and a staunch advocate in its introduction and finalization in the Constitution, he was in the best position to nurture its interpretation by the Court. Within a year after the inauguration of the Commonwealth, in *Ang Tibay, et. al. v. Court of Industrial Relations, et. al.*,¹⁰⁰⁹ Justice Laurel stated for the majority:

Embodying the spirit of the present epoch, general provisions were inserted in the Constitution which are intended to bring about the needed social and economic equilibrium between component elements of society through the application of what may be termed as the *justitia communis* advocated by Grotius and Leibnitz many years ago to be secured through the counterbalancing of economic and social forces and opportunities which should be regulated, if not controlled, by the State or placed, as it were, in *custodia societatis*. The promotion of social justice to insure the well-being and economic security of all the people' was thus inserted as a vital principle in our Constitution. (Sec. 5, Art. II, Constitution.) And in order that this declaration of principle may not just be an empty medley of words, the Constitution in various sections thereof has provided the means towards its realization.¹⁰¹⁰

Justice Laurel's exposition reveals the integral linkage between social justice and the various individual rights and freedoms guaranteed by the Constitution, and their resulting

¹⁰⁰⁸ Bernas, *supra* Note 984 at 78.

¹⁰⁰⁹ *Ang Tibay v. Court of Industrial Relations* [1940], S.C. 46496, 69 P.R. 635. This was a landmark case on illegal dismissal and unfair labor practices; it laid the doctrine of the "cardinal primary rights" of administrative due process in Philippine jurisprudence.

¹⁰¹⁰ L-46494, 29 May 1939, originally printed in 7 Lawyer's Journal 487 at 494-95, quoted by Justice Enrique Fernando in his concurring opinion in the case of *Alfanta v. Noe* [1973], S.C. L-32362, 152 P.R. 458 at 468-69. This portion of Justice Laurel's opinion is not found in the published Report on the *Ang Tibay* case, which was the decision upon a Motion for Reconsideration, not the original decision penned by Justice Villa-real, to which Laurel submitted a separate opinion. Substantial portions of Laurel's original exposition however are also reproduced in Justice Imperial's main opinion in the *Antamok Goldfields* case, *infra.* at 356-57.

combined impact on social legislation enacted at the time. This reasoning established a precedent in judicial reasoning that always assumed that social justice was at the core of an inter-woven bundle of individual and collective rights; one could not be considered in isolation from the other. The inter-related constitutional rights and freedoms as defined in the Bill of Rights (patterned after that of the US constitution) were set against an undefined set of collective or social prerogatives (the *justitia communis*) intended to distribute access to socio-economic forces and opportunities for the exercise of rights and freedoms equitably. Social justice bridges individual rights and community interests. It recognizes that despite the existence of legal provisions intended for equity, there was no assurance of effective access by all members of society to the benefits of such provisions, hence the need for a “counterbalance” through the State.

The case of *Antamok Goldfields Mining Co. v. Court of Industrial Relations*,¹⁰¹¹ which dealt with the constitutionality of a newly established Court of Industrial Relations, then followed up on the explanation in *Ang Tibay*:

[T]he legislation which we are now called upon to construe was enacted in pursuance of what appears to be the deliberate embodiment of a new social policy, founded on the conception of a society integrated not by independent individuals dealing at arm's length, but by interdependent members of a consolidated whole whose interests must be protected against mutual aggression and warfare among and between diverse and divers units which are impelled by countervailing and opposite individual and group interests, and this is particularly true in the relationship between labor and capital. Social and industrial disturbance which fifty years ago were feudal-like and of isolated importance may now well result in a serious strain upon the entire economic organism of the nation. In the United States labor legislation has undergone a long process of development too long to narrate here, ...scrutiny of legislation in that country reveals a continuous renovation and change made necessary by the impact of changing needs and economic pressure brought about by the irresistible momentum of new social and economic forces developed there... In the Philippines, social legislation has had a similar development, although of course to a much smaller degree and of different

¹⁰¹¹ *Antamok Goldfields Mining v. Court of Industrial Relations* [1940], S.C. 46892, 70 P.R. 340.

adaptation, giving rise to several attempts at meeting and solving our peculiar social and economic problems. ...The policy of *laissez faire* has to some extent given way to the assumption by the government of the right of intervention even in contractual relations affected with public interests.¹⁰¹²

In this case, Justice Laurel essentially laid the context for State intervention for the purposes of social justice, by diminishing the influence of the *laissez faire* philosophy over judicial deliberations. Individual rights and freedoms were not of supreme and absolute value over the collective integrity of society when endangered by conflicting rights and freedoms, especially where economic relations are concerned.

With the rationale firmly in place, Justice Laurel proceeded to the next judicial landmark by defining social justice in the case of *Calalang v. Williams*,¹⁰¹³ where the petitioner questioned the legality of the prohibition against animal-drawn traffic in certain roads at certain times in Manila. Responding to the petitioner's plea for social justice in order to be allowed to conduct his business free from intervention by the State, Justice Laurel declared:

The promotion of social justice ...is to be achieved not through a mistaken sympathy towards any given group. Social justice is "neither communism, nor despotism, nor atomism, nor anarchy," but the humanization of laws and the equalization of social and economic forces by the State so that justice in its rational and objectively secular conception may at least be approximated. Social justice means the promotion of the welfare of all the people, the adoption by the Government of measures calculated to insure economic stability of all the competent elements of society, through the maintenance of a proper economic and social equilibrium in the interrelations of the members of the community, constitutionally, through the adoption of measures legally justifiable, or extra-constitutionally, through the exercise of powers underlying the existence of all governments on the time-honored principle of *salus populi est suprema lex*.

¹⁰¹² *Ibid.* at 359-60.

¹⁰¹³ *Calalang v. Williams* [1940], S.C. 47800, 70 P.R. 726.

Social justice, therefore, must be founded on the recognition of the necessity of interdependence among divers and diverse units of a society and of the protection that should be equally and evenly extended to all groups as a combined force in our social and economic life, consistent with the fundamental and paramount objective of the state of promoting the health, comfort, and quiet of all persons, and of bringing about “the greatest good to the greatest number.”¹⁰¹⁴

The definition above is remarkable in the sense that it should actually be considered as an *obiter dictum* in the decision; prior to these statements Justice Laurel had adequately disposed of the petitioner’s arguments on the grounds of the general welfare clause and the police power of the State. But these nearly off-hand remarks are among the most cited paragraphs in Philippine jurisprudence, appearing in more than 140 Supreme Court cases decided since its promulgation.¹⁰¹⁵

Justice Laurel’s formulation indeed overflows with meaning. It accepts the inevitability of intrinsic inequalities in social life, thus necessitating constant intervention to moderate or counter them (“the equalization of social and economic forces”). This immediately implies that social justice is always an ongoing and active process rather than a static condition. It is also accepted that justice, “in its rational and objectively secular conception,” is an ideal condition that must incessantly be pursued; it cannot be definitely achieved but only “approximated.” The attention to “the promotion of the welfare of *all* the people” through interventions intended to maintain socio-economic ‘stability’ and ‘equilibrium’ implies an ‘activist State’ charged with addressing the extreme tendencies of and economic forces. One might imagine the State continually engaged in a balancing act against economic forces that challenge society or its members. Although a Benthamite utilitarianism is obvious in its formulation (“the greatest good to the greatest

¹⁰¹⁴ *Ibid.* at 734-35. Law students in the Philippines are often required to memorize this lengthy portion of the *Calalang* decision in courses on labor and social legislation.

¹⁰¹⁵ Manually counted from results of a text-based search of an electronic database of decisions of the Supreme Court of the Philippines. See CD Asia Technologies, *Lex Libris: Jurisprudence 1901 to 1985* (Pasig City: CD Asia Technologies, 2006), and CD Asia Technologies, *Lex Libris: Jurisprudence 1986 to 2006* (Pasig City: CD Asia Technologies, 2006).

number”), it is offset by the admonition to assure ‘equal and even’ protection to all groups. The emphasis on ‘interdependence’ and the “divers and diverse” social ‘units’ shows a remarkably advanced conception of the local community and the State as a complex organism comprised of social forces whose constant interaction occasionally require intervention. Finally, it recognizes that the abstract Law must continually bear upon the realities of the human condition (“the humanization of laws”), allowing the mechanistic logic of its application to be tempered with human compassion.

In 1942, the Japanese invasion of the Philippines interrupted American colonial administration. Key members of the Commonwealth Government, including President Manuel L. Quezon, fled the country with Chief of Staff Gen. Douglas MacArthur after the combined Filipino and American defense forces were defeated at the battles for the Bataan peninsula and Corregidor Island. The Japanese formed a new government by replacing Commonwealth officials with other Filipinos,¹⁰¹⁶ but did not introduce major changes to the social institutions. A new Constitution establishing a new Republic was promulgated, substantially reiterating the social justice provision of the 1935 Constitution.¹⁰¹⁷ However, the war did very little to change the patterns of economic inequality, and for the most part, existing private and public property regimes were kept intact under the Japanese administration.¹⁰¹⁸ In any event, US forces returned and recaptured the Philippines in 1945.¹⁰¹⁹ Neither the United States nor the Commonwealth government-in-exile recognized the Japanese-sponsored constitution, and they did not

¹⁰¹⁶ The Japanese Imperial Army executed the Supreme Court’s Chief Justice, Jose Abad Santos, after he refused to take over the reins of government. The military administration appointed Associate Justice Laurel as President of the Republic. He served as President until the Americans returned in 1945. After the war, he was tried for collaborating with the enemy, but was acquitted of the charges. He took up a private practice and joined the academe. See Carlos Quirino. *The Laurel Story* (Quezon City: Vera Reyes, 1992).

¹⁰¹⁷ Art. 9, s. 8 provided that “the promotion of social justice to insure the well-being and economic security of all the people shall be the concern of the State.”

¹⁰¹⁸ Mangahas, *supra* Note 946 at 91.

¹⁰¹⁹ Abinales and Amoroso, *supra* Note 920 at 163.

deem it to have been in force in the country anywhere outside of Japanese-occupied urban centers. It passed into obscurity upon the return of the Commonwealth Government in 1945, and practically exists only as a footnote in the teaching of Philippine legal history.

4.3.2.3 Theory to Judicial Practice in the Post-War Period

In the aftermath of the Second World War, the Philippines formally gained independence from the United States in July 1946. For the next 30 years, the American-style government system created under the 1935 Constitution functioned well into the 1970s, with a popularly-elected President as the Chief Executive and a legislature composed of a nationally-elected Philippine Senate and a locally-elected House of Representatives. The local government system was still based on that originally established by the Spaniards and continued by the Americans after the former's cession.¹⁰²⁰

The post-war period saw severe economic conditions, and justified the need for more government support to social welfare programs and assistance to reconstruction. These provided new opportunities for the juridical evolution of the social justice concept in the 1935 Constitution.

4.3.2.3.1 *Curbing Abuse*

The first major decision on social justice promulgated by the post-war Court sought to curb its susceptibility to abuse by parties. In the case of *Philippine Sugar Estates Development Co. v. Prudencio*,¹⁰²¹ one of the parties attempted to convince the Court to not enforce the law on the ground of social justice. The Court, describing social justice as “all embracing, inspired by the spirit of Christian charity, based on the principle of universal brotherhood,” intended “to insure the well-being and economic security of all the

¹⁰²⁰ *Municipal Government Act*, Act 82 (1901) and *Provincial Government Act*, Act 83 (1901), as amended by *Local Autonomy Act*, R.A. 2264 (1959).

¹⁰²¹ [1946], S.C. L-75, 76 P.R. 111.

people,”¹⁰²² junked the plea, declaring that “(t)he magic words ‘social justice’ are not a shibboleth which courts may readily avail of as a shield for shirking their responsibility in the application of law.”¹⁰²³

A similarly negative disposition was made in the case of *Guido v. Rural Progress Administration*¹⁰²⁴ a few years later, when the Court, speaking through Justice Tuason, warned:

The promotion of social justice ordained by the Constitution does not supply paramount basis for untrammelled expropriation of private land by [the government]. Social justice does not champion division of property or equality of economic status; what it and the Constitution do guaranty are equality of opportunity, equality of political rights, equality before the law, equality between values given and received, and equitable sharing of the social and material goods on the basis of efforts exerted in their production.¹⁰²⁵

In this case, the Supreme Court called attention to four main purposes for the social justice principle. The first is the distribution of opportunity and political rights, fitting firmly into the Rawls’ idea of the distribution of primary goods.¹⁰²⁶ But the three remaining purposes are equality in standing before the law, reciprocity in exchange (“between values given and received”), and equitable sharing. The latter in turn must take place in terms of benefits (“the social and material goods”) and/or contributions to the benefits (“on the basis of efforts exerted in their production”). These purposes fall more appropriately under Miller’s pluralistic conception of justice based on rights, deserts, and needs.¹⁰²⁷ The diversity of these purposes clearly indicate that the Court regarded social justice with an expansive scope operating on several dimensions. But it evidently did not

¹⁰²² *Ibid.* at 114.

¹⁰²³ *Ibid.* at 113.

¹⁰²⁴ [1949], S.C. L-2089, 84 P.R. 847.

¹⁰²⁵ *Ibid.* at 852.

¹⁰²⁶ Rawls, *Justice as Fairness: A Restatement*, *supra* Note 56 at 57-61.

¹⁰²⁷ Miller, *Social Justice*, *supra* Note 32, at 24-31.

consider social justice to be so open as to be subject to easy invocation by or against individual persons, or a very small group of persons in relation to the greater public.

4.3.2.3.2 *Relationship to Individual Rights*

The *Guido* case portended that the legal nemesis of the social justice was not actually the freedom to contract, as originally thought by the framers, but rather the due process clause, particularly when it referred to the deprivation of individual property rights, as anticipated by *Lava* decades earlier.¹⁰²⁸ The clash over property rights gave the Court a sense of the scale at which the principle of social justice could be successfully invoked. Cited in over 130 cases,¹⁰²⁹ *Guido* provided the Court with reason for caution in interpreting statutes too liberally on the ground of social justice, rationalizing that it “would be subversive of the Philippine political and social structure,” and claim “a despotic power...inconsistent with every just principle and fundamental maxim of a free government.”¹⁰³⁰ Realizing the import of an “extremist” application of the social justice principle, the Court reiterated its duty to protect individual property rights, and to disengage the idea of social justice from the idea of equal distribution of wealth:

In paving the way for the breaking up of existing large estates, trusts in perpetuity, feudalism, and their concomitant evils, the Constitution did not propose to destroy or undermine property rights, or to advocate equal distribution of wealth, or to authorize the taking of what is in excess of one's personal needs and the giving of it to another. Evincing much concern for the protection of property, the Constitution distinctly recognized the preferred position which real estate has occupied in law for ages. Property is bound up with every aspect of social life in a democracy as democracy is conceived in the Constitution. The Constitution realizes the indispensable role which property, owned in reasonable quantities and used legitimately, plays in the stimulation of economic effort and the formulation and growth of a solid social middle class that is said to be the

¹⁰²⁸ *Lava*, *supra* Note 994.

¹⁰²⁹ Manually counted from the results of a text-based search of an electronic database of decisions of the Supreme Court of the Philippines. See CD Asia Technologies, and CD Asia Technologies.

¹⁰³⁰ *Guido*, *supra* Note 1024 at 850-51.

bulwark of democracy and the backbone of every progressive and happy country.¹⁰³¹ (emphasis added)

It was clear that social justice was not a power to equalize the status and situation of individual citizens, or even social classes. As former Justice Laurel explained much later in his life,

Social justice is not social equality, because social inequality will always exist as long as social relations depend on personal or subjective proclivities. It is not legal equality because legal equality is a relative term and is necessarily based on differentiations based on personal or natural conditions, such as age, mentality, physical capacity or sex. ... Social justice, in fine, is in its essence but the *justitia communis* of Grotius and Leibnitz –to be secured through the counterbalancing of economic and social forces and opportunities in *custodia societatis*.¹⁰³²

Thus social justice was concerned with balancing forces and opportunities affecting the distribution of private property rights, rather than property rights *per se*. The equation of private property rights with democracy meant that the due process clause defined the limits of the social justice clause, which was most prominent in the issues of agrarian land reform and redistribution.¹⁰³³

¹⁰³¹ *Ibid.* at 851-52.

¹⁰³² Laurel, *Commentaries on the Moral Code*, reprinted in Muyot, *Social Justice and Human Rights in the Philippines*, *supra* Note 953, 5-10 at 7.

¹⁰³³ This was not without its own set of problems, however. In subsequent cases, the Court used the *Guido* ruling to prevent the expropriation of what it perceived to be very small estates whose distribution would not contribute significantly to the cause of redistribution to the landless masses. However, the Court was neither unanimous nor historically consistent in its interpretation; as in most cases of difficult policy questions there were advocates of opposing arguments. In *Republic v. Baylosis* [1955], S.C. L-6191, 96 P.R. 461, another case involving expropriation of private land, the Court was divided on the application of the *Guido* ruling. Justice JBL Reyes dissented, arguing that

The propriety of exercising the power of eminent domain ... cannot be determined on a purely quantitative or area basis. ... I see no cogent reason why the government, in its quest for social justice and peace, should exclusively devote attention to conflicts of large proportions, involving a considerable number

4.3.2.3.3 *As a Rule of Statutory Construction*

Another development of the social justice doctrine during the post-war period was its first use as an aid to statutory construction in the concurring opinion of Justice Perfecto in the case of *Ocampo v. Government Service Insurance System*.¹⁰³⁴ The case was filed by the heir of a former contractual employee of the government who was denied social security benefits. At issue was the interpretation of the statute creating the insurance system, whether it included contractual employees or not. Agreeing with the *ponente* that they were, Justice Perfecto argued that even if the traditional rules of statutory construction were not enough to support the ruling, the social justice policy of the Constitution amply provided the justification:

(T)his principle of social justice in our Constitution as generously conceived and so tersely phrased, was not included in the fundamental law as a mere popular gesture. It was meant to be a vital, articulate, compelling principle of public policy. ... It was intended to change the spirit of our laws, present and future. Thus, all the laws which on the great historic

of individuals, and eschew small controversies and wait until they grow into a major problem before taking remedial action. (*Baylosis* at 502)

Justice JBL Reyes' reasoning points to the underlying problem of the Court in satisfactorily identifying the boundaries between the private and public interests involved in the controversy before it, and determining the extent to which the State was to be permitted to intervene in property rights which had their own protections in the Constitutional scheme. The reliance of the Court upon quantitative measures in the *Guido* case (e.g. the area of the lands involved, and the number of persons to whom they would be redistributed) initially provided some rationalized comfort, but soon lost its potency when it became apparent that size and numbers were poor measures for social classes and shared interests among social forces. Justice Reyes expressed his misgivings that the Court was unnecessarily limiting the application of social justice to the purpose of breaking up large landed estates, and disregarding its concomitant purposes of promoting peace and tranquility and quelling agrarian discontent. He further astutely noted that the breaking up of large landed estates into smaller estates, without further attention to its redistribution to the landless, only amplified and protracted agrarian unrest since it simply increased the number of landlords with whom agricultural tenants had disputes. This observation points to a shortcoming in the distributive focus of the Court, and omission of the higher purpose of the distribution itself.

¹⁰³⁴ [1947], S.C. L-602, 78 P.R. 216..

event when the Commonwealth of the Philippines was born, were susceptible of interpretations — strict or liberal, against or in favor of social justice, now have to be construed broadly in order to promote and achieve social justice. This may seem novel to our friends, the advocates of legalism, but it is the only way to give life and significance to the above-quoted principle of the Constitution. If it was designed to apply to these existing laws, then it would be necessarily to wait for generations until all our codes and all our statutes shall have been completely changed by removing every provisions inimical to social justice, before the policy of social justice can become really effective. That would be an absurd conclusion.¹⁰³⁵

Justice Perfecto implies above that the social justice principle allows the Philippine legal system to be dynamic and responsive to the needs of the times. This lays the basis for an ‘activist’ Court wielding the judicial power of legal interpretation. Indeed, he went on to encourage the Court to be very liberal in seeking basis for its decisions:

Law, being a manifestation of social culture and progress must be interpreted taking into consideration the stage of said culture and progress including all the concomitant circumstances. It must be interpreted by drawing inspiration, not only from the teachings of history, from precedents and traditions, but from the inventions of science, discoveries of art, ideals of thinkers, dreams of poets, that is, all the sources from which may spring guidance and help from a truthful idea of the human relations regulated by law to be interpreted and applied. Broadmindedness and vision are essential for men presiding tribunals to reach correct and just conclusions.¹⁰³⁶

As an aid to statutory construction thus described, social justice has an inter-temporal and retroactive character, particularly if it is of benefit to a disadvantaged party. It is at this point that a bias in favor of the disadvantaged emerges as the critical influence of social justice in judicial rulings, a bias legitimated and articulated more clearly in later decisions of the Court.

¹⁰³⁵ Jorge Bocobo, "The Cult of Legalism" (1937) 17:6 Philippine L. J. 253, quoted *verbatim* in *Ocampo* at 225. Bocobo was at the time the Dean of the University of the Philippines College of Law.

¹⁰³⁶ *Ocampo* at 225-26.

A simple yet powerful political aphorism of Ramon Magsaysay, the third and probably the most popular President in Philippine history, provides the inspiration for this judicial endorsement of this bias. Magsaysay said in the early 1950s, "I believe that he who has less in life should have more in law."¹⁰³⁷ After his untimely demise in a plane crash in 1955 before he could finish his term, Magsaysay's memory lived on among Filipinos primarily through this adage, obviously including those who became Justices of the Supreme Court. Scarcely few political slogans could be expected to attain the status of a judicial rule, but this one did so upon its affirmation by members of the Supreme Court in several leading cases some two decades later. As applied by the Court, it is the judicial expression of Rawls' Difference Principle,¹⁰³⁸ by tilting statutory interpretation in favor of the least advantaged.

This interpretative bias in the construction of statutes and legal procedures accorded greater weight to the *ratio legis* especially with respect to social legislation. In *Del Rosario v. De los Santos, et. al.*,¹⁰³⁹ the petitioner assailed the validity of a law permitting agricultural tenant to change the tenancy contract from share tenancy to leasehold tenancy and *vice versa*, and from crop-sharing to share tenancy. Referring briefly to the history of agrarian unrest in the Philippines and finding that agricultural tenancy legislation represents a continuing attempt, through legislation, to resolve age-old agricultural relations problems dating back to the 19th century, the Court held that the law

¹⁰³⁷ "Ramon Magsaysay Man of the People: Inaugural Address As President on December 30, 1953." *The Philippine Star* (17 March 1992) at 13; see also Ramon Magsaysay Award Foundation, "Magsaysay Credo," <<http://www.rmaf.org.ph/Ramon-Magsaysay/credo.htm>> Last updated: 21 August 2009 (Date accessed: 21 December 2009).

¹⁰³⁸ Both the political aphorism and the judicial rule predate Rawls by at least a generation. One cannot help but speculate whether he was somehow inspired by the Philippine concept of social justice which by that time had already been well-articulated by Justice Laurel, considering that Rawls spent some time in the Philippines as an infantryman in the Second World War. Ben Rogers, "John Rawls," *The Guardian (online)* (27 November 2002), online: <<http://www.guardian.co.uk/news/2002/nov/27/guardianobituaries.obituaries>>.

¹⁰³⁹ [1968], S.C. L-20589-90, 131 P.R. 298.

was a police power measure intended to minimize the oppressive conditions associated with agricultural labor. The Tribunal initially drew upon the adage of former President Magsaysay discretely, when the majority held:

It thus appears indisputable that reinforced by the protection to labor and social justice provisions of the Constitution, the attribute of police power justifies the enactment of statutory provisions of this character. That public interest would be served by governmental measures intended to aid the economically under-privileged is apparent to all. Nor is the means relied upon to attain such a valid objective unreasonable or oppressive. Considering that in the adjustment or reconciliation of the conflicting claims to property and state authority, it suffices that there be a rational basis for the legislative act, it is easily understandable why, from the enactment of the Constitution with its avowed concern for those who have less in life, the constitutionality of such legislation has been repeatedly upheld.¹⁰⁴⁰

The subsequent case of *Philippine Apparel Workers' Union v. National Labor Relations Commission, et. al.*¹⁰⁴¹ amplified the reference to Magsaysay:

What is thus stressed is that a fundamental principle as social justice, identified as it is with the broad scope of the police power, has an even more basic role to play in aiding those whose lives are spent in toil, with destitution an ever-present threat, to attain a certain degree of economic well-being. Precisely, through the social justice (clause) coupled with the protection to labor provisions, the government is enabled to pursue an active and militant policy to give reality and substance to the proclaimed aspiration of a better life and more decent living conditions for all. It is in that spirit that in 1969, in *Del Rosario vs. Delos Santos* (L-20586, March 21, 1969, 22 SCRA 1196), reference was made to what the social justice concept signifies in the realistic language of the late President Magsaysay: "He who has less in life should have more in law." ... What is sought to be accomplished by the above fundamental principle is to assure the effectiveness of the community's effort to assist the economically underprivileged. For under existing conditions, without succor and

¹⁰⁴⁰ *Ibid.* at 304.

¹⁰⁴¹ [1981], S.C. L-50320, 193 P.R. 599.

support, they might not, unaided, be able to secure justice for themselves.¹⁰⁴²

However, the bias-for-the-underprivileged notwithstanding, the Court wisely determined that such a bias was not blind and absolute. In the case of *Garchitorena v.*

Panganiban,¹⁰⁴³ the Court warned “the principle of social justice cannot and should not be so construed as to violate the elementary principles of justice and bring about a patent injustice.”¹⁰⁴⁴

Finally, social justice was invoked as a ‘protective’ rule of interpretation in *Agustin v. Workmen’s Compensation Commission*.¹⁰⁴⁵ The Court held that

...as between a laborer, usually poor and unlettered, and the employer, who has the resources to secure able legal advice, the law has reason to demand from the latter stricter compliance. Social justice in these cases is not equality but protection.¹⁰⁴⁶ (emphasis added)

Here, social justice grants protection by justifying a liberal construction of administrative rules in favor of one party who is not at social or economic parity with the other, particularly when such disparity has implications on the respective parties’ access to justice.¹⁰⁴⁷

¹⁰⁴² Enrique Fernando, *Constitution of the Philippines*, 80-81 (1974), quoted in *Philippine Apparel Workers Union* at 615-16.

¹⁰⁴³ [1962], S.C. L-17784, 116 P.R. 651.

¹⁰⁴⁴ *Ibid.* at 655.

¹⁰⁴⁵ [1964], S.C. L-19957, 120 P.R. 846..

¹⁰⁴⁶ *Ibid.* at 851.

¹⁰⁴⁷ See also *Victorias Milling v. Workmen's Compensation Commission* [1969], S.C. L-25665, 28 S.C.R.A. 285; *De los Santos v. Workmen's Compensation Commission* [1983], S.C. L-43008, 120 S.C.R.A. 730.

4.3.2.3.4 *The State's Central Role*

The promotion of social justice was both an individual and a collective duty. It was an extension of the Filipino tradition of *bayanihan* or community self-help,¹⁰⁴⁸ reformulated as a civic duty by former Associate Justice Laurel in his later years while teaching law:

It is our duty to help in the promotion of social justice so that every Filipino may have the opportunity to acquire through toil his necessities in food, clothing, and shelter, together with reasonable comforts, and a leisure which will permit cultural self-improvement and a participation in the blessings of civilization.¹⁰⁴⁹

But for the Supreme Court, the greater burden and responsibility lay with the government as the only social entity that possessed the powers and resources needed to counter the kind of social and economic pressures exerted upon the members of society. In 1969, in one of the last major decisions on social justice under the 1935 Constitution, the Court had occasion to revisit the government's role in the promotion of social justice in the case of the *Agricultural Credit and Cooperative Financing Administration (ACCF) v. Confederation of Unions in Government Corporations and Offices (CUGCO), et. al.*¹⁰⁵⁰ The Court through Justice Querube Makalintal acknowledged that the 1935 Constitution was a legal turning point in the economic philosophies for the country. The *ponencia* recognized that the functions of government had significantly expanded beyond maintaining peace and order, regulating property and property rights, administering justice, determining the political duties of citizens, and conducting foreign relations and national defense. It further observed that

¹⁰⁴⁸ “*Bayanihan*” is an ancient rural tradition practiced even up to the present in the less urbanized and more traditional agricultural and coastal areas of the Philippines. It is derived from the root word *bayan* which means community, town, nation, or country, and refers to the custom of volunteering to cooperate to attain a common objective or to assist a member of the community undertake a difficult task.

¹⁰⁴⁹ Laurel 1965, 77 to 82, quoted in Muyot, 5-10 at 7. Also quoted in Quirino 1992 at 59. It is notable that Justice Laurel's conceptualization of the duty to promote social justice echoes the key elements of Jose Rizal's idea of a just society. See Section 4.3.1, above.

¹⁰⁵⁰ [1969], S.C. L-21484, 141 P.R. 334.

The growing complexities of modern society ...have rendered this traditional classification of the functions of government quite unrealistic, not to say obsolete. The areas which used to be left to private enterprise and initiative and which the government was called upon to enter optionally, and only "because it was better equipped to administer for the public welfare than is any private individual or group of individuals" continue to lose their well-defined boundaries and to be absorbed within activities that the government must undertake in its sovereign capacity if it is to meet the increasing social challenges of the times. Here as almost everywhere else the tendency is undoubtedly towards a greater socialization of economic forces. Here of course this development was envisioned, indeed adopted as a national policy, by the Constitution itself in its declaration of principles concerning the promotion of social justice.¹⁰⁵¹

In his concurring opinion, Justice Enrique Fernando¹⁰⁵² pointed to further doctrinal precedents indicating this shifting of the government's roles and responsibilities, and opined that the 1935 Constitution was one whose "philosophy is anti-thetical to the *laissez-faire* concept."¹⁰⁵³ He also lauded the *ponencia* for reiterating the view that the *laissez-faire* doctrine was "repugnant to the fundamental law,"¹⁰⁵⁴ and reiterated the Laurel definition of social justice, highlighting the reliance upon government to carry out the actions and initiatives to achieve the constitutional mandate:

The regime of liberty contemplated in the Constitution with social justice as a fundamental principle, to reinforce the pledge in the preamble of promoting the general welfare, reflects traditional concepts of a democratic polity infused with an awareness of the vital and pressing need for the government to assume a much more active and vigorous role in the conduct of public affairs. The framers of our fundamental law were as one in their strongly-held belief that thereby the grave and serious infirmity then confronting our body-politic, on the whole still with us now, of great inequality of wealth and mass poverty, with the great bulk of our people ill-clad, ill-housed, ill-fed, could be remedied... Nothing less than a

¹⁰⁵¹ *Ibid.* at 349.

¹⁰⁵² Justice Enrique Fernando was a student of 1935 Constitutional Convention Chairman and former Associate Justice Jose P. Laurel. He would later serve the Supreme Court as Associate Justice from 1967-1979, and Chief Justice from 1979 until 1985.

¹⁰⁵³ *Agricultural Credit* at 361.

¹⁰⁵⁴ *Ibid.* at 368.

communal effort, massive in extent and earnestly engaged in, would suffice.¹⁰⁵⁵ (emphasis added)

However, he made it clear that this was not a license for the government to avoid legal challenge, nor dispense with individual rights, by adding that

...the reference to extra-constitutional measures being allowable must be understood in the sense that there is no infringement of specific constitutional guarantees. Otherwise, the judiciary will be hard put to sustain their validity if challenged in an appropriate legal proceeding.¹⁰⁵⁶

The Court again highlighted the clash between government prerogatives and individual rights, and reiterated the rejection of the *laissez-faire* concept in the case of *Edu v. Ericta*,¹⁰⁵⁷ where it said that

...to erase any doubts, the Constitutional Convention saw to it that the concept of *laissez-faire* was rejected. It entrusted to our government the responsibility of coping with social and economic problems with the commensurate power of control over economic affairs. Thereby it could live up to its commitment to promote the general welfare through state action. No constitutional objection to regulatory measures adversely affecting property rights, especially so when public safety is the aim, is likely to be heeded, unless of course on the clearest and most satisfactory proof of invasion of rights guaranteed by the Constitution. On such a showing, there may be a declaration of nullity, but not because, the *laissez-faire* principle was disregarded but because the due process, equal protection, or non-impairment guarantees would call for vindication.

To repeat, our Constitution which took effect in 1935 erased whatever doubts there might be on that score. Its philosophy is a repudiation of *laissez-faire*.¹⁰⁵⁸ (emphasis added)

In the end, though, the Court's strong advocacy of State intervention may have actually contributed to a succeeding dark era of Philippine constitutional law, as it impliedly justified a weakening of individual civil and political rights. By the end of the 1960s,

¹⁰⁵⁵ *Ibid.*

¹⁰⁵⁶ *Ibid.*

¹⁰⁵⁷ [1970], S.C. L-32096, 146 P.R. 469.

¹⁰⁵⁸ *Ibid.* at 480.

there was widespread urban dissatisfaction and rural unrest over the inability of government to realize its own promises, made both in political contests and legal documents. The Tribunal's openness to State interference with individual rights and freedoms converged with the then-President Ferdinand Marcos' plans for self-imposed dictatorship.

4.3.3 The 1973 Constitution

The 1970s were very turbulent times. Agrarian disputes reached new highs and revived a communist insurgency in the countryside and cities to the north and ignited a Muslim secessionist movement to the south.¹⁰⁵⁹ From 1971-73, amidst political instability, President Ferdinand Marcos maneuvered a constitutional convention ostensibly to be able to respond more quickly to the social problems the country faced, but also in order to prolong his hold on power.¹⁰⁶⁰ The new draft Constitution it produced reiterated the social justice aspirations of the 1935 Constitution, but changed the provision into a more imperative formulation in Article II, Section 6:

Section 6. The State shall promote social justice to ensure the dignity, welfare, and security of all the people. Towards this end, the State shall regulate the acquisition, ownership, use, enjoyment, and disposition of private property, and equitably diffuse property ownership and profits.

In contrast to the previous convention, there was little debate regarding these changes. Despite the new phraseology expressly mentioning the State's power to regulate property and diffuse its ownership, these changes were no more than a recognition of powers that had already been exercised under the 1935 Constitution; nothing revolutionary was introduced.¹⁰⁶¹

¹⁰⁵⁹ Abinales and Amoroso, *supra* Note 920 at 198-205, 216-21.

¹⁰⁶⁰ *Ibid.* at 202-07.

¹⁰⁶¹ Muyot 2003 at 21.

Prior to the formal conclusion of the Convention, President Marcos declared martial law on 21 September 1972, ostensibly on grounds of a looming rebellion.¹⁰⁶² With the legislature placed under lock and key, the Executive had full freedom to re-engineer government. The draft constitution was ratified under dubious circumstances and became the 1973 Constitution; the Supreme Court gave its imprimatur to the ratification in a string of cases led by *Javellana v. Executive Secretary*.¹⁰⁶³ Under martial law, however, the President ruled by decree while the Senate and Congress were abolished pending the election of a parliamentary National Assembly (that was never convened) under the new constitution. This allowed President Marcos to rule by decree and undertake a massive re-engineering of government over the next decade in order to centralize and strengthen the power of the Chief Executive.

The establishment of authoritarian rule in the Philippines facilitated the law-making process, allowing major revisions and codifications of old laws to be undertaken by select legal professionals instead of a highly politicized and polarized legislature. A new Administrative Code was promulgated to reorganize the government bureaucracy.¹⁰⁶⁴ There were sweeping overhauls of laws on key natural resources and economic activities such as fishing,¹⁰⁶⁵ forestry,¹⁰⁶⁶ mining,¹⁰⁶⁷ and agriculture.¹⁰⁶⁸ Significantly, included in

¹⁰⁶² *Proclamation of Martial Law in the Philippines*, Proc. 1081 (1972); see also Abinales and Amoroso, *supra* Note 920 at 206.

¹⁰⁶³ [1973], S.C. L-36142, 151-A P.R. 35. Instead of popular vote, the draft Constitution was submitted for ratification by so-called Citizen Assemblies created by presidential decree. Martial law was ostensibly “temporarily suspended” to allow for this exercise. *Ibid.* at 103-18. See also *Creation of Citizens Assemblies*, P.D. 86 (1972). Consolidated with four other cases on the same facts and issues, *Javellana* comprises over 380 pages of text and was the bane of every law student studying Constitutional Law in the Philippines.

¹⁰⁶⁴ *1978 Administrative Code*, P.D. 1587 (1978).

¹⁰⁶⁵ *Revised Fisheries Code*, P.D. 704 (1974).

¹⁰⁶⁶ *Revised Forestry Code*, P.D. 705 (1975).

¹⁰⁶⁷ *Mining Decree*, P.D. 512 (1974).

¹⁰⁶⁸ *Tenants Emancipation Decree*, P.D. 27 (1972).

this effort was the enactment of innovative environmental legislation in response to the Stockholm Conference, such as the introduction of the Philippine Environment Code¹⁰⁶⁹ and the Environmental Impact Statement System.¹⁰⁷⁰

In 1976, another questionable ratification of a Constitutional amendment cemented the legislative powers and tenure of the President, while also allowing the concurrent exercise of legislative powers by a unicameral *Batasang Pambansa* (National Legislature).¹⁰⁷¹ Further changes were introduced into the structure of local governments, eventually codified in a local government code that consolidated central control but allowed limited local powers for the provinces and municipalities, and re-established the *barangay* as the smallest political unit.¹⁰⁷²

Martial law did not prevent the Supreme Court from deciding cases on social justice consistently with its rulings under the 1935 Constitution. Indeed, unlike the Legislature, the Supreme Court continued to function although it had no power to review the President's actions under martial law. Under the 1973 Constitution, appeals to social justice were so "constant, almost tiresome,"¹⁰⁷³ that the Supreme Court was forced to elaborate upon its analysis of the implications of social justice to law and the cases at hand.¹⁰⁷⁴ On the surface, at least, an expanded set of constitutional rights and freedoms maintained their integral link to the social justice clause. But the expansion of State prerogatives to intervene with private property rights was also consistent with the need to consolidate power under authoritarian rule, and social justice could conceivably be used to justify such expansion. Fortunately, the Court maintained a relatively consistent (though morally dubious) doctrinal path in deciding most of the cases brought before it.

¹⁰⁶⁹ *Philippine Environmental Code*, P.D. 1152 (1977).

¹⁰⁷⁰ *Philippine Environmental Impact Statement System Law*, P.D. 1586 (1978).

¹⁰⁷¹ *1977 Referendum*, P.D. 1229 (1977).

¹⁰⁷² *Local Government Code of 1981*, B.P. 337 (1981).

¹⁰⁷³ Bernas, *supra* Note 984 at 81.

¹⁰⁷⁴ Muyot, *supra* Note 953 at 23.

The Court's decisions throughout the 1970s show the development of several jurisprudential threads, ranging from the philosophical to the procedural, that evince consistency in its underlying philosophy in the judicial dispensation of social justice.¹⁰⁷⁵

4.3.3.1 The Humanization of Judicial Decisions

With the *Del Rosario* case as precedent, the Court used social justice as a rule of statutory construction to liberally resolve legal ambiguities, multiple possible interpretations, and procedural technicalities in favor of the less privileged¹⁰⁷⁶ or against those with higher socio-economic status.¹⁰⁷⁷ It even regularly chided the Executive Branch for not liberally construing legislation and rules in accordance with the constitutional mandate to promote social justice.¹⁰⁷⁸ The liberality was accorded most often in cases involving the claims by

¹⁰⁷⁵ This is not, however, meant to exonerate the Supreme Court from its complicity with authoritarian rule. There was a limit to which the Court took its discourse on social justice, one that prevented it from fully and logically extending its implications to human rights, particularly political freedoms. This task fell to the legal advocates. The loss and limitation of political freedoms under the Marcos regime culminated in the second landmark writing on social justice, entitled *A Filipino Concept of Justice*, written by former Senator and human rights lawyer Jose W. Diokno in the later years of the dictatorship. Both the Court's rulings and Diokno's article would later directly influence the drafting of a new Constitution with an expanded set of social justice provisions upon the return to constitutional democracy. See Section 4.3.3.6 below.

¹⁰⁷⁶ Bernas, *supra* Note 984 at 82.

¹⁰⁷⁷ In *Cosmos Foundry Shiop Workers Union v. Lo* [1975], S.C. L-40136, 159 P.R. 916, the Court declared the respondent employer's usage of procedural technicalities to delay satisfaction of the petitioner union's claim for 13 years to be "repugnant to the principle of social justice and its mandate of protection to labor." *Ibid.* at 925.

¹⁰⁷⁸ This most frequently occurred with workmen's compensation cases. The Court emphasized that the agencies of the Executive branch were always obligated "to give meaning and substance to these constitutional guarantees in favor of the working man; for otherwise these constitutional safeguards would be merely a lot of "meaningless constitutional patter." *Philippine Blooming Mills Employees v. Philippine Blooming Mills* [1973], S.C. 31195, 51 S.C.R.A. 189; *Santos v. Workmen's Compensation Commission* [1977], S.C. L-43243, 75 S.C.R.A. 364; *Corales v. Workmen's Compensation Commission* [1979], S.C. L-44063, 177 P.R. 501.

individuals from industrial and agricultural labor sectors, whenever the law or rules could be susceptible to two or more interpretations.¹⁰⁷⁹ Naturally, this met with objections, especially in cases involving workmen's compensation claims filed by retirees, about the practical impact of such liberality and the potential drain on resources it represented for the State. Against this objection, the Court ruled in *Biscarra v. Republic of the Philippines*.¹⁰⁸⁰

The fear that this humane, liberal and progressive view will swamp the Government with claims for continuing medical, hospital and surgical services and as a consequence unduly drain the National Treasury, is no argument against it; because the Republic of the Philippines as a welfare State, in providing for the social justice guarantee in our Constitution, assumes such risk. This assumption of such a noble responsibility is, as heretofore stated, only just and equitable since the employees to be

In *Parian v. Workmen's Compensation Commission* [1978], S.C. L-42433, 174 P.R. 191, the Court reversed the denial of workmen's compensation benefits to a public school teacher who had been in government service for 34 years but was forced to retire due to work-related illness. The Court declared that the very act of denial of benefits would "emasculate" the objectives of the Workmen's Compensation Act as a piece of social legislation designed to implement the social justice provision of the Constitution *Parian v. Workmen's Compensation Commission* [1978], S.C. L-42433, 174 P.R. 191 at 196. This was reiterated in *Segismundo v. Government Service Insurance System* [1983], S.C. L-50941, 121 S.C.R.A. 304 at 313; *Gonzaga v. Employees' Compensation Commission* [1984], S.C. L-62287, 212 P.R. 405 at 416. In *Cristobal v. Employees' Compensation Commission* [1981], S.C. L-49280, 190 P.R. 1030, the Court declared that Executive agencies charged with implementing the social justice guarantees "should adopt a more liberal attitude in deciding claims for (employee's) compensation." *Cristobal v. Employees' Compensation Commission* [1981], S.C. L-49280, 190 P.R. 1030 at 1038. This was reiterated in *Panotes v. Employees Compensation Commission* [1985], S.C. L-64802, 223 P.R. 188 at 195.

¹⁰⁷⁹ Muyot 2003 at 23-24.

¹⁰⁸⁰ [1980], S.C. L-43425, 184 P.R. 209.. In this case, the Court undertook a liberal interpretation of compensable sicknesses under the Workmen's Compensation Act, ruling that a government forestry worker who retired with a number of fairly common ailments such as diabetes, heart disease, arteriosclerosis (hardening arteries), and chronic pyonephritis (urinary tract infection) was entitled to compensation for work-related diseases even if there was no clear and exclusive link between his ailments and his particular line of work. The ruling was reiterated in *Basa v. Workmen's Compensation Commission* [1981], S.C. L-43098, 191 P.R. 277..

benefitted thereby precisely became permanently injured or sick while invariably devoting the greater portion of their lives to the service of our country and people. Human beings constitute the most valuable natural resources of the nation and therefore should merit the highest solicitude and the greatest protection from the State to relieve them from unbearable agony. They have a right to entertain the hope that during the few remaining years of their life some dedicated institution or gifted individual may produce a remedy or cure to relieve them from the painful or crippling or debilitating or humiliating effects of their injury or ailment, to fully and completely rehabilitate them and develop their “mental, vocational and social potential,” so that they will remain useful and productive citizens.¹⁰⁸¹ (emphasis added)

Reading between the lines of the above passage, and considering the pattern of its decision-making in other workmen’s compensation cases, it is apparent that the Court is concerned with demonstrating compassion rather than any strict adherence to rules. The protection of claimants from “unbearable agony” and attribution of a “right to entertain (a) hope” obviously stand apart from the cold impartiality usually expected from institutional decisions. There thus appears to be a linkage between the very human value of compassion with the requirements of social justice, demonstrating the “humanization of the law” which the *Calalang* definition avows.

4.3.3.2 Judicial Recognition of the Social Function of Property

Even prior to 1973, the Fundamental Law already implicitly recognized that the individual’s right to private property was subject to requirements of the common welfare. The Court had occasion to elaborate on further that this not only in terms of restrictions or limitations, but also as duties and obligations on the use of property.

In the case of *Alfanta v. Noe*,¹⁰⁸² concerning a dispute over the proper amount of agricultural lease rentals due to the landlord, the Court’s expressed the view that social justice under the new constitution clearly declared that property ownership “has been

¹⁰⁸¹ *Biscarra* at 239.

¹⁰⁸² [1973], S.C. L-32362, 152 P.R. 458.

impressed with a social function,” which meant that an owner has a legal obligation “to use his property not only to benefit himself but society as well.”¹⁰⁸³ This acceptance of the social function of property would later on be elevated to be an express part of the Fundamental Law.

4.3.3.3 Clarification of the Class Bias of Social Justice

Although social justice implied a bias in favor of the underprivileged, the Court was careful also to warn that this was not to be used indiscriminately and to disadvantage other social classes. For example, *Cabatan, et. al. v. Court of Appeals, et. al.*,¹⁰⁸⁴ the Court declared:

Social justice as ...defined and in its true meaning is not meant to countenance, much less perpetuate, an injustice against any group For (they) as a component unit or element in our agro-industrial society are entitled to “equal justice under law” which our courts are, above everything else, under mandate of the Constitution to dispense fairly, without fear nor favor.

In our scheme of government, social justice as a fundamental principle enshrined in the 1935, and reiterated and revitalized in the 1973 Constitution, is formulated and implemented by the legislative and the executive departments, respectively. It is the specific duty of the judiciary in turn to examine and determine –in appropriate cases coming before the courts – the intendment and scope –or the constitutionality, where raised – of tenancy, labor and other social legislation and/or measures. This responsibility the judiciary has discharged, ever mindful and always aware in proper cases that in the words of the famous grass-roots slogan of the late President Magsaysay “...those who have less in life should have in law.” A cursory study of the long line of decisions on social justice will readily reveal, however, that the concept has fleshed out –the principle, conceptualized –as Justice Laurel enjoined in the celebrated case of *Calalang vs. Williams* –not thru mistaken sympathy for or misplaced antipathy against any group – whether labor or capital, landlord or tenant – but even-handedly and fairly, thru the observance of the principle of

¹⁰⁸³ *Ibid.* at 467.

¹⁰⁸⁴ [1980], S.C. L-44875-76, 184 P.R. 281.

“equal justice under law,” for all and each and every element of the body politic.¹⁰⁸⁵ (emphasis added)

The call for restraint was reiterated with more emphasis in *Salonga, et. al. v. Farrales, et. al.*,¹⁰⁸⁶ where the Court held:

(S)ocial justice cannot be invoked to trample on the rights of property owners who under our Constitution and laws are also entitled to protection. The social justice consecrated in our constitution was not intended to take away rights from a person and give them to another who is not entitled thereto. Evidently, the plea for social justice cannot nullify the law on obligations and contracts, and is, therefore, beyond the power of the Court to grant.¹⁰⁸⁷ (emphasis added)

In *Nilo v. Court of Appeals, et. al.*,¹⁰⁸⁸ involving the interpretation of agrarian reform laws, the Court was more emphatic by stating that “social justice is not for (agricultural) tenants alone,” particularly noting that small landowners who had only a few hectares of land were “equally deserving of social justice.”¹⁰⁸⁹ It further warned:

The protective mantle of social justice cannot be utilized as an instrument to hoodwink courts of justice and undermine the rights of landowners on the plea of helplessness and heartless exploitation of the tenant by the landowner.¹⁰⁹⁰

However, these cases did not signify a reversal from previous rulings. In *Liwanag v. Court of Appeals, et. al.*,¹⁰⁹¹ the Court did not accept the petitioner-landowner’s argument that a statute in derogation of property rights should be strictly construed in favor of the landowner whose property is affected. Instead, the Court declared that there should be a

¹⁰⁸⁵ *Ibid.* at 314-15.

¹⁰⁸⁶ [1981], S.C. L-47088, 192 P.R. 614..

¹⁰⁸⁷ *Ibid.* at 624.

¹⁰⁸⁸ [1984], S.C. L-34586, 213 P.R. 460..

¹⁰⁸⁹ *Ibid.* at 473.

¹⁰⁹⁰ *Muyot* 2003 at 23.

¹⁰⁹¹ [1983], S.C. L-61425, 121 S.C.R.A. 354.

“balancing of conflicting interests, bearing in mind the social justice thrust of the law.”¹⁰⁹²

4.3.3.4 Relationship to Other Constitutional Rights and Freedoms

Time and again, the social justice mandate clashed with the individual rights and freedoms contained in other parts of the constitution, particularly the due process clause. Often, social justice considerations dominated over individual rights, especially in labor cases. In *Bradman Company v. Court of Industrial Relations*,¹⁰⁹³ for example, the Court noted that the social justice and protection to labor clauses of the Constitution effectively prevailed against pleas to the constitutional rights to equal protection and non-impairment of contracts when it came to orders for reinstatement of workers dismissed by unfair labor practices.¹⁰⁹⁴ Occasionally, though, social justice would support the exercise of other freedoms, as in the case of *Elizalde v. Victoriano Rope Workers’ Union*,¹⁰⁹⁵ and *Basa, et. al. v. Federacion Obrera de la Industria Tabaquera y Otros Trabajadores de Filipinas, et. al.*,¹⁰⁹⁶ where several workers were dismissed on account of their non-membership in a labor union which had a collective bargaining agreement, that included a closed-shop clause, with the respective employers. The workers refused to join the unions on the ground that their religion prevented them from joining any organization, including unions, and invoked a law which allowed them to be exempted from joining on this ground. The labor unions contested the validity of the law arguing, among others, that it violated the social justice clause by providing for special treatment for such workers. The Court unanimously dismissed the arguments of the unions, ruling that

Social justice does not imply social equality, because social inequality will always exist as long as social relations depend on personal or subjective

¹⁰⁹² *Ibid.*

¹⁰⁹³ [1977], S.C. L-24134-35, 168 P.R. 179.

¹⁰⁹⁴ *Ibid.* at 185-86.

¹⁰⁹⁵ [1974], S.C. L-25246, 158 P.R. 60.

¹⁰⁹⁶ [1974], S.C. L-27113, 158 P.R. 753.

proclivities. Social justice does not require legal equality because legal equality, being a relative term, is necessarily premised on differentiations based on personal or natural conditions. Social justice guarantees equality of opportunity, and this is precisely what (the Act) proposes to accomplish — it gives laborers, irrespective of their religious scruples, equal opportunity for work.¹⁰⁹⁷

Unfortunately, the Court did not extend this kind of protection to apply to more potent civil and political rights that were diminished under authoritarianism. In the case of *Magtoto v. Manguera*,¹⁰⁹⁸ a divided Court made a restrictive interpretation of the accused's right to counsel under custodial interrogation, declaring that it was granted only in the 1973 Constitution and thereby prevented its application to confessions procured in custodial interrogations undertaken before its effectivity.¹⁰⁹⁹ One Justice chafed at the Court's reluctance to protect civil liberties, and used social justice as the basis for arguing against it. In his dissenting opinion, Justice Castro declared:

Twenty centuries ago, our Lord Jesus Christ articulated the first recorded concept of social justice when he admonished his disciples that "the poor will always be with you." Two decades ago President Ramon Magsaysay expressed the concept of social justice in his own phrase: "He who has less in life should have more in law." And President Ferdinand E. Marcos, expounding his own concept of a "compassionate society," has only one emphasis: the balancing of the scales between the affluent and the poor. The meaning given by the majority...not only completely denigrates all concepts of social justice I have imbibed, for it accords the right to counsel in custodial interrogation only to an informed few and denies it to the great masses of the nation, but also would result in a grossly uneven and largely fortuitous application of the law.

I regard as intolerable in a civilized nation, which proclaims equal justice under law as one of its ideals, that any man should be handicapped when he confronts police agencies because of the happenstance that he is poor, underprivileged, unschooled or uninformed. The majority interpretation

¹⁰⁹⁷ *Elizalde* at 90-91, quoted in *Basa* at 775-76.

¹⁰⁹⁸ [1975], S.C. L-37201-02, 159 P.R. 611..

¹⁰⁹⁹ This was a serious human rights issue because the ruling affected political detainees who were arrested and detained without warrants and without charges in the initial days of martial law.

does violence to the democratic tradition of affording the amplest protection to the individual — any and every individual — against the tyranny of any governmental agency. It should be unthinkable that an innocent man may be condemned to penal servitude or even sent to his death because he is not blessed with familiarity with the intricacies of the law.¹¹⁰⁰

It was obvious that the Judiciary avoided direct and open conflict with the Executive Branch particularly on the issues that affected the latter's executive powers. In cases that were less prone to be of direct interest to the Executive, however, the Court appeared more independent-minded and sought to protect constitutional rights and freedoms as best it could.

4.3.3.5 Decisions to Prevent Anticipated Injustice

The case of *Asosacion de Agricultores de Talisay-silay, et. al. v. Talisay-silay Milling Co., Inc.*¹¹⁰¹ presented the Court with an interesting dilemma. At issue was the constitutionality of an Act that prescribed the production shares of unrefined sugar to be divided between the planters, laborers, and millers in the absence of written contracts between a majority of the planters and the miller in a sugarcane milling district. The prescribed sharing scheme particularly benefitted the laborers, who received a higher share in the production. A group of planters and laborers filed a class suit against the miller in order to avail of the legally prescribed shares. In its defense, the miller assailed the constitutionality of the Act as an infringement of the freedom of contract, which could only be done under exceptional circumstances that were not present in the sugar industry. It further argued that there were already pre-existing contracts that provided for a sharing scheme, which placed the parties beyond the scope of the Act.

In dismissing the millers' challenge that the law unjustifiably violated their freedom of contract and impaired contractual obligations, the Court declared that there was no need for exceptional circumstances to excuse the legal intervention with these freedoms, since

¹¹⁰⁰ *Ibid.* at 633.

¹¹⁰¹ [1979], S.C. L-19937, 177 P.R. 247.

the redistribution of the proceeds of production was defensible as a valid exercise of police power by the State and impelled by social justice. Considering these individual freedoms vis-à-vis the social justice mandate, the Court said:

We hold that more cogently than in regard to the exertion of police power as discussed above, the criterion for determining whether or not social justice has been overextended in any given case is nothing more than the economic viability or feasibility of the proposed law in favor of labor, and certainly not the existence of exceptional circumstances. In other words, as long as capital in industry or agriculture will not be fatally prejudiced to the extent of incurring losses as a result of its enforcement, any legislation to improve labor conditions would be valid, provided the assailed legislation is more or less demanded as a measure to improve the situation in which the workers and laborers are actually found.”¹¹⁰² (emphasis supplied)

However, the Court found that simply sustaining the validity of the Act also had serious implications to social justice, because the first clause conditioned the sharing on the form of the agreement decided upon only by the planters and millers, to the exclusion of the laborers whom the Act was intended to benefit. There was no requirement for the written agreements to increase the share of the laborers, nor for the planters to share with the latter any increases that they may have negotiated with the miller. The Court found that such an interpretation would have been inconsistent with the declared social justice intent of the law because it would have benefited only the employer or capital, and in that sense was “a despicable fraud,” because “(i) instead of promoting social justice, the Act would clearly be a double instrument of injustice and oppression to labor, for aside from perpetuating their wretched condition, they would be the victims of a legislative deception.”¹¹⁰³

In resolving the dilemma, the Court clearly considered the future impact of its action, although this was certainly not at issue in the pleadings. In fact, the Court even criticized all counsels for the parties and the Secretary of Justice for overlooking the social justice

¹¹⁰² *Ibid.* at 293-94.

¹¹⁰³ *Ibid.* at 300.

implications of their positions and limiting themselves to statutory construction.¹¹⁰⁴

Rather than pursue its initial findings and simply declare it unconstitutional, the Court expanded the application of the prescribed sharing scheme, insofar as it gave shares to the laborers, to *all* milling agreements whether or not embodied in a written agreement. This assured the laborers of the benefits of the sharing scheme regardless of how the millers and planters agreed to divide the production; any changes in the agreements between millers and planters automatically resulted in corresponding changes in the laborers' shares of the produce. The Court's decision anticipated a nascent imbalance in the implementation of the Act and acted accordingly to prevent such an imbalance from taking place, by extending the application of the law beyond its originally-stated and expressly-contemplated settings. It justified its unusual action by stating:

(I)n the Philippines, whenever any government measure designed for the advancement of the working class is impugned on constitutional grounds and shadows of doubt are cast over the scope of the State's prerogative in respect thereto, the imperious mandate of the social justice ideal consecrated in our fundamental laws, both the old and the new, asserts its majesty, calling upon the courts to accord utmost consideration to the spirit animating the act assailed, not just for the sake of enforcing the explicit social justice provisions of the article on "Declaration of Principles and State Policies," but more fundamentally, to serve the sacred cause of human dignity, which is actually what lies at the core of those constitutional precepts as it is also the decisive element always in the determination of any controversy between capital and labor.¹¹⁰⁵ (emphasis added)

4.3.3.6 The Diokno Paper

Authoritarianism in the Philippines inevitably led to abuses by those in power, and gave birth to an active human rights movement. At the forefront of this movement was the Free Legal Assistance Group, a volunteer organization of lawyers who took up cases of human rights abuses by the government and led by seasoned trial lawyer Jose W. Diokno.

¹¹⁰⁴ The Secretary of Labor, through the Solicitor General, joined the millers in contesting the validity of the Act.

¹¹⁰⁵ *Asosacion de Agricultores* at 292-93.

In August 1981, Diokno delivered a paper at a seminar on “The Administration of Justice in the Philippines: Focus on the Poor” at the University of the Philippines Law Center, entitled *A Filipino Concept of Justice*, accepting the invitation specifically “to discuss a model or paradigm of justice... (to) evaluate laws, policies, and institutions that seek to attain social justice in the Philippines.”¹¹⁰⁶ His essay was an insightful synthesis drawn from varied threads in linguistics, psychology, political science, and history. After briefly recognizing the work of Western authors such as Rawls and Freidenberg, and finding they offered no clear and practical resolution, he turned to the etymology of *katarungan* (the Filipino word for ‘justice’),¹¹⁰⁷ and decided that within its origins lay the Filipinos’ own concept of social justice. He then argued that Philippine history could be described as “a continuous and continuing struggle to create a just society,”¹¹⁰⁸ based on the writings of key figures of the Philippine Revolution against Spain. From the experiences of the country under colonialism, he then suggested that

I suggest that social injustice is committed in three ways: first, by not having a system of law at all, written or unwritten, or one so flawed that people do not know what their legal rights and duties are; second, by not enforcing law fairly; and third, by enacting law that does not pursue the social values that constitute the Filipino vision of a just society, or that adopts means which subverts those values.

The first two deal with matters of form or procedure; the last, with matters of content or substance. But all are of equal importance: for, as Lord Lawton said, “Doing what is right may still result in unfairness if it is done in the wrong way.” Or as our own Emilio Jacinto said, “*Ang gawaing magaling na nagbuhat sa pagpipita sa sarili at hindi sa talagang nasang gumawa ng kagalingan ay di kabaitan.*” (Doing good for one’s own ends, rather than a real desire to do good, is not a virtue.) This is, incidentally,

¹¹⁰⁶ Published in Jose W. Diokno, “A Filipino Concept of Social Justice.” In *A Nation for Our Children: Human Rights, Sovereignty, Nationalism - Selected Writings of Jose W. Diokno* (Quezon City: Claretian Publications, 1987) at 17.

¹¹⁰⁷ *Ibid.* at 18-19. See Section 4.2 above.

¹¹⁰⁸ *Ibid.* at 20.

what due process means: doing the right things in the right way.¹¹⁰⁹
(emphasis added; quote from Emilio Jacinto translated by the author)

From the ways in which social injustice is committed, Diokno then proceeded to describe standards by which laws, policies, and institutions could be evaluated. Considering the central role of Law in the injustices he identified, he offered criteria for the validity of laws based on the source of authority for law-making, their transparency, and their stability.¹¹¹⁰ He added standards for assessing the decisions and judgments produced by the system of administration of justice,¹¹¹¹ and highlighted that ultimately, “every law, policy and institution must respect, if it cannot promote, both the individual rights of man and the collective rights of the people.”¹¹¹² But even these were not enough, he argued, because of existing inequalities in the social, economic, and political system; in order for the standards to work as intended, they also had to be directed toward reducing poverty

¹¹⁰⁹ *Ibid.* at 24-25.

¹¹¹⁰ *Ibid.* at 25. At this point Diokno argued that all laws, policies, and institutions must follow four minimum requirements specifically:

1. The authority of the law-maker must be recognized by the majority of the people as legitimate, and the laws enacted must not exceed the limits of the authority imposed by the prevailing consensus;
2. Laws must be published or made known to the persons who are to be affected by them; ...
3. Laws must not be changed so often or so quickly that people cannot reasonably base plans on them;
4. Laws must be understandable and not contradictory, and must not prescribe acts beyond the capacity of the people or against their conscience.”

Diokno’s criteria are directly pointed against the lawmaking habits of the Marcos dictatorship which often resorted to the use of secret decrees to justify or legitimize legally doubtful acts. Years later, the practice, as well as the laws it produced, were voided by the Supreme Court in the case of *Tañada v. Tuvera* [1985], S.C. L-63915, 136 S.C.R.A. 27..

¹¹¹¹ *Ibid.* at 26-27.

¹¹¹² *Ibid.* at 27.

and all forms of social and political inequality.¹¹¹³ He summarized the Filipino concept of justice as follows:

Social justice, for us Filipinos, means a coherent, intelligible system of law, made known to us, enacted by a legitimate government freely chosen by us, and enforced fairly and equitably by a courageous, honest, impartial, and competent police force, legal profession and judiciary, that *first*, respects our rights and our freedoms both as individuals and as a people; *second*, seeks to repair the injustices that society has inflicted on the poor by eliminating or at least reducing poverty as rapidly as our resources and our ingenuity make possible; *third*, develops a self-directed and self-sustaining economy that distributes its benefits to meet, at first, the basic material needs of all, then to provide an improving standard of living for all, but particularly for the lower income groups, with time enough and space to allow them to help create and to enjoy our culture; *fourth*, changes our institutions and structures, our ways of doing things and relating to each other, so that whatever inequities remain are not caused by those institutions or structures, unless inequality is needed temporarily to favor the least favored among us and its cost is borne by the most favoured; and *fifth*, adopts means and processes that are capable of attaining these objectives.¹¹¹⁴

The above definition essentially consolidates both the principles enunciated by the Judiciary and the needs defined by the times. The call for legitimate government and an impartial administration of justice was a veiled protest against the dictatorship in force at the time, while that for a self-sustaining and self-directed economy was directed against domination by foreign interests. The clear and persistent call for a deliberate redistribution of wealth and benefits toward the disadvantaged echoes the historical goal expressed repeatedly in the past, and additionally incorporate both Rawls' Difference Principle and Miller's social minimums as additional justifications.¹¹¹⁵ While Laurel's

¹¹¹³ *Ibid.* at 28-29.

¹¹¹⁴ *Ibid.* at 30-31.

¹¹¹⁵ Diokno in fact cites Rawls in the first few pages of his paper, which explains the incorporation of the Difference Principle. Miller, on the other hand, is not cited by Diokno, so the idea of "meeting basic material needs" must have been derived from other sources, most likely the concept of Christian charity. It is also possible that

formulation in *Calalang* provided the theoretical basis for the State's duty to promote social justice, Diokno's definition supplied practical criteria in terms of characteristics and objectives of law and policy. It is probably on account of the latter's more concrete prescriptions that it then became a major influence in the next constitutional exercise after the expulsion of the Marcos regime through the peaceful People's Power Revolution five years later.

4.3.4 The 1987 Constitution

More than a decade of authoritarianism eventually caused massive unrest and dissatisfaction with the Marcos regime. Aside from political repression, the Philippines suffered from widespread "crony capitalism" as the President facilitated national and local monopolies and dispensed special privileges in favor of political allies.¹¹¹⁶ In the early 1980s, political conditions were very unstable due to popular unrest arising from the assassination of former Senator Benigno Aquino, Jr., a well-known political prisoner and opponent of the Marcos regime.¹¹¹⁷ The cry "Justice for Aquino, Justice for All!" reverberated in the streets from 1983-85 as public demonstrations and other mass actions increased in intensity in the capital city of Manila; meanwhile communist and Muslim secessionist insurgencies threatened the countryside. Marcos' attempt to seek legitimacy

Diokno was influenced by the idea of "social minimums" expounded upon by Jose Lava in his early treatise on social justice as "ethical due process":

(M)en look upon the state not only as a defender of vested rights, but also as an active agent in securing to the individuals composing it a certain minimum of livelihood, so that thus secured, such individuals could feel a sense of security, of stability, of independence, that would better enable them to fight their economic battles on an equal footing with others more happily circumstanced.

This claim for the "social minimums" or a minimum of decent living is grounded upon the fundamental instinct of self-preservation and on the evidence social fact that under the present system of economy, not all men can enjoy even the bare necessities of life. Lava, *supra* Note 994 at 141-142.

¹¹¹⁶ For a more extensive analysis of crony capitalism and its impact on the Philippine economy, see David C. Kang, *Crony Capitalism: Corruption and Development in South Korea and the Philippines*. (Cambridge: Cambridge University Press, 2002).

¹¹¹⁷ Abinales and Amoroso, *supra* Note 920 at 221.

through elections in 1985 failed miserably when the Senator's widow and united opposition standard-bearer, Corazon Aquino, was denied victory through electoral fraud so blatant and massive that the staff of the Commission on Elections itself staged a public walk-out and protest.¹¹¹⁸ The economy was in shambles owing to loss of foreign investor confidence and increasing civil disobedience.¹¹¹⁹ In February 1986, some young military officers aggrieved by the patronage system within the military establishment attempted and failed to stage a *coup d'état*, and then retreated to the general headquarters compound of the Armed Forces in Quezon City.¹¹²⁰ Upon the call of the leaders of the Church and the political opposition, hundreds of thousands of unarmed residents of the capital city converged around the compound to protect them from government forces, and staged the Peoples' Power Revolution that peacefully forced the Marcos regime to flee the country.¹¹²¹ The revolution installed Corazon Aquino as President and established a revolutionary government to manage a transition back to liberal democratic government. The revolutionary government functioned temporarily under a provisional constitution¹¹²² that suspended certain parts of the 1973 Constitution until a 60-person multi-sectoral Constitutional Commission appointed by the President wrote a new one.¹¹²³

The Commissioners set out to formulate ground rules on everything from individual civil rights to international policy in order to prevent and avoid the experiences and abuses of authoritarian rule. Among the many innovations and adjustments in the complex document that resulted were a more imperative policy statement and a new, detailed article entirely devoted to social justice, which was regarded as the centerpiece of the

¹¹¹⁸ *Ibid.* at 224.

¹¹¹⁹ *Ibid.* at 223.

¹¹²⁰ *Ibid.* at 224.

¹¹²¹ *Ibid.* at 225.

¹¹²² *Freedom Constitution*, Proc. 3 (1986) [Freedom Const.].

¹¹²³ Freedom Const., art. 5, s. 1.

new constitution.¹¹²⁴ The Commission devoted a week to discussions specifically on the proposed article on social justice, with additional discussions recurring in deliberations on related articles such as those on the Bill of Rights and the special articles on the national economy and patrimony. To specify “the basic philosophy” of the proponents’ deliberations, Commissioners twice read into the record the Diokno definition of social justice specifically,¹¹²⁵ as well as the judicial precedents set by the Supreme Court.¹¹²⁶

There was a consensus among the Commissioners that despite its merits, social justice under the 1935 and 1973 Constitutions was still a ‘limited’ concept,¹¹²⁷ and that they intended the 1987 Constitution to go beyond this and be “stronger and more comprehensive.”¹¹²⁸ Commissioner Teresa Nieva, the Chair of the Committee on Social Justice that prepared the proposed text, underscored the importance of the new provisions:

Our Committee hopes that social justice will be the centerpiece of the 1986 Constitution. The rationale for this is that social justice provides the material and social infrastructure for the realization of basic human rights the enhancement of human dignity and effective participation in democratic processes. Rights, dignity and participation remain illusory without social justice.

Our February 1986 Revolution was not merely against the dictatorship nor was it merely a fight for the restoration of human rights; rather, this popular revolution was also a clamor for a more equitable share of the nation's resources and power, a clamor which reverberated in the many

¹¹²⁴ *Record of the Constitutional Commission*, 6 vols. (Quezon City: The 1986 Constitutional Commission, 1987), vol. 2 at 606-07. [Record]

¹¹²⁵ On the first occasion, the definition was cited as the working definition of the Committee on Social Justice, and distinguish social *justice* from social *services* that were deemed to be encompassed within the concerns of social justice. Record, vol. 1 at 22. On the second occasion, Commissioner Pons Bennagen, representing the indigenous peoples, read from Diokno’s paper specifically to explain “the basic philosophy” that guided the Committee’s deliberations. Record, vol. 2 at 661.

¹¹²⁶ Record, vol. 4 at 658-59.

¹¹²⁷ Record, vol. 4 at 864-68.

¹¹²⁸ Record, vol. 2 at 606.

public hearings which the Constitutional Commission conducted throughout the country.

...

Social justice, in its substance and as a reflection of the needs of Philippine society, must include the following: provision for basic needs, equalization of access to productive resources and promotion of people's organizations. In a nation where more than half of the people are below the poverty line, the first target of a social justice measure should, therefore, be provisions, direct and indirect, for adequate responses to these basic needs such as health, shelter and education. It is not the intent, however, that the State will take away the initiative from the people and will do everything. This is against the principle of enhancing human dignity. The State should only provide, in most cases, the necessary and sufficient condition for the people to take the active role. And one such important condition is the democratization of productive resources. In a very real way, inequality in the sharing of the fruits of development can be traced to the concentration of productive resources in the hands of a very small minority, and this is especially true of land and capital resources. Therefore, access to these resources must be democratized if the nation is to permanently achieve social justice. Here, the State must go beyond merely affirming the social character of property or the concept of stewardship for the common good. It must also promote measures to realize this democratization; and models and experiences also of other countries abroad in land reform, cooperatives, profit sharing and workers' participation in industry are not lacking.

The successful implementation of all these programs would, however, require the active participation of people's organizations in all levels and it is through these people's organizations that the creativity and initiative of the people are harnessed and which embody and activate grassroots democracy. It is, therefore, proposed that the State promote the formation of various forms of people's organizations as effective vehicles for grassroots democracy and the promotion of social justice.¹¹²⁹ (emphasis supplied)

These lengthy deliberations resulted in social justice appearing twice in the 1987 Constitution, the first as part of the Declaration of Policy in Article 2, and the second as a separate Article 13 specifically on Social Justice and Human Rights. In the Declaration of

¹¹²⁹ Record, vol. 2 at 606-07.

Policy, the 1987 Constitution differs from the formulation in previous constitutions by obligating the State not only to promote social justice, but to promote it “in all phases of national development.”¹¹³⁰

4.4 The Present Constitutional Mandate for Social Justice

The 1987 Constitution contains “the policy guidance and structural model to implement social justice,”¹¹³¹ which encompassed all social sectors and all economic, political and cultural inequalities.¹¹³² The 1987 Constitution particularly features social justice as its centerpiece, laying out the ambitious aspiration for social justice as a State policy:

Section 9. The State shall promote a just and dynamic social order that will ensure the prosperity and independence of the nation and free the people from poverty through policies that provide adequate social services, promote full employment, a rising standard of living, and an improved quality of life for all.

Section 10. The State shall promote social justice in all phases of national development.¹¹³³ (emphasis added)

These policies are integrally connected to several other State policies which seek to strengthen and equalize the status of distinct social groups, including youth,¹¹³⁴ women,¹¹³⁵ industrial labor,¹¹³⁶ agricultural labor,¹¹³⁷ and indigenous peoples.¹¹³⁸ Most

¹¹³⁰ 1987 Const., art. 2, s. 10.

¹¹³¹ Albert T. Muyot, "Social Justice and the 1987 Constitution: Aiming for Utopia?" (1996) 70:2 Philippine L. J. 310 at 330.

¹¹³² Bernas, *supra* Note 984 at 82, 1238-39; Record, vol. 2 at 734-46.

¹¹³³ 1987 Const., art 2 (declaration of principles and State policies).

¹¹³⁴ *Ibid.*, art. 2, s. 13: “The State recognizes the vital role of the youth in nation-building and shall promote and protect their physical, moral, spiritual, intellectual, and social well-being. It shall inculcate in the youth patriotism and nationalism, and encourage their involvement in public and civic affairs.”

¹¹³⁵ *Ibid.*, art. 2, s. 14: “The State recognizes the role of women in nation-building, and shall ensure the fundamental equality before the law of women and men.”

¹¹³⁶ *Ibid.*, art. 2, s. 18: “The State affirms labor as a primary social economic force. It shall protect the rights of workers and promote their welfare.”

important, it specifically recognizes the value and importance to social life of human rights.¹¹³⁹ It also recognizes collective rights of the Filipino people as a whole, both to individual health and to that of their environment:

Section 15. The State shall protect and promote the right to health of the people and instill health consciousness among them.

Section 16. The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.¹¹⁴⁰

These rights were originally written by the Commission as part of a subsection on health in Article XIII on social justice, but transposed to Article II on State policies.

Commissioner Blas Ople reasoned:

To be sure, we ought to have a strong and powerful statement in the Declaration of Principles concerning the ecology in terms of its impact on health, but also for other equally humane and noble purposes and having in mind the danger of the exhaustion of resources.¹¹⁴¹

¹¹³⁷ *Ibid.*, art. 2, s. 21: “The State shall promote comprehensive rural development and agrarian reform.”

¹¹³⁸ *Ibid.*, art. 2, s. 22. “The State recognizes and promotes the rights of indigenous cultural communities within the framework of national unity and development.”

¹¹³⁹ *Ibid.*, art. 2, s. 11. “The State values the dignity of every human person and guarantees full respect for human rights.”

Further attention to the promotion and protection of human rights is manifested in art. 13, s. 17 to 19, which create an independent Commission on Human Rights and grant it special powers and functions.

¹¹⁴⁰ *Ibid.*, article 2 (declaration of principles and State policies).

¹¹⁴¹ Record, vol. 5 at 907. At one point, as the Commission debated on alternative formulations, Comm. Ople reiterated his position with an impassioned plea:

I do appreciate his demand and concern for simplicity and clarity, and I think this section meets that standard and somewhat exceeds it, I suppose, in terms of this phrase that has been described as poetic, which undoubtedly it is, but which is far from being meaningless. It speaks of a balanced and healthful ecological environment in accord with the singular demand of nature for rhythm and harmony. I believe this is far from being a meaningless or a hollow statement. It conveys a powerful sense of the very real problems that we face. Having violated

Commissioner Fr. Joaquin Bernas, S.J. regards these rights as belonging to a class of “social rights” distinct from the individual rights in Article III:

When one speaks ...of the protection of the right to social justice and of the body of social rights which the expression capsulizes, the meaning, in terms of effectivity of protection, is not the same as when one speaks of protection for the right, for instance, of free speech. The guarantees of the civil and political rights found principally in the Bill of Rights are self-executory and ready for use. One can assert those rights in a court of justice. Social rights are a different phenomenon. Except to the extent that they prohibit government from embarking in activity contrary to the ideals of social justice, they generally are not rights in the strict sense that the right in the Bill of Rights are. Social rights are latecomers in the development of law and came about through the efforts of social philosophers and through the social teachings of the Popes. In legal effectiveness they are primarily in the nature of claims or demands which people expect government to satisfy, or they are ideals which government is expected to respect. Thus, in the nature of things the satisfaction of these demands must for the most part depend on legislation.¹¹⁴² (emphasis added)

Diane Desierto identifies the right to health and the right to a healthful and balanced ecology as the first of a gamut of apparently actionable social rights permeating the Constitution.¹¹⁴³ The overarching social justice policies manifest further in other detailed

the rhythm and harmony of nature with the rape of our forests and lakes, we have to take seriously the admonitions of many experts that if nothing drastic is done by the government and the people in 50 years, we can be a desert ... Our lakes are already dying. The Laguna de Bay, according to most experts, can literally die in 20 years if nothing gets done now. In my own Province of Bulacan, the pollution problem is beginning to feed an insurrectionary atmosphere among many fishermen, for example. Farms and rivers which are the only means of sustenance for many thousands of families are being irreparably damaged by pollution from some chemical companies there.

And so, I think, a statement on ecology this powerful and attractive should have a place in the Declaration of Principles. Record, vol. 5 at 914.

¹¹⁴² Bernas, *supra* Note 984 at 1238.

¹¹⁴³ Diane A. Desierto, "Justiceability of Socio-Economic Rights: Comparative Powers, Roles, and Practices in the Philippines and South Africa" (2009) 11:1 Asian Pac. L. & Pol'y J. 114 at 137. Desierto however prefers to use the term “socio-economic

provisions of the Constitution that define the basic parameters of the national economy,¹¹⁴⁴ and provide specific policy guidelines for the State with respect to identified social sectors.¹¹⁴⁵

Central to social justice in the Constitution is an economic policy that addresses the twin challenges that arise in the modern liberal market society: the concentration of ownership of property in the hands of an elite, and the maldistribution of economic resources among social groups. To establish the State's duty to promote social justice, the Constitution lays the fundamental approach to the concept of property that includes the justification for State intervention in its distribution:

Section 6. The use of property bears a social function, and all economic agents shall contribute to the common good. Individuals and private groups, including corporations, cooperatives, and similar collective organizations, shall have the right to own, establish, and operate economic

rights," in order to distinguish them more clearly from individual political and civil rights.

¹¹⁴⁴ 1987 Const., art. 12 (the national economy and patrimony). Section 1 lays out the broad objectives of the country's economic policy:

Section 1. The goals of the national economy are a more equitable distribution of opportunities, income, and wealth; a sustained increase in the amount of goods and services produced by the nation for the benefit of the people; and an expanding productivity as the key to raising the quality of life for all, especially the under-privileged.

The State shall promote industrialization and full employment based on sound agricultural development and agrarian reform, through industries that make full and efficient use of human and natural resources, and which are competitive in both domestic and foreign markets. However, the State shall protect Filipino enterprises against unfair foreign competition and trade practices.

In the pursuit of these goals, all sectors of the economy and all regions of the country shall be given optimum opportunity to develop. Private enterprises, including corporations, cooperatives, and similar collective organizations, shall be encouraged to broaden the base of their ownership.¹¹⁴⁴

¹¹⁴⁵ 1987 Const., art. 13 (social justice and human rights).

enterprises, subject to the duty of the State to promote distributive justice and to intervene when the common good so demands.¹¹⁴⁶

Many provisions dealing with natural resources and various economic activities elaborate upon the specific redistributive imperatives of this broad economic policy. At the outset, the Legislature is authorized to effect a redistribution of rights, resources, and opportunities:

Section 1. The Congress shall give highest priority to the enactment of measures that protect and enhance the right of all the people to human dignity, reduce social, economic, and political inequalities, and remove cultural inequities by equitably diffusing wealth and political power for the common good.

To this end, the State shall regulate the acquisition, ownership, use, and disposition of property and its increments.

Section 2. The promotion of social justice shall include the commitment to create economic opportunities based on freedom of initiative and self-reliance.¹¹⁴⁷

The direction for Congress in Section 1 to give “highest priority” to social justice measures was a deliberate message on the part of the Constitutional Commission to communicate the need for not only the exercise of police power, but “powers needed to achieve radical social reform of critical urgency.”¹¹⁴⁸ Section 2, meanwhile, ensured that social justice measures did not result in an exclusively socialist interpretation of the mandate, but also gave due importance to individual enterprise, without foreclosing the possibility of creating a just social structure through regulatory measures.¹¹⁴⁹

Nevertheless, the range of special policies addressing the needs of specific social sectors, such as labor,¹¹⁵⁰ agrarian and natural resources reform,¹¹⁵¹ urban land reform and

¹¹⁴⁶ 1987 Const., art. 2, s. 6.

¹¹⁴⁷ 1987 Const., art. 13, s. 1-2.

¹¹⁴⁸ Bernas, *supra* Note 984 at 1238-39.

¹¹⁴⁹ *Ibid.* at 1239.

¹¹⁵⁰ 1987 Const., art. 13, s. 3:

Section 3. The State shall afford full protection to labor, local and overseas, organized and unorganized, and promote full employment and equality of employment opportunities for all.

It shall guarantee the rights of all workers to self-organization, collective bargaining and negotiations, and peaceful concerted activities, including the right to strike in accordance with law. They shall be entitled to security of tenure, humane conditions of work, and a living wage. They shall also participate in policy and decision-making processes affecting their rights and benefits as may be provided by law.

The State shall promote the principle of shared responsibility between workers and employers and the preferential use of voluntary modes in settling disputes, including conciliation, and shall enforce their mutual compliance therewith to foster industrial peace.

The State shall regulate the relations between workers and employers, recognizing the right of labor to its just share in the fruits of production and the right of enterprises to reasonable returns to investments, and to expansion and growth.

¹¹⁵¹ 1987 Const., art. 13, s. 4-8:

Section 4. The State shall, by law, undertake an agrarian reform program founded on the right of farmers and regular farmworkers who are landless, to own directly or collectively the lands they till or, in the case of other farmworkers, to receive a just share of the fruits thereof. To this end, the State shall encourage and undertake the just distribution of all agricultural lands, subject to such priorities and reasonable retention limits as the Congress may prescribe, taking into account ecological, developmental, or equity considerations, and subject to the payment of just compensation. In determining retention limits, the State shall respect the right of small landowners. The State shall further provide incentives for voluntary land-sharing.

Section 5. The State shall recognize the right of farmers, farmworkers, and landowners, as well as cooperatives, and other independent farmers' organizations to participate in the planning, organization, and management of the program, and shall provide support to agriculture through appropriate technology and research, and adequate financial, production, marketing, and other support services.

Section 6. The State shall apply the principles of agrarian reform or stewardship, whenever applicable in accordance with law, in the disposition or utilization of other natural resources, including lands of the public domain under lease or concession suitable to agriculture, subject to prior rights, homestead rights of small settlers, and the rights of indigenous communities to their ancestral lands.

The State may resettle landless farmers and farmworkers in its own agricultural estates which shall be distributed to them in the manner provided by law.

housing,¹¹⁵² health,¹¹⁵³ and women,¹¹⁵⁴ highlight the Constitution's concern for the welfare of distinct social groups.

Section 7. The State shall protect the rights of subsistence fishermen, especially of local communities, to the preferential use of the communal marine and fishing resources, both inland and offshore. It shall provide support to such fishermen through appropriate technology and research, adequate financial, production, and marketing assistance, and other services. The State shall also protect, develop, and conserve such resources. The protection shall extend to offshore fishing grounds of subsistence fishermen against foreign intrusion. Fishworkers shall receive a just share from their labor in the utilization of marine and fishing resources.

Section 8. The State shall provide incentives to landowners to invest the proceeds of the agrarian reform program to promote industrialization, employment creation, and privatization of public sector enterprises. Financial instruments used as payment for their lands shall be honored as equity in enterprises of their choice.

¹¹⁵² 1987 Const., art. 13, s. 9-10:

Section 9. The State shall, by law, and for the common good, undertake, in cooperation with the private sector, a continuing program of urban land reform and housing which will make available at affordable cost, decent housing and basic services to under-privileged and homeless citizens in urban centers and resettlement areas. It shall also promote adequate employment opportunities to such citizens. In the implementation of such program the State shall respect the rights of small property owners.

Section 10. Urban or rural poor dwellers shall not be evicted nor their dwelling demolished, except in accordance with law and in a just and humane manner.

No resettlement of urban or rural dwellers shall be undertaken without adequate consultation with them and the communities where they are to be relocated.

¹¹⁵³ 1987 Const., art. 13, s. 11-13:

Section 11. The State shall adopt an integrated and comprehensive approach to health development which shall endeavor to make essential goods, health and other social services available to all the people at affordable cost. There shall be priority for the needs of the under-privileged, sick, elderly, disabled, women, and children. The State shall endeavor to provide free medical care to paupers.

Section 12. The State shall establish and maintain an effective food and drug regulatory system and undertake appropriate health, manpower development, and research, responsive to the country's health needs and problems.

Section 13. The State shall establish a special agency for disabled person for their rehabilitation, self-development, and self-reliance, and their integration into the mainstream of society.

¹¹⁵⁴ 1987 Const., art. 13, s. 14:

The elevation of the role of social groups in its view of the economy, and impliedly in social and economic policy, was an innovation of the Commission. It was clear to the Commissioners that the social justice policy acted as a counterweight against the existing structural inequalities and ‘imbalance’ in social life.¹¹⁵⁵ Although they generally accepted that there was nothing inherently immoral about inequalities due to different talents, efforts, or interests of the people,¹¹⁵⁶ it was necessary to look after the well-being and economic security of particular groups “under real handicaps in the struggle for existence” who had “less opportunities and less voice.”¹¹⁵⁷

Aside from the redistributive mandates and attention paid to specific social groups, the 1987 Constitution also explicitly recognizes the vital role of public participation and popular democracy. The article on social justice firmly links the participation of people’s organizations to the State’s task of promoting social justice:

Section 15. The State shall respect the role of independent people's organizations to enable the people to pursue and protect, within the democratic framework, their legitimate and collective interests and aspirations through peaceful and lawful means.

People's organizations are *bona fide* associations of citizens with demonstrated capacity to promote the public interest and with identifiable leadership, membership, and structure.

Section 16. The right of the people and their organizations to effective and reasonable participation at all levels of social, political, and economic decision-making shall not be abridged. The State shall, by law, facilitate the establishment of adequate consultation mechanisms.¹¹⁵⁸

Section 14. The State shall protect working women by providing safe and healthful working conditions, taking into account their maternal functions, and such facilities and opportunities that will enhance their welfare and enable them to realize their full potential in the service of the nation.

¹¹⁵⁵ Record, vol. 2 at 674.

¹¹⁵⁶ Record, vol. 2 at 741.

¹¹⁵⁷ Record, vol. 2 at 652, 659.

¹¹⁵⁸ 1987 Const., art. 13, s. 15-16.

In including these provisions, the Commission innovated on the social justice policy first by establishing an integral link between social justice and people's empowerment and the democratization of decision-making. It recognized that social justice required not only the diffusion of wealth and power, but also mechanisms to "enable and encourage the people to create wealth and make decisions."¹¹⁵⁹ The new article encouraged the people to participate in government through "peoples' organizations" in order to move the State to respond to the needs of the greater majority of the poor.¹¹⁶⁰ The Commission hoped that the State would respect such organizations as a check on its powers. Thus, the Constitution institutionalizes the participation of all sectors in all levels of planning and decision-making through consultation mechanisms, and guarantees the right of the people to access to information needed to make responsible decisions.¹¹⁶¹ This was part of a broader effort towards progress and democracy through peaceful social reform.

Since the ratification of the 1987 Constitution, the social justice mandate has been the primary basis for significant social legislation and executive action, such as the Local Government Code,¹¹⁶² Comprehensive Agrarian Reform Law,¹¹⁶³ Cooperative Code,¹¹⁶⁴ People's Small-scale Mining Act,¹¹⁶⁵ Philippine Fisheries Code,¹¹⁶⁶ and the Indigenous Peoples' Rights Act.¹¹⁶⁷ Philippine social justice is particularly concerned with legal regimes and institutions, partly on account of the fact that the State's pursuit of social justice must be undertaken primarily through legislation implemented by executive

¹¹⁵⁹ Record, vol. 2 at 744.

¹¹⁶⁰ Record, vol. 2 at 745.

¹¹⁶¹ Record, vol. 2 at 711.

¹¹⁶² R.A. 7160 (1991).

¹¹⁶³ R.A. 6657 (1998).

¹¹⁶⁴ R.A. 6938 (1990) , as amended by *Philippine Cooperative Code*, R.A. 9520 (2008).

¹¹⁶⁵ R.A. 7076 (1991).

¹¹⁶⁶ R.A. 8550 (1998).

¹¹⁶⁷ R.A. 8371 (1997) .

action. Lately in *Serrano v. Gallant Maritime Services*,¹¹⁶⁸ the Court particularly emphasized that while all provisions of the 1987 are presumed to be self-executing, some provisions, including Article 13 on social justice, are not directly enforceable judicially without legislation.¹¹⁶⁹ It is only when the State's actions are challenged that the judicial function is necessarily invoked.¹¹⁷⁰ Nonetheless, this has resulted in a Philippine social justice policy that is the product of the interaction between all three branches of government. To date, there have been no significant departures from the judicial precedents and the theory of social justice that they imply.

4.5 Prospects for Ecological Social Justice in The Philippines

In sum, the Philippine theory of social justice, forged out of its practical historical experience, revolves around a legitimized bias for the underprivileged and powerless in society. This entails the protection of vulnerable groups through the constitutional recognition of social rights, whose iteration reached an apex with the 1987 Constitution. Philippine social justice is tempered with a humanistic compassion for and attentiveness to the disadvantaged, and the recognition of a social responsibility attached to the accumulation of property and wealth. It assumes that humans are in reality unequal in status, position, and means, necessitating a continuing mandate on the part of government to continually offer a protective shield and actively take measures to counterbalance social and economic forces and opportunities that may threaten the welfare of vulnerable groups. This includes the redistribution of rights, opportunities, and wealth, carried out by an activist State that does not completely abdicate its prerogatives to *laissez faire*, but also does not go so far as to sacrifice individual rights in favor of the majority. In cases of

¹¹⁶⁸ *Serrano v. Gallant Maritime Services* [2009], S.C. 167614, online: <<http://sc.judiciary.gov.ph/jurisprudence/2009/march2009/167614.htm>>.

¹¹⁶⁹ *Ibid.*

¹¹⁷⁰ One of the most important cases involving the social justice policy under the Constitution were *Association of Small Landowners in the Philippines v. Secetary of Agrarian Reform* [1989], S.C. 78742, 175 S.C.R.A. 366 (constitutionality of the Comprehensive Agrarian Reform Law).

doubt, the integral bias for the underprivileged justifies a range of protective, compensatory, and precautionary decisions and actions in order to assure that those “with less in life should have more in law.”

Philippine constitutional law on social justice contains all the elements necessary to accommodate the concept of ecological social justice. The incorporation of social justice advocacy into the Constitutional scheme forms the foundation for continuing social reform. The mandate to undertake this effort “in all phases of national development” extends the reach of social justice advocacy, particularly the search for better distribution of the advantages and disadvantages, beyond its traditional fields of economic class issues and into domains previously unexplored. The social justice doctrines developed by the Supreme Court in response to the Constitutional mandate irrevocably established an ‘activist’ State animated not only by the legislative and executive branches, but also by the judicial branch.

Environmental and natural resource management issues are among the recent ‘new’ domains for social justice advocacy, and the 1987 Constitution clearly provided the opening for injecting social justice into environmentalism through the collective social right to a healthful and balanced ecology under s. 16 of art. 2, and for natural resources reform in s. 4-8 of art. 13. In this light, Philippine environmental laws may be properly viewed as a form of social welfare legislation. The fact that this environmental right was originally a provision of the draft Article on social justice proves that a social justice perspective has great potential for revealing in Law the integral connections between human societies and Nature.

4.5.1 Predisposition to Critical Analysis

The Philippines’ basic view of Law as an ‘autonomous’ body of rules not necessarily connected with justice is important to ecological social justice. The term ‘autonomous’ here means the delinking of Law from justice, which immediately allows Law to be subject to critical inquiry. This perspective is one of the harshest lessons of Philippine colonial history, when colonial laws clearly demonstrated that justice has nothing to do

with what is ‘legal’. With this perspective, all assumptions and preconceptions about even the most well-meaning of laws (e.g., environmental legislation) are thrown out so that unconscious and unstated biases about the ‘goodness’ and ‘righteousness’ of such laws are neutralized. One may then see the Law as being part of another system, such as the technology it regulates, whose overall impacts and/or intentions may be far different from what one might normally assume or expect. Especially in times of crisis when solutions that seem eminently logical and appropriate are offered, and upon which great hopes are pinned, a critical perspective is all the more important, lest the solutions turn out to be “Trojan machines” facilitated by “Trojan legal regimes.”

4.5.2 Role of the State

The “activist State” orientation and rejection of complete *laissez faire* in the Philippine case is also a key assumption of ecological social justice. The social and economic forces that drive the over-exploitation of natural resources may operate on massive scales and levels that are beyond the effective control of separate, isolated communities; thus, the State is ultimately the only institution imbued with the coercive power necessary to control these forces and prevent excesses. For this reason, the issue of who exercises the corresponding influence and control over State policies and programs is a strategic one. The contest for such control is recorded in the struggle for democratization, as when local communities seek to either ‘maintain’ or ‘retake’ power over local resources and economic activities from centralized State authority. One may view cultural and moral prescriptions, such as the idea of the social function of property, as rationalizations devised to support the logic of democratization. These elements of State activism and democratization are thus vital components in the effort to regulate and control activities that adversely affect Nature as well as society.

4.5.3 Participation

Expanded public participation is one of the major recent innovations in the Philippine constitutional scheme of social justice, recognizing the people’s right to participate collectively in governance through people’s organizations and non-government

organizations. Most recent environmental legislation have implemented this mandate to accommodate this mode of public participation. Collective participation through organizational representatives is a common feature in planning and advisory bodies established by law for particular environmental issues or natural resources. Certain laws have also expanded this to include participation in program implementation and law enforcement. These mechanisms permeate all levels of government from the local to the national. Thus, the refinement of the mandate of the activist State through specific provisions calling for certain actions is complemented by an expansion of the public's role in such activism. The implementation of this mandate will be shown in much greater detail in the succeeding chapter; but for the moment, it suffices to state that social justice in the Philippines does indeed highlight the principle of public participation in environmental decision-making.

4.5.4 Recognition

Far more than previous constitutions, the 1987 Constitution has explicitly recognized major groups of people in Philippine society by providing them with specific State policies in art. 13 on social justice. Groups not expressly identified in art. 13 may still be recognized and participate in governance through the public participation mechanisms mentioned above. Examples of some these open-ended mechanisms will be detailed in the different laws explained in the succeeding chapter. The inequalities that create class and sectoral divides is not limited to economic inequalities such as disparities in wealth, although it is the most obvious and important; Philippine social justice is also meant to address all other forms of social, political and cultural inequalities.

This expanded coverage is consistent with the colonial experience of social injustice perceived not only in terms of an unfair distribution of wealth, but also as denial of access to the basic means and opportunities to live a decent and dignified life, such as education and civil/political rights. It also provides the legal opportunity to question and address institutionalized and historical forms of inequity, as was attempted through the Indigenous Peoples' Rights Act recognizing, among others, the concept of ancestral

domain and the validity of indigenous customs and traditions in local decision-making when seeking permission to use natural resources within the ancestral domain.¹¹⁷¹

4.5.5 Distribution

There can be little doubt that the Philippine Constitution intended a redistribution of benefits and disadvantages from the economy; the fact that social justice is its ‘centerpiece’ very clearly reveals this ultimate purpose. By definition in *Calalang*, social justice is inherently a legal principle for justifying redistributive legislation, policies, and judgments. Its expanded constitutional meaning is a deliberate effort to address inequality continually in all its forms, not only economic, but also social, political and cultural, “in all phases of national development,” which could certainly encompass inequalities in the usage and impacts of the environment and its resources.

It addresses two levels: inter-State, and intra-State. On the one hand, inter-State inequalities are implicitly recognized and assumed in ‘protectionist’ provisions that set ownership qualifications with respect to certain resources and economic activities. Although many might view ownership requirements rightly as being purely political for appealing to nationalist sentiment, they also serve an ecological purpose by attempting to ensure that the flows of resources and benefits circulate largely within the Philippine State, which also acts as the ultimate representative of all Philippine communities.¹¹⁷² Ownership and citizenship requirements attempt to keep the resources and benefits (as well as risks) of an economic activity primarily ‘local.’ The absence of restrictions essentially open up access to natural resources for appropriation by those who are not members of the communities that might depend on them for survival. Instead, resources and their benefits are siphoned off to benefit people and places far removed from their origins: the hallmark of colonial relations. In these cases, social injustice is created

¹¹⁷¹ *Indigenous Peoples' Rights Act*, s. 2(b), 3(a) and 3(b), and 4-12.

¹¹⁷² This definitely brings ecological social justice into conflict with the prevailing international trade regime insofar as it may seek to demolish minimum ownership requirements as ‘protectionist’ measures that contravene global free trade.

because the a community or people are disconnected from or impeded in their access to the full potential benefits of the environment on which they depend and to which they are directly attached.

On the other hand, numerous provisions calling for special attention to specific social groups like women, youth, indigenous peoples, and others, clearly support intra-State redistributions. The guarantees to local autonomy for local governments establish one channel for redistribution through the political subdivisions, especially in the provision that entitles them to share in the national wealth.¹¹⁷³ The recognition of the right of the people to participate in decision-making directly through people's organizations provide an alternative organizational entity through which they may work for and realize redistributions. These provisions clearly lay the basis for redirecting at least some of the resources used and benefits produced by economic activities to beneficiaries other than the resource users and for purposes other than profit.

At the same time, Philippine social justice has not forgotten to give due regard to the individual and individual rights. In fact, the melding of social justice and human rights in art. 13 brings the close relationship between social justice and individual rights starkly to the surface. Even as social justice recognizes certain limits to individual rights (particularly property rights insofar as they may impinge on other individuals' equal as well as collective rights), it also protects fundamental human rights from undue attack by the State. So it preserves the essence and purpose of individual rights on one hand, while pursuing collective rights on the other.

Under the Philippine constitutional scheme, the determination of the balance between these two kinds of rights when they clash is ultimately the job of the Judiciary. For ecological social justice, this is crucial because when environmental issues are placed before the Court, they are most often framed as the result of competing assertions between individual and collective rights. For example, the entrepreneur's or the

¹¹⁷³ 1987 Const., art. 10, s. 7.

corporation's right to a return on investments on a business may clash with the surrounding community's right to clean surroundings. Whatever the arguments, these all often boil down a contest between perceived individual freedoms (whether of natural or juridical persons) and the perceived collective rights of a community of people.

Philippine social justice incorporates another distinctive distributive feature that plays a vital role in encouraging the localization of benefits, which is a central concern of ecological social justice. This is its partiality for the disadvantaged in cases of doubt: where the law is subject to different interpretations, that which favors the disadvantaged prevails. As a rule of legal interpretation, this accomplishes two important tasks. First, since this rule is justified on the strength of the Magsaysay adage, "those who have less in life should have more in law," it is actually an independent manifestation of the Rawlsian difference principle. It is entirely consistent with the principle of generational equity since often it is "those with less in life" who are also placed at a disadvantage in environmental issues.¹¹⁷⁴ Second, in cases of doubt and uncertainty, it also provides ample justification for "erring in favor of justice," where justice accords protection to the disadvantaged. Where issues involve the distribution of risks and harms, it is very much in line with the principle of precaution in environmental law.

4.5.6 Guarding against Ecological Social Injustices

The Philippine concept of social justice marks the sources of injustice quite clearly, as either the absence of Law, the unfair application of Law, or the dissonance between Law and social values. It is easy to see that the first two lead to injustice because they give rise to arbitrariness, or the absence of evenhanded rules. But, precisely how injustice arises from a dissonance between Law and social values is not as obvious. "Social values"

¹¹⁷⁴ It could fairly be said that "those who have less in life" include both existing generations of the poor and marginalized, who comprise the majority of the world's population and of most countries, and the generations yet to be born, as they precisely are unable to exercise any rights vis-à-vis the present generation, and are most likely to be left with much less in terms of natural resources and environmental quality by the time they come into being.

encompass a very wide range of possible ideals, any of which may be relevant to Law. A mere inconsistency is not sufficient: in some cases, States enact laws precisely to change undesirable values (e.g. anti-segregation laws vs. racist beliefs).

To give rise to injustice, Law must be dissonant with the social values that represent principles of justice for society, or include the ideals and aspirations of a just society as expressed in the 1987 Constitution and as practiced locally in the concerned communities. Generally, as elaborated by the Constitutional Commission, these values include the protection of individual and collective rights, redistribution of productive resources (including wealth and opportunities), and democratic decision-making, all of which are intended for the purpose of realizing basic human rights and enhancing human dignity. These values are reflected in local cultures, particularly those that relate to everyday community life. At the local level, therefore, these values may be embedded in the ways in which communities allocate and share resources or make decisions that affect them individually and/or collectively. They may also be manifest in pre-existing laws that incorporate or embody such values. Laws may therefore create injustice when they hinder or impede the realization of those values in a way that also interferes with individual and collective rights. This interference may occur where different laws applicable in the same area clash in the ways by which they seek to manage human activities.

There are indeed many ways to impede the realization of these values, but in all cases, they involve influences and changes in the systems of culture and power. Culture, being an established set of behaviors, creates and maintains the acceptable structures and distribution of power within society, while power in turn provides the means to influence and sometimes even control culture. Law, in both formal and traditional senses, plays an important role in both spheres. Existing national or local laws may already reflect local culture and structures of power, on the assumption that such laws also institutionalize the particular aspects of a culture as they relate to decision-making. When a new law seems to contradict the previously (and legally) established structures of power and the culture that protect and promote individual and collective rights, access to resources, and democratic decision-making, then the new law can itself give rise to social injustice by

determining who are included or excluded from such rights, access, and decisions. Whether and how a legal framework tends to be inclusionary or exclusionary in practice and effect is therefore a major area of investigation. For Philippine ecological social justice, the question turns on the practice and effect of Philippine environmental laws and regulations, especially those that govern particular technologies.

4.6 Tightening the Focus

This chapter has elucidated upon a legal concept of social justice developed out of actual practice. By including the pursuit of social justice as one of the primary objectives and fundamental policies of its Constitution since 1935, the Philippines has been able to develop a pragmatic body of jurisprudence that historically evolved and reflected its own growth as an independent nation. The declared need for the equitable distribution of wealth among the members of the socially stratified Philippine society moderates the drive for independence and economic growth. This jurisprudence has established the principles by which the State, apart from enacting social welfare legislation, should counter-balance the social and economic forces that create inequalities in income and economic opportunities. In a way, social justice acts as a “check and balance” mechanism against unbridled economic expansion (understood as an increase purely in economic production without regard for how such production is distributed and affects the society). From its initial definition by the Supreme Court in 1940 to its conceptual expansion in 1987 by a multi-sectoral Constitutional Commission, and its continuing application by the Court in relevant cases, the actual practice of social justice in legislation and adjudication has been repeatedly tested and developed.

By experience with Philippine economic sectors, social justice challenges distinct technological architectures: the factory production line in the case of industry and the semi-feudal agricultural tenancy system in the case of agriculture. Social justice seeks a redistribution of the benefits from these productive activities and an adjustment of the respective shares of the different social groups involved, which entail a corresponding adjustment of their relationships. In light of 1987 Constitution’s intent to expand the

reach of social justice beyond economic disparities and into other social inequalities such as in the political and cultural realms, it is logical to inquire whether social justice may also extend into the realm of Nature and the environment and thus accommodate a conception of ecological social justice.

The foregoing review has identified key elements in the Philippine concept and practice of social justice that coincide with the demands of ecological social justice. These are legal principles concerning distribution, participation, and recognition embedded in Constitutional law and judicial precedents that have arisen in the course of seeking social justice in the industrial and agricultural sectors. The constitutional mandate for social justice clearly evolved to give rise directly to the fundamental right to a healthy and balanced ecology. Together with the other principles established in the name of social justice, these combined principles definitely establish an ecological foundation for social justice in Philippine environment law and practice.

The questions to consider are first, how social justice manifests in Philippine environment law and practice in general, and second, whether it emerges specifically in the context of ocean energy law. The application of social justice principles to Nature and the environment, particularly through the legal regimes for natural resource management, likely differ from their counterpart in the industrial and agricultural spheres. Unlike industry and agriculture, the objects of sharing are often not tangible, discrete, and divisible objects such as wages and produce that can be subject of clear distributive regulations (e.g. wage controls, land reform). With respect to Nature and the environment, the subjects of concern are rights and entitlements to either individual access or collective control over productive natural resources, including a particular state, condition, or quality of such resources that may be indivisible, like fresh air or clean water. The ways in which the State must implement principles of distribution, participation, and recognition must necessarily be different. Of each law and its implementation, the inquiry must be framed by three general questions:

- What should be distributed, and how? (Distribution)

- Who should participate in deciding such distributions, and how? (Participation)
- Who should be entitled to be protected from a particular burden or to receive a particular benefit? (Recognition)

The overarching issue that ecological social justice considers is whether there are distinct technologies in the way in which society relates to Nature and the environment, and how such technologies correlate with the answers to the three questions above. Certainly, industrial and agricultural technologies manifest this relationship since they are themselves also ways by which society transforms the resources of Nature and the environment to produce needed goods. When society seeks to address environment issues, such as the need for natural habitats or clean energy, what technologies are used? How are existing technologies affected by the introduction of new ones? And how does the resulting technological architecture define the rules of distribution, participation, and recognition?

The next two chapters will demonstrate how an ecological social justice framework may be used to examine laws and regulations on the ocean environment in general and ocean energy resources in particular. They will also show how the Philippine legal system incorporates a conception of ecological social justice, and reveal how ecological social justice can be essential elements in laws and policies for sustainable development.

CHAPTER 5

ECOLOGICAL SOCIAL JUSTICE IN PHILIPPINE ENVIRONMENT AND OCEAN RESOURCES LAW

Ecological social justice permits the assessment of Law on multiple levels. The previous chapter elucidated the existing constitutional policy on social justice in the Philippines. It is argued that the Filipino legal concept of social justice is well-suited to the demands of ecological social justice on account of the features and principles it established for distribution, participation, and recognition. It has great potential to influence legislation and policy, pushing national governance systems toward a more socially just and, at the same time, environmentally sustainable framework. In this chapter, the analysis looks specifically at the legal regimes for the environment and ocean resources in the Philippines. The focus of investigation is how the general principles of ecological social justice are reflected (or not) in the relevant laws and regulations.

5.1 The Philippine Ocean Environment

Coastal and marine areas comprise at least 86% of the total area subject to Philippine jurisdiction.¹¹⁷⁵ These coastal and marine areas comprise the archipelagic waters, the territorial sea, and the exclusive economic zone under international law,¹¹⁷⁶ not including

¹¹⁷⁵ See *Archipelagic Baselines Law*, R.A. 9522 (2009) . Based on NAMRIA estimates, the total area of archipelagic and EEZ waters under R.A. 9522 is equivalent to about 2,251,578 square kilometers, while the land area is only around 298,165 sq. km. National Mapping and Resource Information Authority. "Updates on the TWG Work on the ECS Project." (Presented at the *Meeting of the Commission on Maritime and Ocean Affairs*, Manila, 12 December 2007) [unpublished].

¹¹⁷⁶ There is a long-standing legal dilemma in the Philippines with respect to the maritime zones as defined in its legislation, in comparison with those as defined

the areas subject to extended continental shelf claims.¹¹⁷⁷ (See Figure 10) Various authors estimate that between one-half to two-thirds of the country's total population live in coastal areas.¹¹⁷⁸ Of the country's 1,502 cities and municipalities, 822 are adjacent to the sea.¹¹⁷⁹ Each coastal city or municipality exercises jurisdiction over all marine fisheries, as well as related environmental management and revenue generating activities, within

under the LOSC. Simply stated, constitutional and legislative definitions of the Philippine maritime zones since 1935 have not fully complied with treaty definitions. This is obvious from the zones shown in Figure 10. For the history of this dilemma, see Jay L. Batongbacal, "The Maritime Territories and Jurisdictions of the Philippines and the United Nations Convention on the Law of the Sea" (2001) 76:2 Phil. L. J. 123-68.

¹¹⁷⁷ The Philippines made a submission to the Commission on the Limits of the Continental Shelf for a area of the continental shelf beyond 200M in the Benham Rise region, located east of the island of Luzon in the Pacific Ocean. See Republic of the Philippines, *A Partial Submission on the Outer Limits of the Continental Shelf of the Republic of the Philippines Pursuant to Article 76(8) of the United Nations Convention on the Law of the Sea*. (New York: Commission on the Limits of the Continental Shelf, 2009). It may also decide to make a submission for an area west of the island of Palawan, in the South China Sea, depending on how it decides to handle the issues regarding competing claims to the Kalayaan Island Group (the "Spratly Islands"). The author is a member of the Philippine Extended Continental Shelf Project undertaking the preparations for these submissions.

¹¹⁷⁸ Thia-Eng Chua and S. Ross, *Pollution Prevention and Management in the East Asian Seas: A Paradigm Shift in Concept, Approach and Methodology*. MPP-EAS Technical Report No. 15 (Manila: GEF/UNDP/IMO Regional Programme for Prevention and Management of Marine Pollution in the East Asian Seas, 1998); Cleto Jr. Nañola, Angel C. Alcala, Porfirio M. Aliño, Hazel O. Arceo, Wilfredo L. Campos, Edgardo D. Gomez, Wilfredo Y. Licuanan, Miedel C. Quibilan, Andre J. Uychiaoco, and Alan T. White, *Status Report on Coral Reefs in the Philippines (Poster)*. (Quezon City: Coral Reef Information Network of the Philippines (Philreefs), 2004); World Bank, *Philippine Environment Monitor 2005 on Coastal and Marine Resource Management*. Philippine Environment Monitor (Washington DC: The World Bank, 2005); Heather D'Agnes et al., "Gender Issues Within the Population-Environment Nexus in Philippine Coastal Areas" (2005) 33:4 Coastal Management 447.

¹¹⁷⁹ Jose Padilla, *Analysis of Coastal and Marine Resources: A Contribution to Philippine Country Environmental Analysis*. (Washington DC: World Bank (unpublished), 2008) at 38.

the “municipal waters” that extend 15 kilometers from the shoreline.¹¹⁸⁰ Due to its archipelagic setting, the Philippine ocean environment supports very diverse and complex social-ecological systems combining coastal and marine ecosystems with numerous coastal communities that use the abundant resources extensively for both subsistence and commerce.

5.2 Constitutional Considerations

The rules of social justice are closely associated with the constitutional provisions that establish certain limits and directions for the national economy and use of natural resources, and property law. In the 1987 Constitution, these are contained mainly in Article 12 on the national economy and patrimony and Article 13 on social justice. These two articles define the parameters by which the national government recognizes public and private ownership of portions of its domain, fundamental limits to resource exploitation, and legal duties and obligations concerning natural resources. These parameters are further bounded by associated State policies and principles enunciated in other parts of the Constitution, notably in art. 2 on the declaration of principles and state policies. An ecological social justice assessment of law relating to the ocean environment and its resources therefore cannot be complete without an appreciation of the general rules related to the allocation of environment and natural resources contained in other portions of the Constitution.

¹¹⁸⁰ Fisheries Code, s. 4(58).

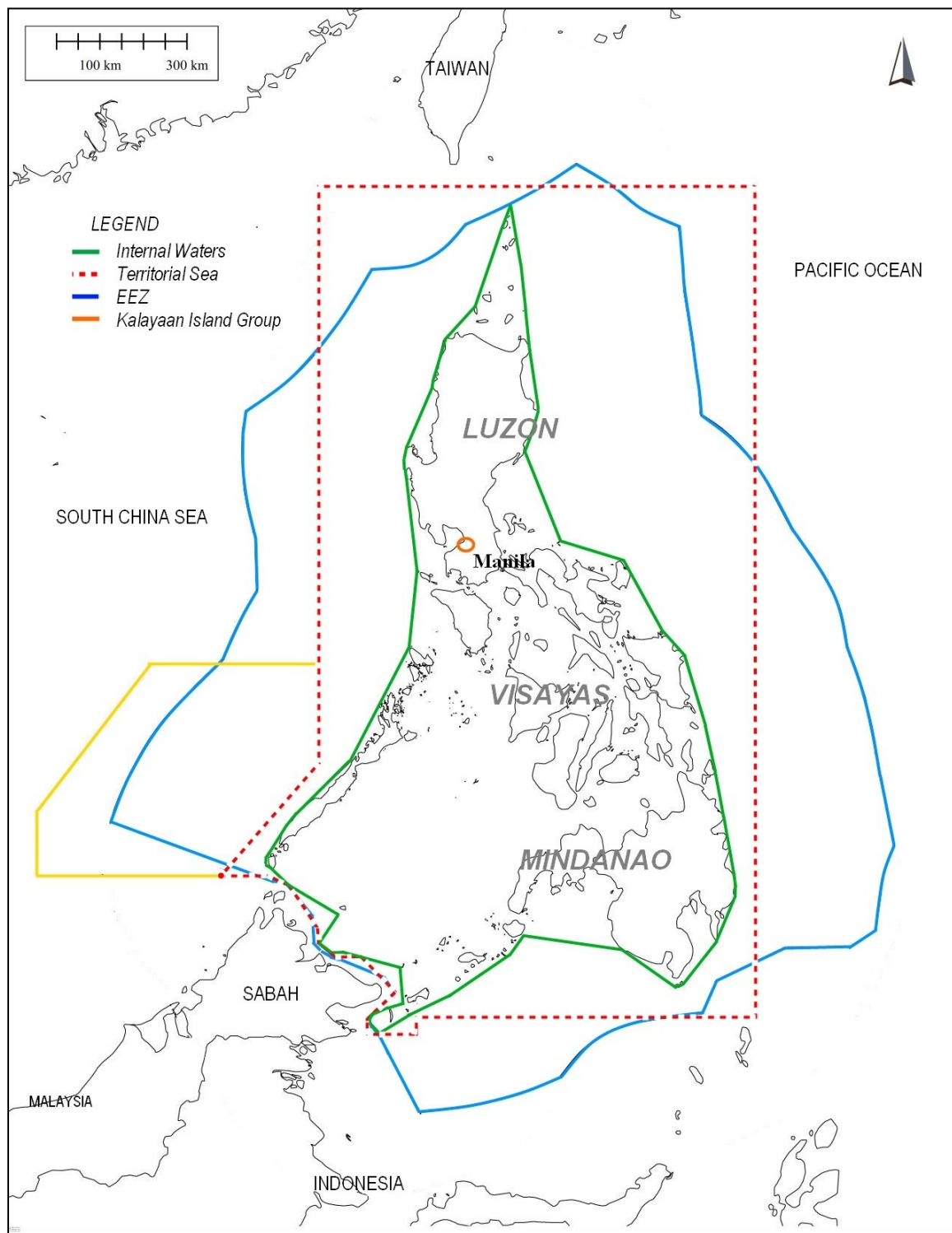


Figure 10. The Philippines and its claimed maritime zones based on its existing laws.

5.2.1 The National Territory

For Filipino legal texts, the starting point for all discussion of the natural environment and its resources is the constitutional definition of the national territory:

The national territory comprises the Philippine archipelago, with all the islands and waters embraced therein, and all other territories over which the Philippines has sovereignty or jurisdiction, consisting of its terrestrial, fluvial and aerial domains, including its territorial sea, the seabed, the subsoil, the insular shelves, and other submarine areas. The waters around, between, and connecting the islands of the archipelago, regardless of their breadth and dimensions, form part of the internal waters of the Philippines.¹¹⁸¹

This definition expresses the “archipelagic doctrine” of Philippine constitutional law, which considers both terrestrial and oceanic components of the national domain as integral parts of the national territory. Of particular interest is the second sentence, which describes the inter-island waters as forming part of its internal waters. Although the negotiations for the LOSC resulted in the recognition of the concept of archipelagic waters that are under the sovereignty of the archipelagic State,¹¹⁸² the Philippines persists on legally denominating the inter-island waters as internal waters that are subject to absolute sovereignty.¹¹⁸³ This is an overriding maritime security interest on the part of the Philippines considering how easily foreign vessels are able to access its marine waters. The passage regimes provided by the LOSC for archipelagic waters are of particular concern because of the enormous challenge they present to proper management and enforcement of maritime and environmental laws against foreign vessels.¹¹⁸⁴

¹¹⁸¹ 1987 Const., art. 1.

¹¹⁸² LOSC, art. 49.

¹¹⁸³ 1987 Const., art. 1; see also RA 9522, s. 1, in relation to RA 3046, second to fourth Whereas Clauses.

¹¹⁸⁴ See Jay L. Batongbacal, "The Philippines' Right to Designate Sealanes in Its Archipelagic Waters Under International Law" (1997) 1:1 Ocean Law and Policy Series 81; and Jay L. Batongbacal, "Archipelagic Sea-Lanes and Transit Passage Through Straits: Shared Responsibilities Are Eessential to Implementation." In *The*

Although most would likely dismiss the definition of the national territory in a constitution as being little more than a display of nationalist sentiment, it actually serves another purpose: it lays the foundation for the legal infrastructure that identifies the scope of the country's resources and environment and allocates them to its inhabitants *vis-à-vis* foreign interests. The archipelagic doctrine evinces not merely a nationalistic claim of dominion on ownership, but also a claim to the allocation of the benefits from the environment and resources within the archipelagic domain. In this sense, it is consistent with the declarations expressed in the UN General Assembly regarding permanent sovereignty over natural resources. It is an attempt to secure for itself the benefits of its environment and resources free from colonial and foreign exploitation.

In modern environmental discourse, this may seem anti-thetical to the idea of the interconnectedness and unity of Nature: after all, one of the difficult issues in environmental management policy is the divergence between political and ecological boundaries. But from an ecological social justice perspective, this basic allocation makes perfect sense, because any principle of distribution, participation, or recognition must be based on a clear idea of *what* needs to be distributed, *why* such distribution should be participated in, or *who* and *what* must be recognized. To conceive of these simply as an amorphous, unlimited, and totalized idea of 'the environment' does not bring the focus needed in order to take definite and deliberate actions to manage resources and activities that affect Nature. The legal perspective provides the parameters for these actions through the concept of jurisdiction: the delineation of jurisdiction defines the scope or extent to which the State exercises its powers. The ecological social justice perspective focuses attention on the portion of Nature within these jurisdictional boundaries in all considerations of distribution, participation, and representation. This is not necessarily inconsistent with the

Strategic Importance of Seaborne Trade and Shipping, ed. Andrew Forbes, *Papers in Australian Maritime Affairs: No. 10* (Canberra ACT: Royal Australian Navy Sea Power Center, 2002). See also Mary Ann Palma, *The Philippines As an Archipelagic and Maritime Nation: Interests, Challenges, and Perspectives*, vol. 182. RSIS Working Papers (Singapore: S. Rajaratnam School of International Studies, 2009).

idea of interconnectedness of the environment; rather, it is an identification of the subject of management and allocation for the purposes of social justice among States.

5.2.2 Ownership of Natural Resources

Due to its colonial experiences, the constitutions of the Philippines have always included ground rules that establish a fundamental preference in favor of Filipino citizens *vis-à-vis* foreigners, with respect to the allocation of ownership and access to the resources and environment within its territorial boundaries. These rules seek to remedy the historical injustices seen to emanate from the loss of local control over natural resources to foreign domination.

5.2.2.1 The *Jura Regalia*

The Philippines adheres to the *jura regalia* or Regalian doctrine on State ownership of all lands and natural resources throughout its national territory. This includes “all lands of the public domain, waters, minerals, coal, petroleum and other mineral oils, all forces of potential energy, fisheries, forests or timber, wildlife, flora and fauna, and all other natural resources.”¹¹⁸⁵ As a general rule all lands of the public domain classified as

¹¹⁸⁵ 1987 Const., art. 12, s. 2:

Section 2. All lands of the public domain, waters, minerals, coal, petroleum, and other mineral oils, all forces of potential energy, fisheries, forests or timber, wildlife, flora and fauna, and other natural resources are owned by the State. With the exception of agricultural lands, all other natural resources shall not be alienated. The exploration, development, and utilization of natural resources shall be under the full control and supervision of the State. The State may directly undertake such activities, or it may enter into co-production, joint venture, or production-sharing agreements with Filipino citizens, or corporations or associations at least sixty *per centum* of whose capital is owned by such citizens. Such agreements may be for a period not exceeding twenty-five years, renewable for not more than twenty-five years, and under such terms and conditions as may be provided by law. In cases of water rights for irrigation, water supply fisheries, or industrial uses other than the development of water power, beneficial use may be the measure and limit of the grant.

agricultural, forest or timber, mineral, or natural parks, are inalienable properties of the State.¹¹⁸⁶ Only agricultural lands of the public domain may be reclassified as alienable and disposable through lease or transfer of ownership in favor of private persons.¹¹⁸⁷ The classification of public lands for purposes of alienation, disposition, and development is

The State shall protect the nation's marine wealth in its archipelagic waters, territorial sea, and exclusive economic zone, and reserve its use and enjoyment exclusively to Filipino citizens.

The Congress may, by law, allow small-scale utilization of natural resources by Filipino citizens, as well as cooperative fish farming, with priority to subsistence fishermen and fishworkers in rivers, lakes, bays, and lagoons.

The President may enter into agreements with foreign-owned corporations involving either technical or financial assistance for large-scale exploration, development, and utilization of minerals, petroleum, and other mineral oils according to the general terms and conditions provided by law, based on real contributions to the economic growth and general welfare of the country. In such agreements, the State shall promote the development and use of local scientific and technical resources.

The President shall notify the Congress of every contract entered into in accordance with this provision, within thirty days from its execution.

¹¹⁸⁶ 1987 Const., art. 12, s. 2, *supra.* and s. 3:

Section 3. Lands of the public domain are classified into agricultural, forest or timber, mineral lands and national parks. Agricultural lands of the public domain may be further classified by law according to the uses to which they may be devoted. Alienable lands of the public domain shall be limited to agricultural lands. Private corporations or associations may not hold such alienable lands of the public domain except by lease, for a period not exceeding twenty-five years, renewable for not more than twenty-five years, and not to exceed one thousand hectares in area. Citizens of the Philippines may lease not more than five hundred hectares, or acquire not more than twelve hectares thereof, by purchase, homestead, or grant.

Taking into account the requirements of conservation, ecology, and development, and subject to the requirements of agrarian reform, the Congress shall determine, by law, the size of lands of the public domain which may be acquired, developed, held, or leased and the conditions therefor.

¹¹⁸⁷ 1987 Const., art. 12, s. 3, 1st para., *supra.* However, as defined in Philippine jurisprudence, “agricultural lands” are not necessarily limited to cultivated lands; this is actually a generic classification covering all lands that are neither forest or timber, mineral lands, or natural parks. *Krivenko v. Register of Deeds* [1947], S.C. L-630, 79 P.R. 461.

subject to control by the Legislature, “taking into account the requirements of conservation, ecology, and development, and subject to the requirements of agrarian reform.”¹¹⁸⁸

The State asserts full control and supervision of all exploration, development, and utilization of natural resources, and permits only five modes of exploration, development, or utilization thereof. Of these modes, four refer to large-scale utilization of natural resources. The first of these refer to the direct exploitation by the State, while the next three are modes allowed to private enterprise in partnership with the State: co-production, joint venture, or production-sharing agreements.¹¹⁸⁹ Private enterprise in turn must be comprised of either Filipino natural citizens or corporations and associations that are at least 60% Filipino-owned.¹¹⁹⁰ The fifth mode of resource exploitation permitted is the small-scale utilization of natural resources by Filipino citizens.¹¹⁹¹

Immediately after describing the permissible modes of resource exploitation, the 1987 Constitution issues the mandate for the State to “protect the nation’s marine wealth” and reserve its use and enjoyment to Filipino citizens.¹¹⁹² It also directs special attention to the delineation and conservation of forest lands and national parks; the Legislature is to determine the limits of these areas and mark their boundaries clearly on the ground, after which they should be subject to conservation, and cannot be increased nor diminished except by law.¹¹⁹³ The legislature is further required specifically to prohibit logging in endangered forests and watershed areas.¹¹⁹⁴ The location of these protection provisions

¹¹⁸⁸ 1987 Const., art. 12, s. 3, 2nd para.

¹¹⁸⁹ *Ibid.*, art. 12, s. 2, 3rd para.

¹¹⁹⁰ *Ibid.*, art. 12, s. 2. An exception, though, is the case of water rights for irrigation, water supply, fisheries, or industrial uses other than for water power: in this cases the 60% reservation may be based not on ownership but rather on beneficial use.

¹¹⁹¹ *Ibid.*, art. 12, s. 2.

¹¹⁹² *Ibid.*, art. 12, s. 2, 2nd para.

¹¹⁹³ *Ibid.*, art. 12, s. 4.

¹¹⁹⁴ *Ibid.*, art. 12, s. 4.

for the country's marine and terrestrial wealth within the Article on the national economy and patrimony clearly manifest the need to moderate extraction and exploitation with conservation and protection. These provide the constitutional basis for achieving a balance between competing trends in usage of natural resources.

5.2.2.2 Exception to the *Jura Regalia*

Jurisprudence carved out an exception to the *jura regalia* in favor of the indigenous peoples of the Philippines, comprising some 110 distinct groups scattered across the archipelago,¹¹⁹⁵ through *Cariño v. Insular Government*¹¹⁹⁶ decided by the US Supreme Court during the American colonial period. The case concerned an application for land title filed by a native Igorot for the ancestral lands that he and his ancestors had possessed since time immemorial without a document of title from the Spanish Crown. Justice Oliver Wendell Holmes wrote the Court's decision recognizing the exceptional concept of "native title":

Every presumption is and ought to be taken against the Government in a case like the present. It might, perhaps, be proper and sufficient to say that when, as far back as testimony or memory goes, the land has been held by individuals under a claim of private ownership, it will be presumed to have been held in the same way from before the Spanish conquest, and never to have been public land.¹¹⁹⁷

The 1987 Constitution reinforces the *Cariño* ruling through the recognition of ancestral domain rights,¹¹⁹⁸ which in turn is implemented through the Indigenous Peoples' Rights Act.¹¹⁹⁹ Recently, litigants and Justices referred to *Cariño* to support the constitutionality

¹¹⁹⁵ *Cruz v. Secretary of Environment and Natural Resources* [2000], S.C. 135385, 400 P.R. 904.

¹¹⁹⁶ [1909], S.C. 72, 41 P.R. 935.. Also reported in 212 U.S. 449, 53 L. Ed. 594.

¹¹⁹⁷ *Ibid.* at 341.

¹¹⁹⁸ 1987 Const., art. 13, s. 5.

¹¹⁹⁹ R.A. 8371 (1997).

of the Indigenous Peoples' Rights Act in the case of *Cruz v. Secretary of Environment and Natural Resources*.¹²⁰⁰

The *Cariño* decision is the progenitor of the 1987 Constitution's specific identification and recognition of the status and plight of Philippine indigenous peoples, and the need to give them special attention in light of their social and cultural, in addition to political and economic, marginalization. It also gives credit to their prominent role in bringing to light the oppression and environmental destruction brought by economic development. In the 1970s, the struggle of the indigenous peoples of the Cordillera Region against the Chico River Dam Project was one of the most prominent campaigns against the Marcos dictatorship.¹²⁰¹ This World Bank-funded project would have displaced thousands of indigenous peoples from their traditional communities and upland agricultural areas, had it not been stopped by a determined campaign waged on both cultural and environmental grounds. Their struggle against the Chico River Dam is credited with having crystallized Philippine environmentalism in the 1980s,¹²⁰² which again manifests the very close relationship between social justice and environment issues.

The concept of ancestral domain and ancestral domain rights are innovations in Philippine law that carve out a unique exception to the general property regime under the New Civil Code, which centers on primarily individualized private ownership.¹²⁰³ The indigenous peoples' collective ownership of their ancestral domains also form the basis

¹²⁰⁰ *Supra*, note 1193. In this case, the petitioners filed an original petition with the Supreme Court for declaration of nullity of the Indigenous Peoples' Rights Act invoking, among other arguments, the Regalian doctrine against the recognition of ancestral domains and ancestral land rights of Philippine indigenous peoples. The Supreme Court however was evenly divided on the issue (7 for and 7 against), thus in accordance with its rules of procedure it could not declare the law unconstitutional.

¹²⁰¹ Francisco A. Magno, "The Growth of Philippine Environmentalism" (1993) 9:1 *Kasarinlan* 7 at 9.

¹²⁰² *Ibid.* at 9-10.

¹²⁰³ *New Civil Code*, R.A. 386 (1949) , art. 419-39.

for requiring their free, prior, and informed consent as an ethnic community and through their own customary and traditional decision-making practices, in addition to the consultation with and consent of the LGUs in which they reside, before any project or activity is undertaken within their ancestral domain.¹²⁰⁴

5.2.2.3 Citizenship Qualifications

There are constitutional limits to the maximum area of agricultural lands of the public domain that private persons may lease or acquire. Private corporations or associations may only lease up to 1,000 hectares for a term of 25 years; this is renewable for another 25 years but they cannot own such lands.¹²⁰⁵ Only citizens of the Philippines may acquire agricultural land through purchase, homestead, or grant, but only up to 12 hectares; they may also lease up to 500 hectares.¹²⁰⁶ Subsequent transfers or conveyances of such lands from their initial owners to other private persons are subject to the same limitations, except in cases of hereditary succession.¹²⁰⁷ Natural-born citizens of the Philippines who have acquired another citizenship may also be transferees of private lands.¹²⁰⁸

Apart from the exploration and exploitation of natural resources, the Constitution reserves certain economic activities, such as public utilities, to only Filipino citizens or private corporations or associations whose capital is at least 60% Filipino-owned.¹²⁰⁹ Ownership requirements may be higher depending on the type of industry or investment, upon recommendation of the National Economic and Development Authority.¹²¹⁰ A special case stands with respect to the country's "marine wealth in its archipelagic waters,

¹²⁰⁴ *Indigenous Peoples' Rights Act*, s. 8-12, 36, 46(a).

¹²⁰⁵ 1987 Const., art. 12, s. 3, 1st para.

¹²⁰⁶ *Ibid.*, art. 12, s. 3, 1st para.

¹²⁰⁷ *Ibid.*, art. 12, s. 7.

¹²⁰⁸ *Ibid.*, art. 12, s. 8.

¹²⁰⁹ *Ibid.*, art. 12, s. 10 and 11.

¹²¹⁰ The Constitution also prescribes 100% Filipino ownership in the case of mass media organizations, and 70% Filipino ownership for advertising industry. *Ibid.*, art. 12, s. 10, and art. 16, s. 11, para. 1 and 2.

territorial sea, and exclusive economic zone,” which is reserved exclusively for the use and enjoyment of Filipino citizens.¹²¹¹ This implies that only citizens or 100% Filipino-owned entities may engage in resource development in the country’s maritime zones.

However, excepted from this 60% minimum Filipino ownership rule are “agreements with foreign-owned corporations involving either technical or financial assistance for large-scale exploration, development, and utilization of minerals, petroleum, and other mineral oils.”¹²¹² These have been denominated in practice as Financial and Technical Assistance Agreements (FTAA).¹²¹³ In such agreements, the State is required only to “promote the development and use of local scientific and technical resources.”¹²¹⁴ They are subject to minimal legislative oversight by requiring the Chief Executive to notify the Legislature of every contract of such nature.¹²¹⁵

In the case of *La Bugal B’laan Tribal Association v. Secretary of Environment and Natural Resources*,¹²¹⁶ a group of indigenous peoples challenged the constitutionality of FTAA’s under the Mining Act of 1995. The Supreme Court liberally interpreted the meaning of FTAA’s to encompass the full range of contracts for exploration and exploitation of minerals, petroleum, and other mineral oils, not merely those involving loans and other forms of financial support and technical assistance through training or technology transfer. The concept of FTAA’s are patterned after petroleum service contracts.¹²¹⁷ This ruling effectively opened the country’s petroleum and mineral resources to service contracts by 100% foreign-owned corporations, on the ground that

¹²¹¹ *Ibid.*, art. 12, s. 2, 2nd para.

¹²¹² *Ibid.*, art. 12, s. 2, 4th and 5th para.

¹²¹³ *La Bugal B’laan v. Secretary (Reconsideration)* [2004], S.C. 127882, 486 P.R. 754 at 790-96.

¹²¹⁴ 1987 Const., art. 12, s. 2, 4th para.

¹²¹⁵ 1987 Const., art. 12, s. 2, 5th para.

¹²¹⁶ [2004], S.C. 127882, 486 P.R. 754.

¹²¹⁷ *Ibid.* at 774, n. 9. A complete discussion of the petroleum Service Contract follows in Chapter Six below.

these resources could not be accessed for the country's benefit without allowing 100% foreign equity, for the lack of domestic capital, technology, and technical knowledge.¹²¹⁸

The Supreme Court has impliedly allowed this exception even in the case of petroleum and mineral resources in the country's "marine wealth."¹²¹⁹ The Court did not come to this decision easily; in fact, this outcome of the *La Bugal B'laan* case was the result of a reconsideration of its previous decision to the contrary, handed down a year earlier. The Court's reversal marks the dilemma of the Philippines in establishing equity requirements for economic activities: though it wishes to reserve its resources and their benefits to Filipinos by promoting Filipino participation, there are times when Filipino participation is impossible due to the enormous capital costs and high technologies needed (as in petroleum and mineral exploitation).

5.2.3 Economic Preferences and Priorities

The constitution contains a number of policy preferences and priorities for the national economy, both in terms of national objectives to benefit all Filipinos and specific objectives for identified social groups. It defines the general goals of the economy as:

1. more equitable distribution of opportunities, income, and wealth,
2. sustained increase in the amount of goods and services produced by the nation for the benefit of the people, and
3. expanding productivity as they key to raising the quality of life for all, especially the underprivileged.¹²²⁰

¹²¹⁸ *La Bugal B'laan* at 796-802.

¹²¹⁹ This is because the Supreme Court viewed FTAA's as "service contracts with safeguards;" where 'service contracts' in Philippine law originally referred to petroleum service contracts. *La Bugal B'laan*. at 815. Many of these cover offshore areas. Living resources like fish, as well as other natural resources, should still be safely in Filipino hands since they do not fall under the meaning of "minerals, petroleum and other mineral oils" under art. 12, s. 2.

¹²²⁰ 1987 Const., art. 12, s. 1.

To these ends, the State must “promote industrialization and full employment based on sound agricultural development and agrarian reform,” and give all economic sectors and regions the “optimum opportunity to develop.”¹²²¹ It must support Filipino citizens and enterprises in particular, by giving preference to them in the grant of rights, privileges, and concessions covering the national economy and patrimony,¹²²² and protecting them against unfair foreign competition and trade practices.¹²²³ However, it must also encourage the broadening of the ownership base of private enterprises, including collective organizations like corporations and cooperatives.¹²²⁴ The use of Filipino labor, domestic materials, and locally produced goods are also preferred.¹²²⁵

The social justice provisions of the 1987 Constitution mandate the State to pursue specific policies in favor of identified sectors. These are expressly mentioned in art. 13 to include local and overseas labor;¹²²⁶ farmers and farmworkers,¹²²⁷ and subsistence fishermen;¹²²⁸ the urban or rural poor;¹²²⁹ the under-privileged, sick, elderly, or

¹²²¹ *Ibid.*, art. 12, s. 1, 2nd and 3rd para.

¹²²² *Ibid.*, art. 12, s. 10.

¹²²³ *Ibid.*, art. 12, s. 1, 1st para.

¹²²⁴ *Ibid.*, art. 12, s. 1, 3rd para.

¹²²⁵ *Ibid.*, art. 12, s. 12.

¹²²⁶ The basic duty of the State to labor is “full protection” both locally and overseas, and the promotion of “full employment and equality of employment opportunities”. Labor is also entitled to minimum guarantees such as the right of self-organization, collective bargaining and negotiations, peaceful concerted activities, and the right to strike. 1987 Const., art. 13, s. 3.

¹²²⁷ *Ibid.*, art. 13, s. 4-6, and 8. The State is obliged to “undertake an agrarian reform program founded on the right of farmers and regular farmworkers who are landless, to receive a just share in the fruits thereof.” For this purpose the State is to encourage and undertake, by law, a ‘just distribution’ of all agricultural lands “taking into account ecological, developmental, or equity considerations and subject to the payment of just compensation,”¹²²⁷ with due respect to the rights of small landowners.

¹²²⁸ *Ibid.*, art. 13, s. 7.

children;¹²³⁰ the disabled,¹²³¹ and women.¹²³² In addition, art. 12 states that indigenous cultural communities are entitled to protection in their rights to their ancestral lands to ensure their economic, social and cultural well-being.¹²³³

Of particular interest to this research is the provision on subsistence fishermen. Art. 12 establishes, in cases of the small-scale utilization of the country's extensive marine resources, priority in favor of subsistence fishermen and fish-workers in rivers, lakes, bays, and lagoons.¹²³⁴ Art. 13 adds:

Section 7. The State shall protect the rights of subsistence fishermen, especially of local communities, to the preferential use of their communal marine and fishing resources, both inland and offshore. It shall provide support to such fishermen through appropriate technology and research, adequate financial, production, and marketing assistance, and other services. The State shall also protect, develop, and conserve such resources. The protection shall extend to offshore fishing grounds of subsistence fishermen against foreign intrusion. Fishworkers shall receive a just share from their labor in the utilization of marine and fishing resources.¹²³⁵

The special attention devoted to “subsistence fishermen” highlights the characterization of the sector as being among the marginalized sectors of society and vulnerable to competition by foreign fishers intruding into Philippine fishing grounds. They are treated

¹²²⁹ The State is mandated to undertake urban land reform and affordable housing for the under-privileged and homeless citizens in urban centers and resettlement areas, with due respect being accorded to small property owners. *Ibid.*, art. 13, s. 9 and 10.

¹²³⁰ The State is also required to adopt “an integrated and comprehensive approach to health development” that makes essential goods and services (including health) affordable to all, with priority given to “the under-privileged, sick, elderly, disabled, women, and children.” *Ibid.*, art. 13, s. 11.

¹²³¹ *Ibid.*, art. 13, s. 11 and 13.

¹²³² Protection to working women is particularly highlighted as an important obligation whereby the State is required to provide safe and healthful working conditions, “taking into account their maternal functions.” *Ibid.*, art. 13, s. 11 and 14.

¹²³³ *Ibid.*, art. 12, s. 5.

¹²³⁴ *Ibid.*, art. 12, s. 2, 3rd para.

¹²³⁵ *Ibid.*, art. 13, s. 7.

differently from ‘fishworkers’ who are deemed as in the same class as industrial laborers, for whom “a just share from their labor” is to be assured.¹²³⁶

The recognition of the distinct social groups requiring special attention under the social justice provisions of the Constitution provides the basis and precedent for recognizing and promoting the participation of social groups in all aspects of governance. As a result, many laws passed since 1987 often include provisions for their representation, not the least of which are in the environment field as will be seen in Section 5.3 below.

5.2.4 General Limitations

As explained in the previous chapter, the exercise of property rights is limited first and foremost by the constitutional proscription that “the use of property bears a social function, and all economic agents shall contribute to the common good.”¹²³⁷ In particular, the ownership and operation of all economic enterprises are subject to “the duty of the State to promote distributive justice and to intervene when the common good demands.”¹²³⁸ These general limitations are broad enough to encompass a variety of

¹²³⁶ While fishermen engage directly in fishing for their own livelihood, fishworkers include those people who work in post-harvest facilities (e.g. storage, processing, transportation) as well as those who work in the aquaculture sector engaged in fish-farming. Recent law specifically defined a fishworker as

...a person whether or not regularly employed in commercial fishing and related industries, whose income is either from wages, profit sharing or stratified sharing basis, including those working in fishpens, fish corral/traps, fishponds, prawn farms, sea farms, salt beds, fish ports, fishing boat or trawlers, or fish processing and/or packing plants, but excluding administrators, security guards and overseers. *Agri-Agra Reform Credit Act*, R.A. 10000 (2009) at s. 3(n).

¹²³⁷ 1987 Const., art. 12, s. 5.

¹²³⁸ 1987 Const., art. 12, s. 6. The Constitution does not define the full range of justifiable grounds for State intervention, though it expressly permits such intervention in three extraordinary instances. The first is in cases of national emergencies when the State may take over or direct the operation of privately owned public utilities or businesses affected with the public interest (*Ibid.*, art. 12, s. 17). The second is when the State establishes, operates, or transfers to public ownership vital industries in the interest of national welfare or defense, subject to payment of

reasons for establishing certain limits on the use of property in economic activities, including those for purposes of conservation, protection, and proper management. Environmental laws and regulations can easily be justified under these provisions where economic activities produce harmful biophysical effects such as pollution, as well as adverse social impacts such as denial of access to resources and detriment to livelihoods. Recognition that property rights must be exercised within socially defined limits provides the legal foundation for a wide range of possible redistributive rules. This encompasses not only the division and distribution of a particular good (e.g., as is done with land redistribution in agrarian reform), but also ‘compensatory’ rules that permit the disadvantaged from benefit in other ways from an economic activity (e.g., environmental user fees and taxes) consistent with the Rawlsian Difference Principle.

5.2.5 Environmental Rights

The Philippines is fortunate to have a constitutional basis for environmental rights, which the Supreme Court has interpreted liberally in order to advance the people’s interests in the field of the environment. A few provisions directly and indirectly support the assertion of rights to environmental amenities against the State:

Section 15. The State shall protect and promote the right to health of the people and instill health consciousness among them.

Section 16. The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.”¹²³⁹

The provision on the right to a balanced and healthful ecology is read together with the duty of the State to protect and promote the people’s right to health,¹²⁴⁰ an expansive right that includes protection from environmental causes of maladies and dangers. As

just compensation (*Ibid.*, art. 12, s. 18). The third is in the case of monopolies, combinations in restraint of trade, or unfair competition, which justify State regulation or prohibition (*Ibid.*, art. 12, s. 19).

¹²³⁹ 1987 Const., art. 2, s. 15 and 16.

¹²⁴⁰ *Oposa*.

explained in the previous chapter, these rights directly spring from a detailed expansion and articulation of the social justice mandate of the State. Considering these twin rights in *Laguna Lake Development Authority v. Court of Appeals*,¹²⁴¹ the Supreme Court pointed out that the right to health is included in the Universal Declaration of Human Rights,¹²⁴² thus judicially recognizing a link between good health (as a fundamental human right) and a sound environment.¹²⁴³ Thus, the State policy to value “the dignity of every human person and guarantee full respect for human rights”¹²⁴⁴ becomes legally and directly relevant in environmental issues, when considered together with the duty of the Commission on Human Rights, a constitutional body, to monitor the Philippines’ compliance with international human rights treaty obligations.¹²⁴⁵

The recognition and promotion of the rights of indigenous cultural communities¹²⁴⁶ also forms a basis for asserting environmental rights in their favor. It reinforces the recognition already accorded in other provisions of the Constitution to the rights and welfare of indigenous peoples. Since Philippine indigenous peoples are often dependent upon direct access to their natural resources and local environments for their survival, the right to a healthful and balanced ecology acquires added importance for them.

Also related, albeit less directly and in a more limited sense, is the policies of freedom from nuclear weapons in its territory.¹²⁴⁷ This obviously reflects the worldwide concern

¹²⁴¹ [1994], S.C. 110120, 231 S.C.R.A. 292.

¹²⁴² GA Res. 217(III), UN GAOR, 3d Sess., Supp. No. 13. UN Doc A/RES/810 (1948) 71.

¹²⁴³ *Laguna Lake* at 307-08.

¹²⁴⁴ 1987 Const., art. 2, s. 11.

¹²⁴⁵ *Ibid.*, art. 13, s. 18, para. 7.

¹²⁴⁶ *Ibid.*, art. 2, s. 22.

¹²⁴⁷ *Ibid.*, art. 2, s. 8. This provision establishes a direct link to the Philippines’ participation and interest, as a developing State, against the proliferation and use of nuclear weapons. As noted in Chapter 3.4, the testing and use of nuclear weapons has been viewed as one of the ultimate acts of pollution and injustice due to its immense environmental impact.

over the potential destructive effects of nuclear weapons whether in peacetime or war. This policy seeks to protect the public against the dangerous effects of both the use of nuclear weapons and the risk they pose in case of accidents in their transportation and carriage.¹²⁴⁸

In all, these provisions amount to a ‘constitutionalization’ of environmental rights originally recognized in the 1970s under the Philippine Environment Policy.¹²⁴⁹ Section 3 of that law particularly states:

(T)he Government recognizes the right of the people to a healthy environment. It shall be the duty and responsibility of each individual to contribute to the preservation and enhancement of the Philippine environment.

The right has also been ‘localized’ in the general welfare clause of the Local Government Code¹²⁵⁰ by its express inclusion among the rights to be protected and promoted by local government units, making it subject of not only national but also local responsibility.

Within three years of the 1987 Constitution’s ratification, the Supreme Court seized upon these provisions to make an unusual expression of judicial concern over executive policies for the environment. The Judiciary rarely expresses its opinions about executive

¹²⁴⁸ Bernas, *supra* Note 984 at 72-75.

¹²⁴⁹ *Philippine Environmental Policy*, P.D. 1151 (1977) .

¹²⁵⁰ *Local Government Code*, s. 16:

Section 16. *General Welfare*. - Every local government unit shall exercise the powers expressly granted, those necessarily implied therefrom, as well as powers necessary, appropriate, or incidental for its efficient and effective governance, and those which are essential to the promotion of the general welfare. Within their respective territorial jurisdictions, local government units shall ensure and support, among other things, the preservation and enrichment of culture, promote health and safety, enhance the right of the people to a balanced ecology, encourage and support the development of appropriate and self-reliant scientific and technological capabilities, improve public morals, enhance economic prosperity and social justice, promote full employment among their residents, maintain peace and order, and preserve the comfort and convenience of their inhabitants.

policy *motu proprio* as a matter of respect for the principle of separation of powers. But in *Ysmael & Co. v. Deputy Executive Secretary*,¹²⁵¹ the petitioner logging company sought an injunction against the review of the previous administration's forest concessions policy and timber license agreements issued under it. The Court denied the petition, calling attention specifically to s. 16 of art. 2:

The Court takes judicial notice of the profligate waste of the country's forest resources which has not only resulted in the irreversible loss of flora and fauna peculiar to the region, but has produced even more disastrous and lasting economic and social effects. The delicate balance of nature having been upset, a vicious cycle of floods and droughts has been triggered and the supply of food and energy resources required by the people seriously depleted.

While there is a desire to harness natural resources to amass profit and to meet the country's immediate financial requirements, the more essential need to ensure future generations of Filipinos of their survival in a viable environment demands effective and circumspect action from the government to check further denudation of whatever remains of the forest lands. Nothing less is expected of the government, in view of the clear constitutional command to maintain a balanced and healthful ecology.¹²⁵²

The signal of the Supreme Court was made all the more emphatic in the case of *Minors Oposa v. Secretary of Environment and Natural Resources*,¹²⁵³ where the right to a balanced and healthful ecology was specifically invoked in concert with the international principle of intergenerational equity. The petitioners were all minors, who sued on behalf of "their generation and generations yet unborn,"¹²⁵⁴ to compel the Department of Environment and Natural Resources to cancel all existing timber license agreements in the country and prevent from renewing them or issuing new ones.¹²⁵⁵ Asserting the ecosystem services provided by the rainforests and the potential dangers arising from

¹²⁵¹ [1990], S.C. 79538, 190 S.C.R.A. 673.

¹²⁵² *Ibid.* at 683.

¹²⁵³ [1993], S.C. 101083, 224 S.C.R.A. 792.

¹²⁵⁴ *Ibid.* at 796, 802-03.

¹²⁵⁵ *Ibid.* at 796-97.

their loss through logging that took place unabated since the birth of the Republic, the petitioners argued that the Philippine government was reneging on its duty to protect the country's forests. They contended that this violated the right of the petitioners to both a balanced and healthful ecology as well as to "intergenerational responsibility" and "intergenerational justice."¹²⁵⁶ Responding to the counter-argument by the Respondent that the petitioners had no standing to sue for themselves and on behalf of future generations, and that the allegations were insufficient to state a cause of action, the Court ruled:

Petitioners minors assert that they represent their generation as well as generations yet unborn. We find no difficulty in ruling that they can, for themselves, for others of their generation and for the succeeding generations, file a class suit. Their personality to sue in behalf of the succeeding generations can only be based on the concept of intergenerational responsibility insofar as the right to a balanced and healthful ecology is concerned. Such a right, as hereinafter expounded, considers the "rhythm and harmony of nature." Nature means the created world in its entirety. Such rhythm and harmony indispensably include, *inter alia*, the judicious disposition, utilization, management, renewal and conservation of the country's forest, mineral, land, waters, fisheries, wildlife, off-shore areas and other natural resources to the end that their exploration, development and utilization be equitably accessible to the present as well as future generations. Needless to say, every generation has a responsibility to the next to preserve that rhythm and harmony for the full enjoyment of a balanced and healthful ecology. Put a little differently, the minors' assertion of their right to a sound environment constitutes, at the same time, the performance of their obligation to ensure the protection of that right for the generations to come.¹²⁵⁷ (emphasis added)

This portion of the *Oposa* decision caught international attention for being the first legal acknowledgment and protection, by any court, of intergenerational equity.¹²⁵⁸ However, from the above excerpt it is clear that the almost intuitive reasoning of the Court actually

¹²⁵⁶ *Ibid.* at 796, 807-08.

¹²⁵⁷ *Ibid.* at 802-03.

¹²⁵⁸ Indeed, the case generated much environmental law scholarship, as pointed out in Gatmaytan 2003 at 458, n. 5.

founded intergenerational equity upon the right to a healthful ecology, asserted for the first time as a cause of action despite its formal existence in Philippine law since 1977. The legal complication the Court addressed was the fact that the right was not included in the Bill of Rights, but rather described as a duty of the State. The Court avoided a restrictive interpretation and gave it the status of a fundamental right nonetheless:

While the right to a balanced and healthful ecology is to be found under the Declaration of Principles and State Policies and not under the Bill of Rights, it does not follow that it is less important than any of the civil and political rights enumerated in the latter. Such a right belongs to a different category of rights altogether for it concerns nothing less than self-preservation and self-perpetuation — aptly and fittingly stressed by the petitioners — the advancement of which may even be said to predate all governments and constitutions. As a matter of fact, these basic rights need not even be written in the Constitution for they are assumed to exist from the inception of humankind. If they are now explicitly mentioned in the fundamental charter, it is because of the well-founded fear of its framers that unless the rights to a balanced and healthful ecology and to health are mandated as state policies by the Constitution itself, thereby highlighting their continuing importance and imposing upon the state a solemn obligation to preserve the first and protect and advance the second, the day would not be too far when all else would be lost not only for the present generation, but also for those to come — generations which stand to inherit nothing but parched earth incapable of sustaining life.¹²⁵⁹ (emphasis added)

The Court implied the right to a healthy and balanced ecology to exist on a plane even higher than individual rights, for being “of a different category altogether” and to “predate all governments and constitutions.” Such a ‘primordial’ right implied a correlative duty on the part of the State to not impair the environment, which in turn required the judicious management of the country’s natural resources.¹²⁶⁰ The Court found this correlative duty to be stated amply in other legislation,¹²⁶¹ which made it much easier to justify its finding in favor of the petitioners.

¹²⁵⁹ *Minors Oposa* at 804-05.

¹²⁶⁰ *Ibid.* at 805.

¹²⁶¹ *Ibid.* at 806-07.

Regardless of the interest it received internationally,¹²⁶² *Oposa* is not the root of the Philippine legal recognition of intergenerational equity,¹²⁶³ neither did it successfully stop logging in the Philippines as it was supposed to do.¹²⁶⁴ The actual benefits of the case were to elevate the status of s. 16 to a fundamental right despite its absence from the Bill of Rights, and to specifically allow *locus standi* of parties in subsequent cases concerning the environment. This practical value was demonstrated most recently in the original case of *Concerned Residents of Manila Bay v. Philippine Government*, which was filed to

¹²⁶² Writers often mention *Minors Oposa* in support of arguments for judicially enforceable intergenerational trusteeship of the environment, and that courts may pass upon claims made by representative parties on behalf of future generations. See for example, Birnie, Boyle, and Redgwell, *supra* Note 125 at 123-24; Mank 2009 at 19; Shelton, *supra* Note 511; Peter H. Sand, "Sovereignty Bounded: Public Trusteeship for Common Pool Resources?" (2004) 4:1 Global Environmental Politics 47 at 50; John Edward Davidson, "Tomorrow's Standing Today: How the Equitable Jurisdiction Clause of Article III, Section 2 Confers Standing Upon Future Generations" (2003) 28 Colum. J. Envtl. L. 185 at 195, n30; Roda Mushkat, "Public Participation in Environmental Law Making: A Comment on the International Legal Framework and the Asia-Pacific Perspective" (2002) Chinese Journal of International Law 185 at 200; Jon Owens, "Comparative Law and Standing to Sue: A Petition for Redress for the Environment" (2001) 7 Environmental Lawyer 321, at 342; Science and Environmental Health Network and International Human Rights Clinic at Harvard Law School, "Models for protecting the environment for future generations," *International Human Rights Clinic, Harvard Law School* online: <<http://www.law.harvard.edu/programs/hrp>> (Date accessed: 28 January 2010) at 13.

¹²⁶³ The principle of intergenerational equity was recognized in Philippine law long before *Minors Oposa*, through the Philippine Environment Policy and Philippine Environment Code enacted in 1977. *Philippine Environmental Policy* at s. 3. Indeed, it has been argued that the Court's pronouncements on intergenerational equity should be regarded as mere *obiter dicta*. Gatmaytan 2003 at 459. See further discussion of Philippine environment laws below.

¹²⁶⁴ Despite the recognition it received elsewhere, whether *Minors Oposa* actually achieved a real and substantial result against logging (as was its originally stated intention) is really open to question since the judgment only remanded the issue back to the trial court for further proceedings. The relief prayed for was rendered moot because the government decided not to issue new logging concessions at the time; a policy that changed some years later. See Dante B. Gatmaytan, "The Illusion of Intergenerational Equity: *Oposa V. Factoran* As Pyrrhic Victory" (2003) 15:3 Geo. Int'l. Envtl. L. Rev. 457.

compel the many agencies of the national and local government to undertake the clean up and rehabilitation of the Manila Bay.¹²⁶⁵ The trial court relied upon s. 16 and the *Oposa* ruling to sustain the complainants' case over the objection of one of the agencies, averring that "(t)he expansion of the concept of '*locus standi*' allows concerned citizens to institute cases involving environmental degradation and pollution in[sic] behalf of the generation they represent and of generations yet unborn."¹²⁶⁶ The decision of the trial court was eventually affirmed by the Supreme Court when it was elevated as *Metro Manila Development Authority v. Concerned Residents of Manila Bay*.¹²⁶⁷ The *Oposa* ruling enabled the constitutional right to a balanced and healthful ecology to be an independent cause of action for class suits relating to the environment.¹²⁶⁸

¹²⁶⁵ *Concerned Residents of Manila Bay v. Philippine Government* [2009], R.T.C. B1851-99, online: <http://www.thelawofnature.org/files/RTC_DECISION_Sept-13_2002.pdf>. [*Concerned Residents (RTC)*] The original decision of the trial court is available online at Manila Bay Case, The Law of Nature Foundation, <http://www.thelawofnature.org/manilabaycase.html>.

¹²⁶⁶ *Concerned Residents (RTC)*, at 4.

¹²⁶⁷ [2008], S.C. 171947-948, 574 S.C.R.A. 661 at 692-93.

¹²⁶⁸ Gatmaytan 2003. In *Tano v. Provincial Governor of Palawan* [1997], S.C. 110249, 343 P.R. 670, the Supreme Court used the right as characterized in *Oposa* to support its interpretation of provisions of the *Local Government Code* and the Fisheries Code, confirming that municipalities and cities had the power to enact ordinances to enhance the right of the people to a balanced and healthful ecology, including the enactment of fisheries ordinances without need for approval by the national government. In *Henares v. Land Transportation Franchising and Regulatory Board* [2006], S.C. 158290, 505 S.C.R.A. 104. the petitioners invoked the right in order to seek a writ of *mandamus* to compel the government to require public utility vehicles to convert to compressed natural gas. Although the Supreme Court denied the petition on the ground that *mandamus* was an inappropriate remedy in the absence of a specific law requiring total conversion of public utility vehicles to an alternative fuel, the Supreme Court in *obiter* recognized "the right of the petitioners and the future generation to clean air" in accordance with the *Oposa* ruling. In *MMDA v. Concerned Citizens, supra*, the right formed the cause of action of the respondents who filed the case in the lower court to compel the national government to clean up Manila Bay. To give remedy, the Supreme Court resorted to a procedural innovation by introducing the concept of "continuing *mandamus*" by which the Court now requires executive agencies, under pain of contempt, to carry out the clean up.

Some authors have debated or attempted to explain the largely intuitive reasoning of the Court in accepting the principle of intergenerational equity.¹²⁶⁹ Indeed, standing alone, *Oposa* would probably have very little by way of concrete, logical arguments to support itself. What is missing from those discussions is the legal cultural context within which *Oposa* was decided: a social justice doctrine that predisposed the Judiciary toward activism and to protect the disadvantaged (who in the *Oposa* case were the minor plaintiffs, and the unborn generations they claimed to represent) by deciding in their favor when in doubt; a previously legislated policy statement establishing a State duty in favor of “present and future generations of Filipinos;” and a pre-existing Constitutional right to environment. These ‘attitudinal’ conditions were the groundwork for a judiciary receptive to an innovative procedural decision that removed a major obstacle to environmental litigation.

5.2.6 Decentralization of Government

As explained in the previous chapter, the 1987 Constitution makes an integral link between democratization and social justice, through the provisions that recognize the role of public participation mechanisms. Supplementing these mechanisms, which concern

Finally, in the case of *Social Justice Society v. Mayor of Manila* [2008], S.C. 156052, 545 S.C.R.A. 92, the “localized” version of the right to a balanced and healthful ecology as contained in Section 16 of the *Local Government Code* was also invoked by the Court to support the validity of a Manila city ordinance requiring the country’s three largest oil companies (Chevron Philippines, Pilipinas Shell Petroleum Corporation, and Petron Corporation) to remove their main oil distribution and depot facilities from the heart of the metropolis.

¹²⁶⁹ See Barresi, “Beyond Fairness to Future Generations: An Intragenerational Alternative to Intergenerational Equity in the International Environmental Arena,” supra Note 834 at 82-84; Weiss, “A Reply to Barresi’s ‘Beyond Fairness to Future Generations,’” supra Note 701 at 95-96; Barresi, “Advocacy, Frame and the Intergenerational Imperative: A Reply to Profesor Weiss on ‘Beyond Fairness to Future Generations,’” supra Note 834 at 434-35; Ted Allen, “Note, the Philippine Children’s Case: Recognizing Legal Standing for Future Generations” (1994) 6 Geo. Int’l. Env’tl. L. Rev. 713 at 714-18; Raymond A. Just, “Comment, Intergenerational Standing Under the Endangered Species Act: Giving Back the Right to Biodiversity After Lujan V. Defenders of Wildlife” (1996) 71 Tul. L. Rev. 597 at 619-21.

civil society groups, are the constitutional guarantees and enhancement of local autonomy of local governments. Both mechanisms seek to decentralize national government authority and decision-making prerogatives in all aspects of governance, including those affecting Nature. Decentralization is a vital element of ecological social justice; it is a precondition for effective implementation of the principle of subsidiarity, as well as for the realization of equitable distribution and genuine public participation.

5.2.6.1 Local Autonomy Guarantees

Enhanced local autonomy is an important counterpart of expanded public participation; while the latter seeks to involve entities not in government service to take part in planning and decision-making, the former is concerned with the subsidiarity of the decision-making powers. Public participation is useless if decisions taken are not respected or are easily ignored and overridden by those higher up in the social and political hierarchy.

5.2.6.1.1 *Administrative Decentralization*

To prevent a repeat of the Philippines' experience with authoritarian rule, the 1987 Constitution established a State policy to ensure the autonomy of local governments.¹²⁷⁰ An entire separate article on local government was included to articulate this policy fully. The 1987 Constitution divides the political and territorial subdivisions of the country into provinces, cities, municipalities, *barangay*, and the two autonomous regions in the Cordillera and Muslim Mindanao,¹²⁷¹ and guarantees their local autonomy.¹²⁷² The two autonomous regions are governed by special laws.¹²⁷³ The other political subdivisions

¹²⁷⁰ 1987 Const., art. 2, s. 25.

¹²⁷¹ *Ibid.*, art. 10, s. 1.

¹²⁷² *Ibid.*, art. 10, s. 2.

¹²⁷³ The two autonomous regions are presently governed by separate charters. The Cordillera Autonomous Region comprised of provinces in the mountainous areas of Luzon are covered by *Cordillera Autonomous Region Organic Act*, R.A. 6766 (1989). The Autonomous Region of Muslim Mindanao, on the other hand, is

(referred to as local government units or LGUs) are subject to the Local Government Code.¹²⁷⁴

The President exercises general supervision over all LGUs, but each LGU bears the primary responsibility to ensure that its own component LGUs act within the scope of their prescribed powers under law.¹²⁷⁵ All LGUs exercise some degree of local legislative authority,¹²⁷⁶ with the city exercising the combined powers of a municipality and a province.¹²⁷⁷ Residents elect their local chief executives and members of the *sanggunian* or local legislative councils every three years.¹²⁷⁸ In addition to elected representatives, local legislative councils also have sectoral representatives appointed by the local chief executive.¹²⁷⁹

Decentralization is promoted further through regional development councils and similar bodies composed of local government officials, regional heads of national government agencies and other offices, and representatives of non-government organizations.¹²⁸⁰ In addition, LGUs are allowed to “group themselves, consolidate or coordinate their efforts,

governed by *Autonomous Region in Muslim Mindanao Organic Act*, R.A. 6734 (1989) , as amended by *Expanded Autonomous Region of Muslim Mindanao Organic Act*, R.A. 9054 (2001) .

¹²⁷⁴ 1987 Const., art. 10, s. 3.

¹²⁷⁵ 1987 Const., art. 10, s. 4.

¹²⁷⁶ *Local Government Code*, s. 391 (barangay), 447 (municipality), 458 (city), 468 (province).

¹²⁷⁷ *Local Government Code*, s. 458. Cities may be classified into two kinds: chartered cities that have their own constitutive charters and are more or less free from , and component cities which remain part of a province.

¹²⁷⁸ 1987 Const., art. 10, s. 8. Mayors lead the municipalities and cities, while Governors lead the provinces.

¹²⁷⁹ 1987 Const., art. 10, s. 9. Sectoral representatives in the sanggunian are to come from women, workers (agricultural or industrial, depending on the area), and special sectors (indigenous groups, urban poor, or disabled). *Local Government Code*, s. 446(b), 447(b), and 467(b).

¹²⁸⁰ 1987 Const., art. 10, s. 14.

services, and resources for purposes commonly beneficial to them”¹²⁸¹ through Memoranda of Agreements by which they can pool funds, properties, equipment, and personnel.¹²⁸²

5.2.6.1.2 *Distribution of Resources*

Each LGU has its own powers to generate revenues from taxation and licensing,¹²⁸³ but is also entitled to a “just share, as determined by law,” of the internal revenue taxes of the national government.¹²⁸⁴ While it may be common for the subsidiaries of the State to receive revenue support from the national government, the 1987 Constitution goes further by adding:

Section 7. Local governments shall be entitled to an equitable share in the proceeds of the utilization and development of the national wealth within their respective areas, in the manner provided by law, including sharing the same with the inhabitants by way of direct benefits.¹²⁸⁵

This is a constitutional mandate for the national government to share with LGUs all royalties from natural resource development activities taking place within the latter’s jurisdiction, *in addition to* shares in national internal revenue taxes. A special chapter of the Local Government Code details this revenue sharing formula.¹²⁸⁶ Such revenue shares are separate from the regular internal revenue allotments (IRA) that LGUs receive from the national government¹²⁸⁷ for their usual operations such as personnel salaries and equipment.

¹²⁸¹ *Ibid.*, art. 10, s. 13.

¹²⁸² *Local Government Code*, s. 33.

¹²⁸³ 1987 Const., art. 10, s. 5. The *Local Government Code*’s Book II on local taxation implements this provision. Examples of national internal revenue taxes include income taxes, sin taxes, and value-added taxes.

¹²⁸⁴ *Ibid.*, art. 10, s. 6; also *Local Government Code*, s. 289.

¹²⁸⁵ 1987 Const., art. 10, s. 7.

¹²⁸⁶ *Local Government Code*, Book 2, Title 3, Chap. 2.

¹²⁸⁷ *Local Government Code*, s. 284-85.

As a general rule the LGU's share is equivalent to 40% of the gross collections of the national government from all taxes, fees, or other charges from mining, forestry, or fisheries, or any other natural resources that are the subject of a co-production, joint venture, or production sharing agreement.¹²⁸⁸ If the natural resources are used or developed directly by a government agency or by government-owned or controlled corporations, the 40% share is based on the taxes, fees, and charges that would have been paid by the agency or corporation had it been a private venture. But if the amount equivalent to 1% of the gross sales or receipts of the government agency or corporation from the resource development is equivalent to an amount higher than the 40% of the expected tax revenue, then the higher amount is the basis of the LGU share.¹²⁸⁹

¹²⁸⁸ *Local Government Code*, s. 290:

“Section 290. *Amount of Share of Local Government Units.* - Local government units shall, in addition to the internal revenue allotment, have a share of forty percent (40%) of the gross collection derived by the national government from the preceding fiscal year from mining taxes, royalties, forestry and fishery charges, and such other taxes, fees, or charges, including related surcharges, interests, or fines, and from its share in any co-production, joint venture or production sharing agreement in the utilization and development of the national wealth within their territorial jurisdiction.”

¹²⁸⁹ *Local Government Code*, s. 291:

“Section 291. *Share of the Local Governments from any Government Agency or Owned or Controlled Corporation.* - Local government units shall have a share based on the preceding fiscal year from the proceeds derived by any government agency or government-owned or controlled corporation engaged in the utilization and development of the national wealth based on the following formula whichever will produce a higher share for the local government unit:

“(a) One percent (1%) of the gross sales or receipts of the preceding calendar year; or

“(b) Forty percent (40%) of the mining taxes, royalties, forestry and fishery charges and such other taxes, fees or charges, including related surcharges, interests, or fines the government agency or government owned or controlled corporation would have paid if it were not otherwise exempt.”

Since LGUs are ‘nested’ political subdivisions,¹²⁹⁰ a natural resource is located within the territorial jurisdictions of two or three LGUs simultaneously.¹²⁹¹ The Local Government Code also prescribes a distribution of the revenue share among the different component LGUs affected, with the village level (the *barangay*) receiving at least 35% in all cases.¹²⁹² Shares are remitted to the LGUs on a quarterly basis either by the national government together with the LGU’s annual Internal Revenue Allotments (in case of

¹²⁹⁰ A province is comprised of component municipalities and cities, which in turn are divided into *barangay*. Component cities and chartered cities may be comprised of component *barangay*.

¹²⁹¹ A *barangay* is always part of a city or municipality, which in turn is part of a province, unless the city has its own charter that makes it independent of the province.

¹²⁹² *Local Government Code*, R.A. 7160 (1991), s. 292:

Section 292. *Allocation of Shares*. - The share in the preceding Section shall be distributed in the following manner:

(a) Where the natural resources are located in the province:

- (1) Province - Twenty percent (20%);
- (2) Component City/Municipality - Forty-five percent (45%); and
- (3) Barangay - Thirty-five percent (35%)

Provided, however, That where the natural resources are located in two (2) or more provinces, or in two (2) or more component cities or municipalities or in two (2) or more barangays, their respective shares shall be computed on the basis of:

- (1) Population - Seventy percent (70%); and
- (2) Land area - Thirty percent (30%)

(b) Where the natural resources are located in a highly urbanized or independent component city:

- (1) City - Sixty-five percent (65%); and
- (2) Barangay - Thirty-five percent (35%)

Provided, however, That where the natural resources are located in such two (2) or more cities, the allocation of shares shall be based on the formula on population and land area as specified in paragraph (a) of this Section.

revenues from private development activities), or by government agencies or corporations directly to the LGU.¹²⁹³

The resource revenue shares are set aside expressly for the purpose of local development and livelihood. The Local Government Code requires that the proceeds from the shares be used “to finance local government and livelihood projects.”¹²⁹⁴ Notably, if the activity involves energy development, at least 80% of the proceeds should be applied “solely to lower the cost of electricity in the local government unit where such a source of energy is located.”¹²⁹⁵

¹²⁹³ *Local Government Code*, s. 286 and 293:

Section 286. *Automatic Release of Shares*. -

(a) The share of each local government unit shall be released, without need of any further action, directly to the provincial, city, municipal or barangay treasurer, as the case may be, on a quarterly basis within five (5) days after the end of each quarter, and which shall not be subject to any lien or holdback that may be imposed by the national government for whatever purpose.

(b) Nothing in this Chapter shall be understood to diminish the share of local government units under existing laws.

Section 293. *Remittance of the Share of Local Government Units*. - The share of local government units from the utilization and development of national wealth shall be remitted in accordance with Section 286 of this Code: Provided, however, That in the case of any government agency or government-owned or controlled corporation engaged in the utilization and development of the national wealth, such share shall be directly remitted to the provincial, city, municipal or barangay treasurer concerned within five (5) days after the end of each quarter.

¹²⁹⁴ *Local Government Code*, s. 294:

Section 294. *Development and Livelihood Projects*. - The proceeds from the share of local government units pursuant to this chapter shall be appropriated by their respective sanggunian to finance local government and livelihood projects: Provided, however, That at least eighty percent (80%) of the proceeds derived from the development and utilization of hydrothermal, geothermal, and other sources of energy shall be applied solely to lower the cost of electricity in the local government unit where such a source of energy is located.

¹²⁹⁵ *Ibid*.

The legal obligation to share resource revenues may be either a boon or a bane. It is a boon in that it clearly establishes the stake of the affected community in the resource development activity, bringing into operation the duty to consult prior to engaging in the activity. It also creates a channel for receiving benefits directly from the activity, instead of the indirect and ambiguous “trickle-down effect” that is conventionally relied upon in economic planning. But it may be a bane when the affected community is blinded by the prospect of huge short-term revenues at the expense of the long-term sustainability of their local environment. For this reason, sound deliberation by civil society, which is what the various provisions of the 1987 Constitution for consultation and participation provide opportunity for, must always go hand-in-hand with consideration of the obligation to share resource revenues. Resource revenue sharing may not achieve its ultimate purpose of ensuring benefits to the local population if the latter are unable to participate democratically in decision-making.

5.2.6.2 Recognition and Participation of Civil Society

The 1987 Constitution recognizes the vital role of civil society in the declaration of State policies, which require the State to “encourage non-governmental, community-based, or sectoral organizations that promote the welfare of the nation.”¹²⁹⁶ This is strengthened not only by the guarantee in the Bill of Rights of the freedom of association,¹²⁹⁷ but more importantly by the special provisions of the article on social justice regarding the role and rights of people’s organizations. The Constitution encourages direct participation in governance through such organizations as an essential element of social justice:

Section 15. The State shall respect the role of independent people's organizations to enable the people to pursue and protect, within the democratic framework, their legitimate and collective interests and aspirations through peaceful and lawful means.

¹²⁹⁶ 1987 Const., art. 2, s. 23.

¹²⁹⁷ *Ibid.*, art. 3, s. 8.

People's organizations are *bona fide* associations of citizens with demonstrated capacity to promote the public interest and with identifiable leadership, membership, and structure.¹²⁹⁸

Public participation through non-government organizations is also an integral part of the constitutional provisions on local autonomy:

Section 14. The President shall provide for regional development councils or other similar bodies composed of local government officials, regional heads of departments and other government offices, and representatives from non-governmental organizations within the regions for purposes of administrative decentralization to strengthen the autonomy of the units therein and to accelerate the economic and social growth and development of the units in the region.¹²⁹⁹

In Philippine practice, *people's* organizations are distinguished from *non-government* organizations, and it is common to find policies and rules referring to the two separately. The former term is used to refer to locally-based organizations comprised of members of the community or sector with a direct interest in an issue (e.g., a farmers' cooperative, an indigenous people's association), while the latter refer to other organizations and groups that assist the communities (e.g., private foundations, research organizations).¹³⁰⁰

The constitutionalization of public participation, through peoples' organizations and NGOs, is important to Philippine environmentalism, which arose in reaction to State-sponsored development projects under martial law. The attempt of the Marcos regime to

¹²⁹⁸ *Ibid.*, art. 13, s. 15.

¹²⁹⁹ *Ibid.*, art. 10, s. 14.

¹³⁰⁰ For example, the Fisheries Code defines the two terms as follows:

Non-governmental organization (NGO) — an agency, institution, a foundation or a group of persons whose purpose is to assist peoples organizations/associations in various ways including, but not limited to, organizing, education, training, research and/or resource accessing. Fisheries Code at s. 4(59).

People's Organization — a bonafide association of citizens with demonstrated capacity to promote the public interest and with identifiable leadership, membership and structure. Its members belong to a sector/s who voluntarily band themselves together to work for and by themselves for their own upliftment, development and greater good. *Fisheries Code*, R.A. 8550 (1998) at s. 4(62).

enforce the Chico River Dam development at the cost of displacing ten towns of indigenous Kalinga and Bontoc peoples and destroying their centuries-old upland farms in rice terraces in the Cordillera mountain range marked the birth of Filipino environmentalism.¹³⁰¹ Other development projects against other indigenous groups elsewhere in the country followed in a costly struggle against “development aggression.”¹³⁰² Martial law also led to the proliferation of environmental NGOs that provided alternative avenues for participatory processes and livelihoods.¹³⁰³ Disparate resistance coalesced into a national environmental movement, initiated by the convening of the First Philippine Environmental Congress in 1979, which declared that

(A)t the root of environmental problems are social, economic and political systems imposed upon this nation which allow greed and exploitation to dominate over a proper respect for the well-being of present and future generations.¹³⁰⁴

The linkage between environment and social, economic, and political issues, and the central role of peoples’ organizations and NGOs, have thus been at the heart of Philippine environmentalism since its inception and carried over to the present. For this reason, there is added significance when the 1987 Constitution describes the right to public participation in a manner very similar to essential civil and political freedoms:

¹³⁰¹ Magno, *supra* Note 1201 at 9-10. For more information on the Kalinga and Bontoc resistance to the Chico River Dam Project, see Steven Rood, “NGOs and Indigenous Peoples” in G. Sydney Silliman and Lela Garner Noble (eds.), *Organizing for Democracy: NGOs, Civil Society, and the Philippine State* (Honolulu: University of Hawai’I Press, 1998), 138-56, at 143-45; also Charles Drucker, “Dam the Chico: Hydropower Development and Tribal Resistance.” 15:4 *Ecologist* (May 1985) 149-57.

¹³⁰² For more in-depth coverage of projects tagged as “development aggression” in the Philippines in the 1980s, see Ruffy Manaligod, *Struggle Against Development Aggression: Tribal Filipinos & Ancestral Domain*. (Quezon City: Tunay na Alyansa ng Bayan Alay sa Katutubo, 1990).

¹³⁰³ Magno, *supra* Note 1201 at 10.

¹³⁰⁴ *Ibid.*, quoting the “Declaration of Environmental Concern” issued by the said conference.

Section 16. The right of the people and their organizations to effective and reasonable participation at all levels of social, political, and economic decision-making shall not be abridged. The State shall, by law, facilitate the establishment of adequate consultation mechanisms.¹³⁰⁵

This formulation is legally significant given the *Oposa* ruling's rationale that fundamental rights may be expressed in the Constitution in provisions other than those in the Bill of Rights. But, two legal issues regarding this provision remain untested to date before the Supreme Court: the standards for "*effective and reasonable participation*" envisioned, and the precise meaning of "*adequate consultation mechanisms*." Obviously, these practical issues have a bearing on whether public participation and consultations can be meaningful and not merely perfunctory, which in turn determines the extent to which decision-making can be effectively democratized.

All these provisions are implemented in the Local Government Code¹³⁰⁶ and in specific natural resources legislation since the 1990s.¹³⁰⁷ As a general rule, public participation is legally enabled through either formal representation in multi-sectoral advisory bodies that are meant to support planning, policy-making, and decision-making, or duties to conduct public consultations in specific matters. The Local Government Code especially relies on partnerships between LGUs, NGOs, and other private sector organizations as a key strategy for extending local capabilities and delivering basic services.¹³⁰⁸ It also requires

¹³⁰⁵ 1987 Const., art. 13, s. 16.

¹³⁰⁶ R.A. 7160 (1991).

¹³⁰⁷ See for example, Fisheries Code; *Wildlife Conservation Act*, R.A. 9147 (2001) ; and *Tourism Act*, R.A. 9593 (2009) .

¹³⁰⁸ The *Local Government Code* on LGU relations with peoples' and non-government organizations:

Section 34. *Role of People's and Non-governmental Organizations*. - Local government units shall promote the establishment and operation of people's and non-governmental organizations to become active partners in the pursuit of local autonomy.

Section 35. *Linkages with People's and Non-governmental Organizations*. - Local government units may enter into joint ventures and such other cooperative arrangements with people's and non-governmental organizations to engage in the

NGO participation in many of the different local bodies that discharge different government functions such as the Local Prequalification, Bids and Awards Committees that are in charge of procurement,¹³⁰⁹ Local Health Boards that oversee local health facilities and services,¹³¹⁰ and Local Development Councils that formulate development plans and coordinate development efforts.¹³¹¹

Advisory and consultative multi-sectoral bodies are also established at local levels in key natural resource legislation such as the Fisheries Code which requires the formation of Fisheries and Aquatic Resource Management Councils (FARMC) from local to national levels to aid fisheries management,¹³¹² and the Protected Area Management Boards (PAMB) that are charged with management of protected areas.¹³¹³ In the absence of such advisory bodies, both national and local governments are generally obligated to conduct public consultations under the Local Government Code.¹³¹⁴ The proliferation of multi-sectoral bodies in Philippine governance at all levels from local to national is clear evidence of the importance given, as a matter of public policy, to mechanisms for public participation.

delivery of certain basic services, capability-building and livelihood projects, and to develop local enterprises designed to improve productivity and income, diversity agriculture, spur rural industrialization, promote ecological balance, and enhance the economic and social well-being of the people.

Section 36. *Assistance to People's and Non-governmental Organizations.* - A local government unit may, through its local chief executive and with the concurrence of the sanggunian concerned, provide assistance, financial or otherwise, to such people's and non-governmental organizations for economic, socially-oriented, environmental, or cultural projects to be implemented within its territorial jurisdiction.

¹³⁰⁹ *Ibid.*, s. 36-37.

¹³¹⁰ *Ibid.*, s. 101-02.

¹³¹¹ *Ibid.*, s. 106-07.

¹³¹² Fisheries Code, s. 68-79.

¹³¹³ *National Integrated Protected Areas System Act*, R.A. 7586 (1992), s. 11.

¹³¹⁴ *Local Government Code*, s. 26-27. The scope of these provisions is explained further in Section 5.3.3 below.

5.3 Environment Laws in General

5.3.1 General Legislation

5.3.4.1 Environmental Policy

The Philippine Environmental Policy¹³¹⁵ issued way back in 1977 still subsists for the most part to provide a fundamental framework for environmental laws.¹³¹⁶ It declared a ‘continuing policy’ of the State to create and improve conditions that permit man and Nature “thrive in productive and enjoyable harmony,” meet the requirements of present and future generations, and ensure “an environmental quality conducive to life and well-being.”¹³¹⁷ It enumerates the national goals with respect to the environment as follows:

1. recognition and fulfillment of the responsibilities of each generation as trustee and guardian of the environment for succeeding generations;
2. assurance of a safe, decent, healthful, productive, and aesthetic environment;
3. encouragement of the widest exploitation of the environment without degrading it, or endangering human life, health, and safety or creating conditions adverse to agriculture, commerce, and industry;
4. preservation of important historical and cultural aspects of the Philippine heritage;
5. attainment of a rational and orderly balance between population and resource use; and

¹³¹⁵ *Philippine Environmental Policy*, P.D. 1151 (1977).

¹³¹⁶ As late as 2009 in Supreme Court, the Supreme Court cited provisions of the Philippine Environmental Policy to support its reasoning that national government agencies were amply empowered by existing laws to take action to clean up Manila Bay. However, they had not exercised such powers to their full extent nor carried out their mandates, hence justifying the Court’s issuance of a “continuing *mandamus*” against the national government as relief for the original complainants in the case. *MMDA v. Concerned Citizens*, *supra* Note 1267.

¹³¹⁷ *Philippine Environmental Policy*, s. 1.

6. improved utilization of resources.¹³¹⁸

The *Philippine Environmental Code*¹³¹⁹ issued together with the *Philippine Environmental Policy* contained the original general guidelines for air quality management, water management, land use management, and natural resources management and conservation. However, apart from the section recognizing environmental rights,¹³²⁰ new environmental legislation have superseded most of these guidelines especially in the past two decades.¹³²¹ Many of these new laws are described in the succeeding chapter.

What remains of the Philippine Environmental Policy remains valid today since it has not been directly amended or superseded by any subsequent law. Developments in international environmental law and policy since its issuance, particularly the Rio Declaration and Agenda 21, however, prompted a more detailed elaboration of long-term policy principles and goals to govern environmental law and policy. On 20 September 1996, President Fidel V. Ramos approved the Philippine Agenda 21 (PA21) as the blueprint for sustainable development.¹³²² It provides the overall vision for long-term economic development for the National Economic Development Authority which chairs

¹³¹⁸ *Philippine Environmental Policy*, s. 2.

¹³¹⁹ P.D. 1152 (1977).

¹³²⁰ See Section 5.2.5 above.

¹³²¹ See Table 5-1. Philippine law-making practice tends to favor implied repeals rather than direct and express repeals, leaving it to the judiciary to make a definitive determination on whether or not provisions of older laws have been superseded by new ones. For example, Section 17 of the Philippine Environment Code, which requires government agencies to upgrade the quality of water which has fallen below the quality standards for its usage, was declared by the Supreme Court as remaining valid and subsisting, despite the passage of the 2004 Clean Water Act. Supreme Court at 684.

¹³²² Philippine Council for Sustainable Development, "Philippine Agenda 21," *National Economic Development Authority* online:
<<http://www.psdn.org.ph/agenda21/start.htm>> Last updated: 16 December 2008 (Date accessed: 03 March 2010); *Philippine Agenda 21 Operationalization and Monitoring*, Memorandum Order 399 (1996).

the Philippine Council for Sustainable Development.¹³²³ PA21 emphasizes three principles for the application of sustainable development to the Philippines:

1. A scale of intervention that is primarily area-based;
2. Integrated island development approaches where applicable; and
3. People and integrity of nature at the center of development initiatives.¹³²⁴

These principles, as well as other principles of sustainable development,¹³²⁵ underlie an action agenda that includes a mix of strategies to integrate sustainable development

¹³²³ *Philippine Council for Sustainable Development*, E.O. 15 (1996), as amended by *Philippine Council for Sustainable Development Strengthening*, E.O. 62 (2001).

¹³²⁴ Philippine Council for Sustainable Development, *Philippine Agenda 21*, *supra* note 1316.

¹³²⁵ PA21 identifies particularly the following principles of sustainable development:

- Primacy of developing human potential
- Holistic science and appropriate technology
- Cultural, moral and spiritual sensitivity
- Self-determination
- National sovereignty
- Gender sensitivity
- Peace, order and national unity
- Social justice and inter, intra-generational and spatial equity
- Participatory democracy
- Institutional viability
- Viable, sound and broad-based economic development
- Sustainable population
- Ecological soundness
- Biogeographical equity and community-based resource management
- Global cooperation

Philippine Council for Sustainable Development. Principles of Unity. Philippine Agenda 21 online <<http://www.psdn.org.ph/agenda21/unity.htm>> 02 September 2008. Date accessed: 10 March 2010.

parameters into the country's overall development strategy.¹³²⁶ PA21 identifies action agendas for each ecosystem,¹³²⁷ which are operationalized and localized through Local Agenda 21 formulated by each region and LGU.¹³²⁸ Notable in Philippine Agenda 21 is the priority it gives to strengthening the role of major stakeholder groups, classified as either "basic sectors" (farmers and landless rural workers, fisherfolk, indigenous peoples, urban poor, and other disadvantaged groups) and "intermediaries" (government, business and private sector, NGOs, church-based groups, professional associations, mass media, and the international community).¹³²⁹ This is a critical component of PA21 implementation.¹³³⁰

5.3.4.2 Environmental Impact Assessment

The Philippine Environmental Policy requires environmental impact assessments (EIA) to be conducted for all projects and programs that affect environmental quality.¹³³¹ This provided the basis for the enactment of the Philippine Environmental Impact Statement System Law,¹³³² which attempts to provide for "a system of evaluation where the

¹³²⁶ Philippine Council for Sustainable Development. How do we get there? Operational Framework and Action Agenda. Philippine Agenda 21 online <<http://www.psdn.org.ph/agenda21/howdo.htm>> 02 September 2008. Date accessed: 10 March 2010.

¹³²⁷ See Philippine Council for Sustainable Development. Action Agenda. Philippine Agenda 21 online <<http://www.psdn.org.ph/agenda21/action.htm>> 02 September 2008. Date accessed: 10 March 2010.

¹³²⁸ *Local Agenda 21 Operationalization and Monitoring*, Memorandum Order 47 (1999) .

¹³²⁹ Philippine Council for Sustainable Development. Implementation. Philippine Agenda 21 online <<http://www.psdn.org.ph/agenda21/implemen.htm>> 02 September 2008. Date accessed: 10 March 2010.

¹³³⁰ *Ibid.*

¹³³¹ Phil. Environmental Policy, s. 4.

¹³³² *Philippine Environmental Impact Statement System Law*, P.D. 1586 (1978). [EIS Law]

exigencies of socio-economic undertakings can be reconciled with the requirements of environmental quality.”¹³³³ An EIA is presently defined as

a process that involves predicting and evaluating the likely impacts of a project (including cumulative impacts) on the environment during construction, commissioning, operation and abandonment. It also includes designing appropriate preventive, mitigating and enhancement measures addressing these consequences to protect the environment and the community’s welfare.¹³³⁴

EIAs are required for all projects designated as “Environmentally Critical Projects (ECPs)” or activities undertaken within “Environmentally Critical Areas (ECAs).”¹³³⁵

These projects and areas are identified via Presidential Proclamation upon the initiative of the President or recommendation of the Department of Environment and Natural Resources.

¹³³³ *Ibid.*, Preamble 1.

¹³³⁴ *Revised EIS Rules*, DENR AO 2003-30, s. 3(h).

¹³³⁵ EIS Law, s. 4.

EIAs are intended to enhance planning and guide decision-making; the DENR originally saw its value to be mainly “in the reduction of adverse environmental impact as a result of incremental decision-making” in the course of the approval of a project for implementation.¹³³⁶ The DENR emphasizes that the Environmental Compliance Certificate (ECC) issued as a result of an EIA is not a permit, but “a contractual obligation by the project proponent for the implementation of measures to address possible environmental impacts of the proposed projects or undertakings as identified in the EIA.”¹³³⁷

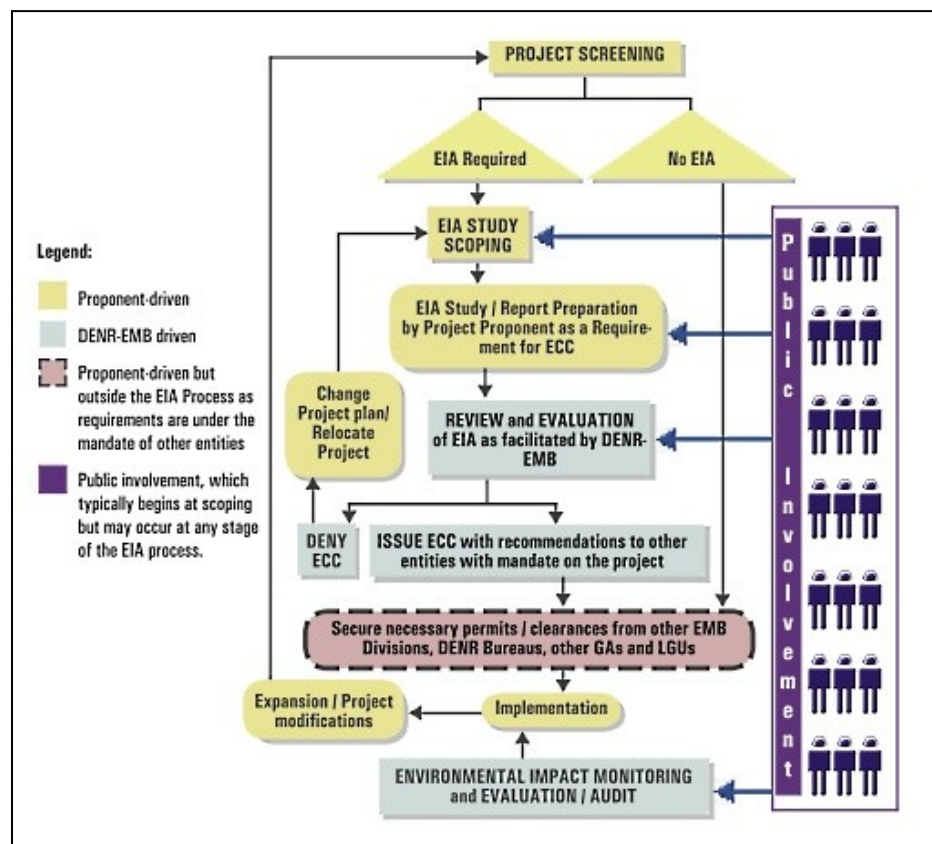


Figure 11. The EIA process currently in use in the Philippines. Source: DENR

¹³³⁶ Department of Environment and Natural Resources, *What You Should Know About Environmental Impact Assessment (EIA) and Environmental Compliance Certificate (ECC)*. (Quezon City: DENR Environmental Management Bureau, 2007).

¹³³⁷ *Ibid.*

The process for conducting an EIA and securing an ECC has been significantly revised twice since 1978. It is currently governed by DENR Administrative Order No. 30, Series of 2003,¹³³⁸ and illustrated in Figure 11. Generally, a project proponent initiates the process by submitting its initial project proposal and feasibility study to the DENR Environmental Management Bureau (EMB).¹³³⁹ The EMB then determines whether the project requires an EIA or not.¹³⁴⁰ Projects which do not require an EIA are issued a Certificate of Non-Coverage, and the project proponent is thereafter free to secure the necessary clearances and permits from appropriate government offices.¹³⁴¹ If the project requires an EIA, then the EMB must identify the type of EIA process that the project must go through. There are several different types of EIA procedures resulting in EIA documentation of varying detail and complexity, depending on the nature, scope, and potential environmental impact of the project.¹³⁴²

In all cases, the project proponent must conduct a Project Scoping Study, at which point the proponent must begin to engage in consultations with affected LGUs, people's organizations, non-governmental organizations, and the general public.¹³⁴³ The Scoping is comprised of two stages: a 'public scoping' at which the proponent must provide information to the public about the project and whose purpose to acquire community comments and reactions, and a 'technical scoping' which relies on the results of the public scoping to provide a context for the technical assessment.¹³⁴⁴ The outcome of the Scoping is used to formulate the Terms of Reference for the EIA Study Report,

¹³³⁸ *Revised EIS Rules*, DENR AO 03-30 (2003)

¹³³⁹ *Revised EIS System Procedural Manual*, DENR MC 07-02 (2007) at 15-18.

¹³⁴⁰ *Ibid.*

¹³⁴¹ *Ibid.* at 25-26.

¹³⁴² *Ibid.* at 19-24.

¹³⁴³ *Ibid.* at 12.

¹³⁴⁴ Department of Environment and Natural Resources, *Initiatives to Streamlining the Philippine Environmental Impact Statement System (PEISS): A Brief Guide for LGUs*. (Quezon City: DENR Environmental Management Bureau, 2007) at 9-10. [EIS Guide for LGUs]

particularly the Environmental Management and Monitoring Plan that may include a Social Development component.¹³⁴⁵

The outcome of consultations are to be included with the other technical and scientific assessments submitted to the DENR-EMB as part of its EIA Study Report. The Report is then subject to review by a committee convened by the DENR-EMB, which may either recommend denial or issuance of an ECC. The review may be conducted at either the regional level or the national level, depending on the type and classification of the project.¹³⁴⁶ The DENR-EMB may also commission third party expertise to be part of the review committee.¹³⁴⁷

If the ECC is denied but the proponent wishes to pursue the project, then it must go back and change its project design, plans, or location to address the causes for denial, and begin anew with another Scoping Study. If the ECC is issued, it may be subject to conditions and recommendations addressed either to the proponent or to other government agencies. Such conditions and recommendations should ensure the project's compliance with environmental standards and address any other issues raised during the consultations.¹³⁴⁸ After issuance of the ECC, the proponent must then seek the necessary clearances and permits from other government agencies to implement its project.¹³⁴⁹ Such

¹³⁴⁵ *Ibid.* at 10.

¹³⁴⁶ *Ibid.* at 10-11.

¹³⁴⁷ *Ibid.* at 10.

¹³⁴⁸ *Ibid.* at 11-12.

¹³⁴⁹ *Simplified Requirements for ECC/CNC Applications*, DENR MC 07-08 (2007) at para. 2-3:

“2. The findings and recommendations of the EIA shall be transmitted to relevant government agencies for them to integrate in their decision making prior to the issuance of clearances, permits and licenses under their mandates.

“3. The issuance of an ECC or CNC for a project under the EIS System does not exempt the proponent from securing other government permits and clearances as required by other laws. The current practice of requiring various permits,

agencies may accept or reject the ECC and its recommendations and approve or disapprove of the project itself; the ECC is therefore only a factor to consider in their decisions, not the basis for it.

On one hand, the fact that the ECC recognizes that the final decision whether to permit the project or not rests with the LGUs or other pertinent agencies is consistent with the policy of decentralization of decision-making. Despite this apparent democratic character though, academics, NGOs and environmental groups have protested this ‘devolution’ to the LGUs, accusing the national government of abdicating its regulatory mandate. They argue that the lack of technical capacity on the part of the LGUs make them vulnerable to being influenced by large corporations to decide in favor of the projects for economic gain. On the other hand, the national government has never actually had effective regulatory power over projects through the EIS System anyway, since the most it can do is to impose a relatively small fine of 50,000 PHP for violations of the ECC.¹³⁵⁰ LGUs actually hold the pivotal regulatory power since they can permit or prohibit the operation of any business within their territorial jurisdiction.¹³⁵¹ Technically, they may even revoke a license previously issued and close down a business entirely, for as long as the decision is reasonable and not arbitrary according the standards of due process of law.

A project’s implementation and subsequent operations are then subject to environmental impact monitoring and evaluation in accordance with any relevant terms and conditions specified in the ECC.¹³⁵² A multi-partite monitoring team (MMT), a “community-based multi-sectoral team”¹³⁵³ composed of various stakeholders such as representatives of the proponent, national government, LGUs, NGOs, and people’s organizations carries out

clearances and licenses only constrain the EIA evaluation process and negate the purpose and function of the EIA.”

¹³⁵⁰ EIS Law, s. 9.

¹³⁵¹ *Local Government Code*, s. 447(a), ss. 3(ii) and s. 458(a), ss. 3(ii) (power of the municipality and city to regulate businesses operating within their jurisdiction).

¹³⁵² *Revised EIS Rules*, s. 9; see also *EIS Guide for LGUs* at 12.

¹³⁵³ *Revised EIS Rules*, s. 3(u).

this function.¹³⁵⁴ To support this part of the process, the proponent is required to establish an Environmental Monitoring Fund from which monitoring expenses are paid,¹³⁵⁵ and an Environmental Guarantee Fund that will answer for any contingencies that arise from any risks in the project's operations.¹³⁵⁶

An important aspect of the EIA process is role of public consultations and social acceptability. As noted above, the public consultations are expected to begin as early as the initial Scoping stage, and it is expected that opportunities for consultations will remain available from that point throughout the EIA process, even up to the monitoring and evaluation stage. These consultations must support and maintain the social acceptability of the project, defined as “acceptability of a project by affected communities based on timely and informed participation in the EIA process particularly with regard to environmental impacts that are of concern to them.”¹³⁵⁷

This raises the question of how social acceptability is determined. From a practical perspective, there are two types of public consultations and outcomes to consider when dealing with the local level. One is a ‘formal’ consultation process that takes place with the LGU, evidenced by the issuance of a resolution of the *sanggunian* expressing its views or sentiments regarding the project.¹³⁵⁸ The other is an ‘informal’ consultation process that takes place directly with the public,¹³⁵⁹ for which there is no prescribed process nor evidence, thus leaving the proponent free to choose whatever method or documentation it might deem appropriate. This may be carried out through opinion surveys of local residents, or focus group discussions and meetings, for example. An issue arises if for any reason the two processes produce divergent views. Legally, any

¹³⁵⁴ *Ibid.*, s. 9.1.

¹³⁵⁵ *Ibid.*

¹³⁵⁶ *Ibid.*, s. 9.3.

¹³⁵⁷ *Revised EIS System*, s. 3(ff).

¹³⁵⁸ *Local Government Code*, s. 27

¹³⁵⁹ *Ibid.*, s. 26, refers to consultations with “non-government organizations and other sectors concerned” in addition to the LGU.

opposition expressed through LGU resolutions has greater weight, as they are able to prevent national government agencies from approving a project for implementation.¹³⁶⁰ But it is possible for an LGU decision to be an unpopular decision. Convergence and synchronicity between the ‘formal’ and ‘informal’ processes would seem to be a necessary condition, particularly since after an ECC is issued, the LGU and other government agencies bear the final responsibility of approving or disapproving of the project.

5.3.4.3 Anti-Pollution Laws

Various types of anti-pollution legislation have been in force in the Philippines since the late 1970s. New and more comprehensive legislation covering the fields of air pollution, water pollution, and solid waste have superseded those older laws in the last decade. These new laws directly implement the mandate of the 1987 Constitution for a healthy and balanced ecology.

5.3.4.3.1 *Air*

The Philippine Clean Air Act¹³⁶¹ presently governs all forms of airborne pollution. It seeks to impose stringent pollution standards and provides the most comprehensive policies on the abatement, prevention and control of air pollution from the industrial and transport sectors. The law establishes an Air Quality Management System¹³⁶² which requires the DENR to prepare annual National Air Quality Status Reports and an Integrated Air Quality Improvement Framework as the basis for air pollution management and control.¹³⁶³ An Air Quality Action Plan determines the means and

¹³⁶⁰ *Alvarez v. PICOP Resources* [2009], S.C. 162243, online: <<http://sc.judiciary.gov.ph/jurisprudence/2009/december2009/162243.htm>>

¹³⁶¹ Rep. Act No. 8749 (1999). DENR Administrative Order No. 2000-03 contains the rules and regulations detailing its implementation.

¹³⁶² Clean Air Act, s. 6-25.

¹³⁶³ *Ibid.*, s. 6-7. An Integrated Air Quality Improvement Framework and Air Quality Action Plan was issued through DENR Administrative Order No. 2000-82.

strategies for implementing the control and management measures.¹³⁶⁴ The air quality plans are based on ‘airsheds’ sharing either “similar climate, meteorology, and topology which affect the interchange and diffusion of pollutants,” or “areas which share common interest or face similar development programs, prospects, or problems.”¹³⁶⁵ A multi-sectoral Governing Board chaired by the DENR and composed of representatives of LGUs, national government agencies, people’s organizations, NGOs, and the private sector is tasked with policy formulation, planning, and coordination for the airsheds.¹³⁶⁶ “Non-attainment areas,” where air pollution levels are already excessive and should therefore not be allowed new sources of air pollution and instead subject to reduction programs, may also be designated.¹³⁶⁷

The DENR may issue permits for prevention and abatement of air pollution, as well as to set emission quotas and financial guarantee mechanisms for environmental rehabilitation.¹³⁶⁸ Measures of management of stationary and mobile sources of pollution such as automobiles are also included.¹³⁶⁹ The Clean Air Act also provides for rules on the filing of administrative and judicial actions against polluters,¹³⁷⁰ aside from penalizing violations.¹³⁷¹

Under the Clean Air Act, LGUs “share the responsibility in the management and maintenance of air quality within their territorial jurisdiction.”¹³⁷² Although the Act recognizes “the primary responsibility of local government units to deal with

¹³⁶⁴ *Ibid.*, s. 8.

¹³⁶⁵ *Ibid.*, s. 9.

¹³⁶⁶ *Ibid.*

¹³⁶⁷ *Ibid.*, s. 10.

¹³⁶⁸ *Ibid.*, s. 16-17.

¹³⁶⁹ *Ibid.*, s. 18-25.

¹³⁷⁰ *Ibid.*, s. 40-44.

¹³⁷¹ *Ibid.*, s. 45-48.

¹³⁷² *Ibid.*, s. 36.

environmental problems,”¹³⁷³ the “share” is mainly in terms only of enforcement of the air quality standards set by the Governing Board.¹³⁷⁴ However, LGUs are to be consulted with respect to the designation of airsheds¹³⁷⁵ and non-attainment areas,¹³⁷⁶ and participate in the planning and preparation of climate change action plans.¹³⁷⁷

The Clean Air Act also introduced two major innovations in Philippine environmental law. The first is by enumerating a very detailed set of environmental rights to good air quality.¹³⁷⁸ The second is by providing for independent citizen suits, in addition to

¹³⁷³ *Ibid.*, s. 2, 2nd para.

¹³⁷⁴ *Ibid.*, s. 36.

¹³⁷⁵ *Ibid.*, s. 9.

¹³⁷⁶ *Ibid.*, s. 10.

¹³⁷⁷ *Ibid.*, s. 31.

¹³⁷⁸ *Ibid.*, s. 4:

SEC. 4. Recognition of Rights. - Pursuant to the above-declared principles, the following rights of citizens are hereby sought to be recognized and the State shall seek to guarantee their enjoyment:

- (a) The right to breathe clean air;
- (b) The right to utilize and enjoy all natural resources according to the principles of sustainable development;
- (c) The right to participate in the formulation, planning, implementation and monitoring of environmental policies and programs and in the decision-making process;
- (d) The right to participate in the decision-making process concerning development policies, plans and programs projects or activities that may have adverse impact on the environment and public health;
- (e) The right to be informed of the nature and extent of the potential hazard of any activity, undertaking or project and to be served timely notice of any significant rise in the level of pollution and the accidental or deliberate release into the atmosphere of harmful or hazardous substances;
- (f) The right of access to public records which a citizen may need to exercise his or her rights effectively under this Act;
- (g) The right to bring action in court or quasi-judicial bodies to enjoin all activities in violation of environmental laws and regulations, to compel the rehabilitation and cleanup of affected area, and to seek the imposition of penal sanctions against violators of environmental laws; and

administrative proceedings, for civil, criminal, or administrative actions against private persons or government agencies and personnel who violate the Act.¹³⁷⁹ A corresponding protection from “suits and strategic legal actions against public participation” (SLAPP suits in American environment law parlance) or harassment suits against the complainants, is also provided.¹³⁸⁰

5.3.4.3.2 *Solid Waste*

The Ecological Solid Waste Management Act¹³⁸¹ promotes a systematic, comprehensive, and ecological solid waste management program for the Philippines.¹³⁸² It establishes as National Solid Waste Management Commission under the Office of the President, composed of 14 members from the government and three from the private sector.¹³⁸³ The Commission is tasked, among others, with the preparation of a national solid waste management framework, approve local solid waste management plans and review or monitor their implementation, and coordinate and assist local waste management boards.¹³⁸⁴ A National Ecology Center assists in this functions to provide consulting, information, training, and networking services for implementation of the law.¹³⁸⁵

The Solid Waste Management Act recognizes the “primary” role of LGUs in enforcement and responsibility for solid waste management.¹³⁸⁶ At the provincial level, a multi-

(h) The right to bring action in court for compensation of personal damages resulting from the adverse environmental and public health impact of a project or activity.

¹³⁷⁹ Clean Air Act, s. 41-42.

¹³⁸⁰ *Ibid.*, s. 43.

¹³⁸¹ Ecological Solid Waste Management Act, Rep. Act No. 9003 (2001) [Solid Waste Management Act]. The rules and regulations detailing the implementation of the Act are contained in DENR Administrative Order No. 2001-34.

¹³⁸² Solid Waste Management Act, s. 2.

¹³⁸³ *Ibid.*, s. 4.

¹³⁸⁴ *Ibid.*, s. 5.

¹³⁸⁵ *Ibid.*, s. 7.

¹³⁸⁶ *Ibid.*, s. 2(g) and s. 10.

sectoral Provincial Solid Waste Management Board composed of representatives of the province, congressional districts, NGOs, recycling industry, packaging and manufacturing industry, and relevant national government agencies is responsible for solid waste management planning and may recommend executive and legislative measures to implement it.¹³⁸⁷ Similar multi-sectoral City and Municipal Solid Waste Management Boards undertake the same functions at their levels.¹³⁸⁸

The Act then prescribes in great detail the components of local solid waste management plans,¹³⁸⁹ including detailed rules of permissible and non-permissible methods of disposal such as segregation of wastes.¹³⁹⁰ It regulates the collection and transportation of wastes,¹³⁹¹ recycling and eco-labelling,¹³⁹² recovery of materials and composting,¹³⁹³ and waste management facilities.¹³⁹⁴ Tax and other financial incentives are provided for by the Act in order to promote environmentally friendly industries, businesses, and practices.¹³⁹⁵ Aside from providing for prohibited acts and penalties, including administrative sanctions against erring government officials, the Act also allows private citizens with grievances to take legal action on their own.¹³⁹⁶ Like the Clean Air Act before it, the Solid Waste Management Act permits the filing of independent citizen suits for civil, criminal, and administrative cases against private persons, government officials

¹³⁸⁷ *Ibid.*, s. 11.

¹³⁸⁸ *Ibid.*, s. 12.

¹³⁸⁹ *Ibid.*, s. 17.

¹³⁹⁰ *Ibid.*, s. 19-22.

¹³⁹¹ *Ibid.*, s. 23-25.

¹³⁹² *Ibid.*, s. 26-32.

¹³⁹³ *Ibid.*, s. 32-35.

¹³⁹⁴ *Ibid.*, s. 36-44.

¹³⁹⁵ *Ibid.*, s. 45.

¹³⁹⁶ *Ibid.*, s. 52-53.

and agencies that violate its provisions or its implementation.¹³⁹⁷ SLAPP suits are also prohibited.¹³⁹⁸

5.3.4.3.3 Water

Philippine water pollution laws currently comprise legislation of varied vintage, and may be categorized into two: the new Clean Water Act¹³⁹⁹ that deals primarily with land-based sources of water pollution, and the older Marine Pollution Decree¹⁴⁰⁰ that deals with vessel-source pollution in the marine areas.

The Clean Water Act rounds out the triumvirate of recent anti-pollution legislation. It is primarily designed for abatement and control of land-based sources of water pollution in all water bodies of the archipelago.¹⁴⁰¹ Similar to the airshed concept in the Clean Air Act, it seeks a more integrated management of water quality based on “water quality management areas.”¹⁴⁰² These areas are based on physiographic units such as watersheds, river basins, or water resource regions having similar hydrological, hydrogeological, meteorological, or geographic conditions that influence the effects and diffusion of pollutants, or that “share common interests or face similar development programs, prospects, or problems.”¹⁴⁰³ “Non-attainment areas” where pollution levels already exceed water quality guidelines and should be subject to reduction programs may also be designated.¹⁴⁰⁴

¹³⁹⁷ *Ibid.*, s. 52.

¹³⁹⁸ *Ibid.*, s. 53.

¹³⁹⁹ *Clean Water Act*, R.A. 9275 (2004) .

¹⁴⁰⁰ *Marine Pollution Decree*, P.D. 979 (1976) .

¹⁴⁰¹ *Clean Water Act*, s. 3.

¹⁴⁰² *Ibid.*, s. 5.

¹⁴⁰³ *Ibid.*.

¹⁴⁰⁴ *Ibid.*, s. 6. The same provision provides for one exception, however: discharges may be allowed in non-attainment areas where the pollutant is naturally occurring, such as naturally high boron and other elements in geothermal areas. In these cases, the

A multi-sectoral Governing Board is constituted for each water quality management area, composed of representatives of the LGUs, relevant national government agencies, an NGO, the water utility sector, and the business sector.¹⁴⁰⁵ Its main function is to formulate and implement a water quality management area action plan.¹⁴⁰⁶ It is supported in its functions by a four member technical secretariat composed of a lawyer, a specialist in chemistry, a specialist in ground-water hydrology, and a biologist, geologist, or other scientist in a closely related field.¹⁴⁰⁷

Water quality standards are to be established by the DENR for all water bodies, as well as effluent standards for all industries.¹⁴⁰⁸ However, in the case of the geothermal and petroleum industries, the DENR “may provide variance in water quality criteria and standards” for as long as there is “adequate protection for beneficial use of waters bodies” downstream of a project.¹⁴⁰⁹

The national government is also required to prepare a National Sewerage and Septage Management Program to guide and coordinate sewerage and septage projects for LGUs.¹⁴¹⁰ LGUs are to appropriate the necessary lands and raise funds for operating expenses for sewage or septage treatment facilities.¹⁴¹¹ Existing water supply and sewerage facilities and concessionaires in highly urbanized cities like Metro Manila are required to interconnect all sewerage lines for collection, treatment and disposal.¹⁴¹²

pollution should not exceed the natural levels of pollution in the area, and should not affect water supply, public health, and ecological protection.

¹⁴⁰⁵ *Ibid.*, s. 5.

¹⁴⁰⁶ *Ibid.*

¹⁴⁰⁷ *Ibid.*

¹⁴⁰⁸ *Ibid.*, s. 12.

¹⁴⁰⁹ *Ibid.*, s. 11.

¹⁴¹⁰ *Ibid.*, s. 7.

¹⁴¹¹ *Ibid.*

¹⁴¹² *Ibid.*, s. 8.

The Clean Water Act provides for a system of wastewater charges or fees and discharge permits in all management areas in order to influence polluters to control the discharge of wastewater into water bodies.¹⁴¹³ The system allows effluent trading within a management area.¹⁴¹⁴ With the revenues from these charges, the law establishes a National Water Quality Management Fund and Area Water Quality Management Fund to support all management activities at the national and local levels.¹⁴¹⁵

Special provisions concerning EIA are included in the Clean Water Act. The DENR is required to implement “programmatic compliance” in the EIA for areas under development from a series of similar projects, or where the project is subdivided into several stages or components, or consists of a cluster of projects located in the same industrial estate, export processing zone, or development zone under a local land use plan.¹⁴¹⁶ Compliance with the EIA in these instances should be based on “carrying capacity assessments” determined from ecological profiles that “identify the environmental constraints and opportunities,” and “take into account cumulative impacts and risks” in the specified area.¹⁴¹⁷

As with previous two laws, LGUs likewise “share the responsibility in the management and improvement of water quality within their territorial jurisdictions.”¹⁴¹⁸ The LGU prepares the compliance scheme for the water quality management area action plan that affects it. Through its Environment and Natural Resource Office (or other designated officer if there is none), the LGU is also responsible for monitoring water quality, emergency response, compliance with the action plan, participation in all efforts for water quality protection and rehabilitation, and coordination with other government agencies

¹⁴¹³ *Ibid.*, s. 13-14. Notably, the 2nd para. of Section 13 expressly exempts geothermal exploration from the wastewater charge system.

¹⁴¹⁴ *Ibid.*, s. 14, 3rd para.

¹⁴¹⁵ *Ibid.*, s. 9-10.

¹⁴¹⁶ *Ibid.*, s. 17.

¹⁴¹⁷ *Ibid.*

¹⁴¹⁸ *Ibid.*, s. 20.

and civil society for implementation of water pollution prevention and control measures.¹⁴¹⁹

Private initiative and participation is encouraged through an incentives system for business and industry, particularly if they introduce “innovative equipment and processes” for reducing or eliminating water pollution.¹⁴²⁰ A rewards system is also opened for individuals and organizations who undertake “outstanding and innovative projects, technologies, processes and techniques or activities” in water quality management.¹⁴²¹ A fiscal and tax incentive scheme is also available for LGUs, water districts, enterprises, and private entities and individuals to develop or participate in effective water quality management programs.¹⁴²²

The Clean Water Act includes penal provisions for water pollution and violation or non-compliance with water quality management plans and standards,¹⁴²³ as well as administrative sanctions against LGU officials who do not comply with the action plans.¹⁴²⁴ But unlike the Clean Air Act and Solid Waste Management Act, it does not provide for citizen suits and protection from SLAPP suits; it only mentions administrative actions by the DENR.¹⁴²⁵ This is admittedly odd considering that the Clean Air and Solid Waste Management acts acknowledge the need for such mechanisms; and there is little explanation for this omission.¹⁴²⁶

¹⁴¹⁹ *Ibid.*

¹⁴²⁰ *Ibid.*, s. 21.

¹⁴²¹ *Ibid.*, s. 25.

¹⁴²² *Ibid.*, s. 26.

¹⁴²³ *Ibid.*, s. 27-28.

¹⁴²⁴ *Ibid.*, s. 29.

¹⁴²⁵ *Ibid.*, s. 30.

¹⁴²⁶ However, it is unlikely that this will prevent citizen suits over water quality, as demonstrated by the case of *MMDA v. Concerned Citizens*, *supra* Note 1267, that was initiated at the trial court long before the Clean Water Act was enacted.

Turning to marine pollution, the Marine Pollution Decree remains the primary law “to prevent and control the dumping of wastes and other matter into the sea which can cause hazards to human health, harm living resources and marine life, damage amenities, or interfere with other legitimate uses of the sea within the territorial jurisdiction of the Philippines.”¹⁴²⁷ It deals chiefly with vessel-source pollution such as oil, noxious gaseous and liquid substances, as well as garbage and any other refuse.¹⁴²⁸ The Philippine Coast Guard has primary responsibility for enforcement of the decree, although the DENR through the EMB is also mandated to coordinate and cooperate in the enforcement of its provisions and the enactment of implementing rules and regulations, as well as the enforcement of water quality standards in marine waters.¹⁴²⁹ The Philippine Coast Guard also operates the National Oil Pollution Operations Center, which responds to oil spills and other marine pollution incidents.¹⁴³⁰

Civil liability for accidental vessel-source pollution is governed by the Oil Pollution Compensation Act.¹⁴³¹ It establishes a strict liability regime for oil pollution damage, covering the reasonable expenses for clean-up, preventive measures against further damage, loss of earnings suffering by property owners, pure economic losses, and damage to human health and loss of life including costs of studies or diagnoses to determine long-term damage, and environmental damages and costs of restoration.¹⁴³² The Act also incorporates provisions of the 1992 Civil Liability Convention and the 1992 Fund Convention into the national law.¹⁴³³ Actions for compensation may be filed in the regular courts against the ship-owner or insurer of the polluting vessel.¹⁴³⁴ Indigent

¹⁴²⁷ Marine Pollution Decree, s. 2.

¹⁴²⁸ *Ibid.*, s. 4.

¹⁴²⁹ *Ibid.*, s. 6; also Clean Water Act, s. 22.

¹⁴³⁰ *National Oil Pollution Operations Center Decree*, P.D. 602 (1974), s. 8.

¹⁴³¹ *Oil Pollution Compensation Act*, R.A. 9483 (2007).

¹⁴³² *Ibid.*, s. 6.

¹⁴³³ *Ibid.*, s. 4.

¹⁴³⁴ *Ibid.*, s. 17-19.

clients are expressly exempt from the associated costs of filing and maintaining such action for pollution damages.¹⁴³⁵

5.3.4.3.4 *Climate Change*

The new Climate Change Act¹⁴³⁶ “adopts the principle of protecting the climate system for the benefit of humankind, on the basis of climate justice or common but differentiated responsibilities and the precautionary principle to guide decision-making in climate risk management.”¹⁴³⁷ It is in express compliance with the UNFCCC, especially

... (r)ecognizing the vulnerability of the Philippine archipelago and its local communities, particularly the poor, women, and children, to potential dangerous consequences of climate change such as rising seas, changing landscapes, increasing frequency and/or severity of droughts, fires, floods and storms, climate-related illnesses and diseases, damage to ecosystems, biodiversity loss that affect the country’s environment, culture, and economy...¹⁴³⁸

To this end, the Philippines intends to involve both national and local governments, businesses, NGOs, local communities, and the general public in its efforts to mitigate and adapt to climate change.¹⁴³⁹ The Act provides the means integrating climate change mitigation and adaptation, as well as disaster risk reduction, into the government’s policy formation, development plans, poverty reduction strategies, and other policies and programs for sustainable development.¹⁴⁴⁰ All these must be undertaken on the basis of a “gender-sensitive, pro-children and pro-poor perspective.”¹⁴⁴¹

¹⁴³⁵ *Ibid.*, s. 17.

¹⁴³⁶ R.A. 9729 (2009).

¹⁴³⁷ *Ibid.*, s. 2, 2nd para.

¹⁴³⁸ *Ibid.*, s. 2, 3rd para.

¹⁴³⁹ The law actually states that the purpose of the State is “to prevent and reduce the adverse impacts of climate change and at the same time, maximize the benefits of climate change.” *Ibid.*, s. 2, 3rd para.

¹⁴⁴⁰ *Ibid.*, s. 2, 3rd and 5th para.

¹⁴⁴¹ *Ibid.*, s. 2, 4th para.

The Act establishes a Climate Change Commission chaired by the President, and three Commissioners who must be experts in climate change coming from different sectors.¹⁴⁴² It is an independent and autonomous body tasked “to coordinate, monitor and evaluate the programs and action plans of the government relating to climate change.”¹⁴⁴³ Supporting it is an advisory board composed of all members of the Cabinet, the Chair of the National Commission on the Role of Women, the different presidents of the Leagues of Provinces, Cities, Municipalities, and *Barangay*, and representatives from the academe, business sector, and NGOs.¹⁴⁴⁴ In addition, various national government agencies such as the Department of Education, Department of Interior and Local Government, and Department of Environment and Natural Resources are assigned key tasks in information dissemination, education, training, and capacity-building.¹⁴⁴⁵ Funding mechanisms for both local and national levels are included in the Act.¹⁴⁴⁶

The Commission has extensive powers and functions for policy formulation, coordination, planning, capacity-building, research, and information dissemination, education, and communication.¹⁴⁴⁷ It is required to formulate a detailed Framework Strategy for Climate Change in accordance with international commitments, which is the basis for government activities “to protect vulnerable communities from the adverse effects of climate change.”¹⁴⁴⁸ This should be developed and implemented in coordination with NGOs, civic organizations, academe, people’s organizations, the private and corporate sector, and other stakeholder groups.¹⁴⁴⁹

¹⁴⁴² *Ibid.*, s. 5 and 7.

¹⁴⁴³ *Ibid.*, s. 4, 2nd para.

¹⁴⁴⁴ *Ibid.*, s. 5.

¹⁴⁴⁵ *Ibid.*, s. 15.

¹⁴⁴⁶ *Ibid.*, s. 14, last para., and s. 17-18.

¹⁴⁴⁷ *Ibid.*, s. 10.

¹⁴⁴⁸ *Ibid.*, s. 11-12.

¹⁴⁴⁹ *Ibid.*, s. 16.

LGUs are described as “frontline agencies in the formulation, planning and implementation of climate change actions plans in their respective areas.”¹⁴⁵⁰ All LGUs are given specific tasks: *barangay* to prioritize climate change issues and implement best practices and other solutions, municipalities and cities to consider climate change adaptation as among their regular governmental functions, provinces to provide technical assistance, enforcement, and information management to support its component LGUs.¹⁴⁵¹ They are required to have regularly updated action plans and mobilize and allocate personnel, resources, and logistics to implement such plans.¹⁴⁵² The national government is obliged to extend technical and financial assistance to the LGUs for this purpose.¹⁴⁵³

The Climate Change Act is the latest manifestation of the close integration of social justice to environment policy in Philippine law. The explicit reference to climate justice, which is then directly associated with common but differentiated responsibilities and the precautionary principle, marks the Act’s environmental goals as prompted by more fundamental considerations of justice more than the science behind the advocacy for climate change action. In the Philippines, media attention and public perceptions of climate change have especially emphasized both the vulnerability of the country to natural disasters and the need for adaptation,¹⁴⁵⁴ including historical and continuing disparity between developing and developed States in GHG emissions.¹⁴⁵⁵

¹⁴⁵⁰ *Ibid.*, s. 14.

¹⁴⁵¹ *Ibid.*, s. 14, 2nd para.

¹⁴⁵² *Ibid.*, s. 14, 3rd para.

¹⁴⁵³ *Ibid.*, s. 14, 5th para.

¹⁴⁵⁴ Indeed, disaster and climate change have practically been inseparable in recent media reportage. See for example, "UN Names Salceda 'Champion' of Climate Change Adaptation." *Philstar.com* (06 June 2010), online: <<http://www.philstar.com/Article.aspx?articleId=581657&publicationSubCategoryId=77>>; Nonoy E. Lacson, "Zambo Hosts Climate Change Summit," *Manila Bulletin* (01 February 2010), online: <<http://www.mb.com.ph/articles/241500/zambo-hosts-climate-change-summit>>; "Philippines Raises Climate Change Awareness." *The Manila Times* (20 November 2009), online:

5.3.2 National Executive Functions

At the national level, the responsibility for implementing all Philippine environmental laws and policies largely falls upon the Department of Environment and Natural Resources (DENR). The overall policy for the environment is set in the DENR Act,¹⁴⁵⁶ which declares it the policy of the State:

...to ensure the sustainable use, development, management, renewal, and conservation of the country's forest, mineral, land, off-shore areas and other natural resources, including the protection and enhancement of the quality of the environment, and equitable access of the different segments of the population to the development and use of the country's natural resources, not only for the present generation but for future generations as well. It is also the policy of the state to recognize and apply a true value system including social and environmental cost implications relative to their utilization, development and conservation of our natural resources.¹⁴⁵⁷ (emphasis added)

In defining the general mandate of the DENR, EO 192 highlights that “in addition to conservation, management, development, and proper use of the country’s environment and natural resources,” the DENR is also responsible “to ensure equitable sharing of the benefits derived therefrom for the welfare of the present and future generations of Filipinos.”¹⁴⁵⁸ This firmly integrates the social justice policy of the 1987 Constitution into

<<http://www.manilatimes.net/index.php/lifestyle/6276-philippines-raises-climate-change-awareness>>; "Climate Change Behind Twin Disasters in RP - UN Official." *GMA News.TV* (13 October 2009), online:

<<http://www.gmanews.tv/story/174489/climate-change-behind-twin-disasters-in-rp-un-official>>.

¹⁴⁵⁵ Yasmin Arquiza and Pia Faustino, "Arroyo: Philippines Most in Danger From Climate Change," *GMA News.TV* (18 December 2009), online:

<<http://www.gmanews.tv/story/179670/arroyo-philippines-most-in-danger-from-climate-change>>; Ruffy Villanueva, "Developed Countries Reluctant to Take Lead Vs Climate Change," *GMA News.TV* (13 March 2008), online:

<<http://www.gmanews.tv/story/84681/developed-countries-reluctant-to-take-lead-vs-climate-change>>.

¹⁴⁵⁶ E.O. 192 (1987) [DENR Act].

¹⁴⁵⁷ *Ibid.*, s. 3

¹⁴⁵⁸ *Ibid.*, s. 4.

the environmental mandate and functions of the DENR. The basic objectives of this mandate are detailed:

1. Assure the availability and sustainability of the country's natural resources through judicious use and systematic restoration or replacement, whenever possible;
2. Increase the productivity of natural resources in order to meet the demands for forest, mineral, and land resources of a growing population;
3. Enhance the contribution of natural resources for achieving national economic and social development;
4. Promote equitable access to natural resources by the different sectors of the population;
5. Conserve specific terrestrial and marine areas representative of the Philippine natural and cultural heritage for present and future generations.¹⁴⁵⁹

A host of powers are granted the DENR, encompassing advisory, regulatory, policy- and rule-making, adjudicatory, proprietary, exploratory, administrative, law enforcement, monitoring, and others, over all aspects of the environment and natural resources.¹⁴⁶⁰

Notable among them are powers to “promote proper and mutual consultation with the private sector involving natural resources development, use and conservation,”¹⁴⁶¹ and establish policies or implement programs for the “equitable distribution of natural resources...that would benefit a greater number of Filipinos”¹⁴⁶² and the “encouragement of greater people participation and private initiative in natural resources management.”¹⁴⁶³ These authorize the DENR to take its own initiatives to promote ecological social justice.

¹⁴⁵⁹ *Ibid.*, s. 4.

¹⁴⁶⁰ *Ibid.*, s. 5.

¹⁴⁶¹ *Ibid.*, s. 5(f).

¹⁴⁶² *Ibid.*, s. 5(h), ss. 2

¹⁴⁶³ *Ibid.*, s. 5(h), ss. 6.

Among all Philippine executive departments, the DENR has one of the largest bureaucracies. The Department proper comprises the Office of the Secretary, together with Undersecretaries and Assistant Secretaries for various functions, a Public Affairs Office, Special Concerns Office, and a Pollution Adjudication Board. Within the department are staff sectoral bureaus composed of the Forest Management Bureau, Lands Management Bureau, Mines and Geosciences Bureau, Environmental Management Bureau, Ecosystems Research and Development Bureau, and Protected Areas and Wildlife Bureau.¹⁴⁶⁴ It also has field offices composed of the department's Regional Offices, the Provincial Offices, and even Community Offices organized per geographic district.¹⁴⁶⁵

Despite the impressive range of powers and functions under DENR, however, the DENR must often contend with LGU jurisdictions. The enactment of the Local Government Code did not clearly specify terms by which powers would be divided between the DENR and LGUs. Unlike other agencies, the DENR did not devolve any of its significant functions to the LGUs and in fact retained the Community Environment and Natural Resource Offices (CENROs). But on account of the provisions of the Local Government Code, as explained in Section 5.4.2 below, the LGUs are primarily responsible for environmental quality and management within their local territories. At the very least, the DENR must consult with the LGUs on all projects and activities that could affect the local environment.¹⁴⁶⁶

More contentious though is the extent of the DENR's jurisdiction over the coastal and marine area adjacent to the LGUs, due to the latter's specific jurisdictions over municipal waters, which may clash with the DENR's general and residual jurisdiction over environment and natural resources. This is compounded by the lack of capacity on the part of the DENR to carry out marine environment and resource management related

¹⁴⁶⁴ *Ibid.*, s. 6.

¹⁴⁶⁵ *Ibid.*, s. 6.

¹⁴⁶⁶ *Local Government Code*, s. 26-27.

functions; these were lost when the BFAR was transferred from DENR to the Department of Agriculture. Frictions may arise given the fact that ocean spaces are often subject to multiple overlapping uses. For example, the DENR's policies and decisions about protected areas encompassing marine waters may not be entirely consistent with the LGU's policies and decisions for its municipal waters. Although mechanisms such as consultation and membership in multi-sectoral advisory bodies are available, certain objectives may prove difficult to reconcile especially if local stakeholders' livelihoods are involved.¹⁴⁶⁷

The various environmental laws to date also show that the DENR often cannot act alone and unilaterally in major environmental activities such as those relating to any one of the three pollution Acts. As shown repeatedly, multi-sectoral bodies that include representatives of the LGUs and civil society oversee the environmental planning and regulatory activities at the local level. These multi-sectoral "partnership bodies" provide additional, comprehensive, and technical level inputs to the DENR's policy- and decision-making processes. Although the final policies and decisions ultimately rest upon the DENR, technically there should be adequate opportunities for intervening in the process of crafting and finalizing those policies and decisions such as inter-agency and multi-sectoral meetings and consultations. The trend of resorting to multi-sectoral bodies or councils to address environmental problems was confirmed most recently in the Climate Change Act.

5.3.3 Local Management

Consistent with the general policy of decentralization and promotion of local autonomy, the Local Government Code provides the different levels of LGUs with the general mandate to take care of the environment within their respective territorial jurisdictions through both the local chief executives and the *sanggunian* (local legislative council).

¹⁴⁶⁷ Fisheries is probably the most obvious example of an issue over which LGUs and the DENR can clash. Protection requires limits to fish catch and activities, which may not sit well with subsistence fishers.

5.4.2.1 Local Legislative Jurisdiction

All local legislatures have their own committees on environmental protection,¹⁴⁶⁸ through which the municipalities and cities are to provide basic local government services such as waste disposal and environmental management systems for health and sanitation purposes,¹⁴⁶⁹ and enforcement of forestry laws on community-based forestry projects, pollution control, small-scale mining in the case of provinces and cities.¹⁴⁷⁰ Except for the *barangay*, all *sanggunian* are also empowered to enact ordinances to protect the environment and penalize violations within their respective territorial jurisdictions.¹⁴⁷¹ Provinces are additionally empowered to adopt local measures and safeguards for pollution and preservation of the natural ecosystem in the province.¹⁴⁷²

5.4.2.2 Local Executive Functions

At the village-level, all *barangay* officials (the local chief executive, legislators, and mediators/conciliators) are considered as “persons in authority” who are charged, among others, with “the maintenance of a desirable and balanced environment.”¹⁴⁷³ But the *punong barangay* (local chief executive) is particularly empowered to “enforce laws and regulations relating to pollution control and protection of the environment.”¹⁴⁷⁴

¹⁴⁶⁸ *Local Government Code*, s. 50(b), ss. 1.

¹⁴⁶⁹ *Ibid.*, s. 17(b), ss. 2(vi).

¹⁴⁷⁰ *Ibid.*, s. 17(b), ss. 3(iii) and s. 17(b), ss. 4

¹⁴⁷¹ *Ibid.*, s. 447(a), ss. 1(vi); s. 458(a), ss. 1(vi); s. 468(a), ss. 1(vi). However, these penalties are decidedly small, as the maximum fine that the municipality may impose is 2,500 PHP, while the maximum duration of imprisonment that it may impose by local ordinance is only six months; in cities the fine is 5,000 PHP and imprisonment up to one year. *Ibid.*, s. 447(a), para. (1) ss. iii and 458(a), para. (1) ss. iii.

¹⁴⁷² *Ibid.*, s. 468(a), ss. 4(i).

¹⁴⁷³ *Ibid.*, s. 388.

¹⁴⁷⁴ *Ibid.*, s. 389(b), ss. 9.

At the city, municipal, and provincial levels, LGUs may appoint their own respective Environment and Natural Resources Officers.¹⁴⁷⁵ These officers assist in crafting and enforcing local environmental legislation, ensure the delivery of technical assistance, aid in local environmental planning, and discharge specific local environmental management functions.¹⁴⁷⁶ Other officers such as the Agriculturist and the Architect are also required

¹⁴⁷⁵ *Ibid.*, s. 443(b); s. 454(b); s. 463(b).

¹⁴⁷⁶ *Ibid.*, s. 484(b):

(b) The environment and natural resources management officer shall take charge of the office on environment and natural resources and shall:

- (1) Formulate measures for the consideration of the sanggunian and provide technical assistance and support to the governor or mayor, as the case may be, in carrying out measures to ensure the delivery of basic services and provision of adequate facilities relative to environment and natural resources services as provided for under Section 17 of this Code;
- (2) Develop plans and strategies and upon approval thereof, by the governor or mayor, as the case may be, implement the same, particularly those which have to do with environment and natural resources programs and projects which the governor or mayor is empowered to implement and which the sanggunian is empowered to provide for under this Code;
- (3) In addition to the foregoing duties and functions, the environment and natural resources officer shall:
 - (i) Establish, maintain, protect and preserve communal forests, watersheds, tree parks, mangroves, greenbelts and similar forest projects and commercial forest, like industrial tree farms and agro-forestry projects;
 - (ii) Provide extension services to beneficiaries of forest development projects and technical, financial and infrastructure assistance;
 - (iii) Manage and maintain seed banks and produce seedlings for forest and tree parks;
 - (iv) Provide extension services to beneficiaries of forest development projects and render assistance for natural resources-related conservation and utilization activities consistent with ecological balance;
 - (v) Promote the small-scale mining and utilization of mineral resources, particularly mining of gold;

to coordinate with both national government agencies and non-government organizations to ensure that the exercise of their respective functions and implementation of projects are “compatible with environmental integrity.”¹⁴⁷⁷ These offices and functions, combined with their standard regulatory and legislative jurisdictions, provide LGUs with significant legal powers to manage the local environment within its territorial jurisdiction.

5.4.2.3 Consultations on the Ecological Balance

Another major innovation introduced by the Local Government Code as part of its policy of devolution is the establishment of duties on the part of national government agencies and government-owned or controlled corporations to consult with LGUs regarding national projects that affect local environmental quality. This is contained in provisions laying ground rules on the relations between national government agencies and LGUs:

Section 26. Duty of National Government Agencies in the Maintenance of Ecological Balance. - It shall be the duty of every national agency or government-owned or controlled corporation authorizing or involved in the planning and implementation of any project or program that may cause pollution, climatic change, depletion of non-renewable resources, loss of crop land, rangeland, or forest cover, and extinction of animal or plant

(vi) Coordinate with government agencies and non-governmental organizations in the implementation of measures to prevent and control land, air and water pollution with the assistance of the Department of Environment and Natural Resources;

(4) Be in the frontline of the delivery of services concerning the environment and natural resources, particularly in the renewal and rehabilitation of the environment during and in the aftermath of man-made and natural calamities and disasters;

(5) Recommend to the sanggunian and advise the governor or mayor, as the case may be, on all matters relative to the protection, conservation maximum utilization, application of appropriate technology and other matters related to the environment and natural resources; and

(c) Exercise such other powers and perform such other duties and functions as may be prescribed by law or ordinance.

¹⁴⁷⁷ *Ibid.*, s. 482(b), ss. 3(v) and s. 485(b), ss. 3(iii).

species, to consult with the local government units, nongovernmental organizations, and other sectors concerned and explain the goals and objectives of the project or program, its impact upon the people and the community in terms of environmental or ecological balance, and the measures that will be undertaken to prevent or minimize the adverse effects thereof.

Section 27. *Prior Consultations Required.* - No project or program shall be implemented by government authorities unless the consultations mentioned in Sections 2 (c) and 26 hereof are complied with, and prior approval of the *sanggunian* concerned is obtained: Provided, That occupants in areas where such projects are to be implemented shall not be evicted unless appropriate relocation sites have been provided, in accordance with the provisions of the Constitution.¹⁴⁷⁸ (emphasis added)

The duty to consult also extends to civil society groups, in accordance with the reference by Section 27 above to the Local Government Code's general declaration of policy:

(c) It is likewise the policy of the State to require all national agencies and offices to conduct periodic consultations with appropriate local government units, non-governmental and people's organizations, and other concerned sectors of the community before any project or program is implemented in their respective jurisdictions.¹⁴⁷⁹ (emphasis added)

Together, these provisions result in an unavoidable requirement for multi-stakeholder consultations prior to the implementation of any program or project of the national government that could have adverse local environmental implications. They apply independently of the requirements in other environment laws, such as the Philippine EIS System, and tend to establish a dual layer of consultation. Under these provisions, consultations are conducted through public hearings similar to those held by local *sanggunian* for the crafting of local ordinances. The project proponent may also require additional consultations outside the public hearing process. In the case of *Lina v. Paño*,¹⁴⁸⁰ the Supreme Court interpreted these consultation requirements restrictively to

¹⁴⁷⁸ *Ibid.*, s. 26-27.

¹⁴⁷⁹ *Ibid.*, s. 2(c).

¹⁴⁸⁰ [2001], S.C. 129093, 364 S.C.R.A. 76. The ruling was reiterated in *Bangus Fry Fisherfolk v. Lanzanas* [2003], S.C. 131442, 453 P.R. 479.

only those national programs and projects that affect particular local communities, and only if such programs and projects fall within the six categories described in Section 26.¹⁴⁸¹ However, when such prior consultations are required, the national government cannot be compelled to approve or issue licenses for projects that the LGUs expressly do not want in their areas. Recently, the Supreme Court interpreted local approval by all the *sanggunian* concerned as an essential legal requirement in the case of *Alvarez v. PICOP Resources*,¹⁴⁸² as follows:

The approval of the *Sanggunian* concerned is required by law, not because the local government has control over such project, but because the local government has the duty to protect its constituents and their stake in the implementation of the project. Again, Section 26 states that it applies to projects that "may cause pollution, climatic change, depletion of non-renewable resources, loss of crop land, rangeland, or forest cover, and extinction of animal or plant species." The local government should thus represent the communities in such area, the very people who will be affected by flooding, landslides or even climatic change if the project is not properly regulated, and who likewise have a stake in the resources in the area, and deserve to be adequately compensated when these resources are exploited.¹⁴⁸³

This recent ruling recognizes not only that the national government has a duty to consult the LGUs on projects with ecological impacts, but more importantly, LGUs have a right to veto such projects. The Court's interpretation strengthens the position of the LGUs *vis-à-vis* the national government in major projects that negatively could affect the local environment, and shifts the main burden and accountability for environmental protection to the local levels.

The restrictive interpretation of the Court in *Lina* however raises an important question: does the duty to consult apply equally to programs and projects intended or expected to have *positive* environmental effects, such as habitat enhancement or species protection?

¹⁴⁸¹ *Lina* at 86-87.

¹⁴⁸² [2009], S.C. 162243, online:
<<http://sc.judiciary.gov.ph/jurisprudence/2009/december2009/162243.htm>>

¹⁴⁸³ *Ibid.*

The enumeration in s. 26 is quite clearly phrased in the negative, implying that contrary programs and projects legally do not trigger the duty to consult. However, it is likely that such consultations will still take place and LGUs will still demand consultations if they are not held, since the national government necessarily have to depend on the cooperation and perhaps the support of the LGUs for successful implementation of any such programs or projects.

5.3.4 Judicial Environmental Activism

From the various cases mentioned so far, it would seem that since the early 1990s under the leadership of former Chief Justice Hilario Davide,¹⁴⁸⁴ the Judiciary has on occasion taken a vocal and activist stance with respect to environmental issues and cases and made strategic contributions to Philippine environmental law.¹⁴⁸⁵ In this manner, the Supreme Court directly contributed to molding and elevating environmental rights from mere theory to actual enforceability. The rise of “judicial environmental activism” on the part of the Supreme Court correlates directly with the elevation of the right to a healthful and balanced ecology to a constitutional policy under the 1987 Constitution, which the Court had the opportunity to characterize as a “specific fundamental right” in *Minors Oposa v. Secretary of Environment and Natural Resources*. The Court clearly enunciated the policy of intervention on behalf of the environment especially in the face of government error or inaction early on in *Ysmael & Co. v. Deputy Executive Secretary*, where it declared:

(S)hould the appropriate case be brought showing a clear grave abuse of discretion on the part of the officials of the DENR and related bureaus with respect to the implementation of this public policy of conservation

¹⁴⁸⁴ Chief Justice Davide was the *ponente* of the *Oposa* decision.

¹⁴⁸⁵ This is not to say, however, that the Supreme Court’s record is clearly on the side of the environment. Apart from the cases cited in this chapter, the Court has also decided some cases in ways that raise valid and substantial questions about the Court’s announced dedication and consistency. See Dante B. Gatmaytan, “Artificial Judicial Environmental Activism: *Oposa V. Factoran* as Aberration” (2007) 17 Ind. Int’l & Comp. L. Rev. 1.

enshrined in the 1987 Constitution, the Court will not hesitate to step in and wield its authority, when invoked, in the exercise of judicial powers under the Constitution.¹⁴⁸⁶

This highlights the potential that interrelated constitutional principles on social justice and environment for enlarging the scope of judicial review in a way that adds strength to environment policy. *Oposa* opened the gates for intervention in the traditionally grey area of environmental legal action, allowing the use of judicial power to make fundamental innovations in environmental rights and to expand the availability of judicial remedies to ordinary citizens.

The Supreme Court took the initiative to promote this view among judiciaries in Southeast Asia by organizing the *Southeast Asian Justices Symposium: The Law on Sustainable Development* in May 1999. On this occasion, Chief Justice Davide advocated that courts should exercise the judicial power of interpretation with an environmental bias:

(T)he Judiciary in Southeast Asia must have the will to apply and interpret environmental laws with a view to the protection and preservation of the environment...I alluded to this will as [a] “preferential option for the environment.” In the Philippines this is not difficult to pursue as environmental laws are based on the police power of the State, or the power of promoting the public welfare by restraining and regulating the use of liberty or property.¹⁴⁸⁷

¹⁴⁸⁶ *Ysmael* at 685.

¹⁴⁸⁷ Hilario Davide, “The Judiciary and the Environment in the Third Millennium” (1999) Special Edition Court Systems Journal 332 at 333. The Court Systems Journal is a Philippine journal published by the Supreme Court of the Philippines to disseminate digests of its rulings and resolutions to all lower courts, as well as administrative circulars, memoranda, or other information for the use and guidance of the Philippine Judiciary. The trial court in *Concerned Citizens v. MMDA*, *supra* Note 1267, referred to this particular issue of the Court Systems Journal as one of the source materials to justify its reasoning.

It should be noted that the “preferential option for the environment” is clearly an adaptation of the phrase “preferential option for the poor,” one of the main principles of Catholic Church’s social teachings and a key element of the papal encyclicals on

The Court's interpretation of *locus standi* as extending to minors on behalf of future generations based on a (then-unprecedented) concept of intergenerational responsibility shows that the "preferential option" could introduce substantive innovations. The "preferential option" enabled the Court to prevent procedural issues from being used to thwart environmental protection efforts.¹⁴⁸⁸ For example, the Court applied a liberal standard of burden of proof in the case of water pollution in *Pollution Adjudication Board v. Court of Appeals*.¹⁴⁸⁹ In this case the Court justified the issuance of an *ex parte* cease-and-desist order against a firm discharging wastewater into a river on the basis of only *prima facie* evidence that the discharge was exceeding standards, even without further proof such as chemical analysis. It considered that to require further proof and litigation would defeat the purpose of giving timely relief to those affected.¹⁴⁹⁰

In other cases, the "preferential option" led the Court to also refuse to make hair-splitting distinctions in the interpretation of statutes that would have negated the objective of environmental protection.¹⁴⁹¹ This was done in *Mustang Lumber v. Court of Appeals* where the petitioner, accused of possession of illegally cut timber under the forestry law, sought to quash a criminal charge by distinguishing "timber" from "lumber" and arguing that its possession of the latter was not prohibited.¹⁴⁹² In the case of *Paat v. Court of*

social justice. See Pope John Paul II, *Centesimus Annus, on the Hundredth Anniversary of Rerum Novarum, 01 May 1991*. (The Vatican: Libreria Editrice Vaticana, 1991), s. 11; referring to Pope John Paul II, *Sollicitudo Rei Socialis, for the Twentieth Anniversary of "Populorum Progressio," 30 December 1987*. (The Vatican: Libreria Editrice Vaticana, 1987). The religious connotation is not surprising, since Chief Justice Davide is a devout Catholic.

¹⁴⁸⁸ Flerida Ruth Romero, "The Role of the Judiciary in Promoting the Rule of Law in the Area of Environmental Protection" (1999) Special Edition Court Systems Journal 94 at 96.

¹⁴⁸⁹ [1991], S.C. 93891, 195 S.C.R.A. 112 at 123-24.

¹⁴⁹⁰ Romero, *supra* Note 1488 at 98-99.

¹⁴⁹¹ *Ibid.* at 96-97.

¹⁴⁹² [1996], S.C. 104988, 327 P.R. 214..

Appeals, the Court denied the remedy of *replevin* from a petitioner who sought to recover illegally cut timber from the DENR's impoundment.¹⁴⁹³

Aside from establishing an interpretative rule that favors the protection of individuals, the existence of the right to a healthy and balanced ecology has also amplified the assertion of collective rights. It justified the Court's support for and encouragement of local environmental protection in the case of *Tano v. Provincial Governor of Palawan*¹⁴⁹⁴ that upheld local ordinances prohibiting the transportation of fish caught by destructive fishing practices through an LGU's territory. The Court praised the concerned LGUs for exhibiting great political will in enacting the ordinances in the hope that other LGUs would follow their example.¹⁴⁹⁵ However, this did not mean a complete and indiscriminate endorsement of only local efforts for environmental protection. In the case of *Laguna Lake Development Authority v. Court of Appeals*,¹⁴⁹⁶ the Court upheld the power of the LLDA, a special agency with management jurisdiction over the largest freshwater lake in the Philippines that bordered several LGUs, to issue injunctions against the latter to prevent the dumping of garbage into the lake. The Court deemed the interest in maintaining the integrity of the unique ecosystem of Laguna Lake, through the LLDA, to outweigh the interest in local autonomy.¹⁴⁹⁷ Here the Court demonstrated a keen awareness of the need to relate the assertion of collective rights with the appropriate geographic scale and needs of sound environmental management.

The judicial environmental activism of the Davide Court in the 1990s is presently book-ended by a similar activism on the part of the Supreme Court under Chief Justice Reynato Puno, on whose watch the latest environmental precedents have been decided. Especially

¹⁴⁹³ [1997], S.C. 111107, 334 P.R. 146.

¹⁴⁹⁴ [1997], S.C. 110249, 343 P.R. 670.

¹⁴⁹⁵ Romero, *supra* Note 1488 at 97.

¹⁴⁹⁶ [1994], S.C. 110120, 231 S.C.R.A. 292.

¹⁴⁹⁷ Romero, *supra* Note 1488 at 98.

in its final year,¹⁴⁹⁸ the Puno Court has taken a very active interest in judicial reforms in various areas such as access to justice, human rights, and environmental advocacy. Chief Justice Puno agrees with the classification of the right to a healthy environment as one of the “third generation human rights” in the nature of collective rights arising as an offshoot of globalization,¹⁴⁹⁹ and argues that any group may demand these rights against any State, individual, group, or community.¹⁵⁰⁰ The enforcement of these rights depends in large measure upon judicial process. In his speech before the Asian Justices Forum on Environment hosted by the Supreme Court in May 2007,¹⁵⁰¹ Chief Justice Puno described the importance of the judiciary by referring to the Johannesburg Principles on the Role of Law and Sustainable Development:¹⁵⁰²

¹⁴⁹⁸ Chief Justice Reynato Puno retired from office on 18 May 2010, having led the Court since December 2006.

¹⁴⁹⁹ Reynato Puno. "No turning back on human rights." (Presented at the *University Convocation*, Silliman University, Dumaguete City, 25 August 2007) at 2. A copy of this speech is also accessible online at <http://www.salongacenter.org/human_rights.php> Date accessed: 01 April 2010. The classification originated in the 1980s after it was proposed by Karel Vasak in his article Karel Vasak, "Human Rights: A Thirty Year Struggle. The Sustained Efforts to Give Force of Law to the Universal Declaration of Human Rights" (1977) 30 UNESCO Courier 11. See also Stephen Marks, "Emerging Human Rights: A New Generation for the 1980s" (1981) 33 Rutgers L. Rev. 435; Louis B. Sohn, "New International Law: Protection of the Rights of Individuals Rather Than States" (1982) 32:1 Am. U. L. Rev. 1; Jack Donnelly, "In Search of the Unicorn: The Jurisprudence and Politics of the Right to Development" (1985) 15 Cal. W. Int'l. L. J. 473; Jennifer A. Downs, "A Healthy and Ecologically Balanced Environment: An Argument for a Third Generation Right" (1993) 3 Duke J. Comp. Int'l. L. 351; and Carl Wellman, "Solidarity, the Individual and Human Rights" (2000) 22 Human Rights Quarterly 639.

¹⁵⁰⁰ Puno, "No turning back on human rights," *ibid.* at 4.

¹⁵⁰¹ John Paul Galang, "SC hosts Asian Justices Forum on Environment," *Supreme Court* online: <<http://sc.judiciary.gov.ph/publications/benchmark/2007/07/070703.php>> Last updated: 31 July 2007 (Date accessed: 10 March 2010).

¹⁵⁰² A copy of the Johannesburg Principles is available at Global Judges Symposium, "The Johannesburg Principles on the Role of Law and Sustainable Development," *United Nations Environment Program* online:

(L)et us remember the Johannesburg Principles approved in the Global Judges Symposium on Sustainable Development held in Johannesburg, South Africa, in August 2002. The principles stressed that “an independent judiciary and judicial process is vital for the implementation, development and enforcement of environmental law....” It further emphasized that “the fragile state of the global environment requires the Judiciary, as the guardian of the Rule of Law, to boldly and fearlessly, implement and enforce applicable international and national laws, which, in the field of environment and sustainable development will assist in alleviating poverty and sustaining an enduring civilization, and ensuring that the present generation will enjoy and improve the quality of life of all peoples, while also ensuring that the inherent rights and interests of succeeding generations are not compromised.”¹⁵⁰³

Pursuing this line of thought, in January 2008 the Supreme Court designated 117 special “environmental courts” to try environmental cases,¹⁵⁰⁴ with the judges and court personnel receiving special training in Philippine environmental law from the Philippine Judicial Academy.¹⁵⁰⁵ The following year in April 2009, it convened a nation-wide seminar entitled “Forum on Environmental Justice: Upholding the Right to a Healthful and Balanced Ecology.” It took place simultaneously in three cities in Luzon, Visayas and Mindanao via video conferencing, attended by the judges of the environmental courts and participants from NGOs, government, alternative legal groups, and other stakeholders.¹⁵⁰⁶ The Forum solicited inputs directly from stakeholders in the justice system on how to fulfill the constitutional mandate to protect the right to a healthful and

<<http://www.unep.org/law/symposium/Principles.htm>> Last updated: 20 February 2007 (Date accessed: 01 March 2010).

¹⁵⁰³ Reynato Puno. "Below one heaven, above one earth." (Presented at the *Asian Justices Forum on the Environment: Sharing Experiences to Strengthen Environmental Adjudication in Asia*, Pasig City, 05 July 2007).

¹⁵⁰⁴ *Designation of Environmental Courts*, SC AO 23-2008 (2008)

¹⁵⁰⁵ Leila Salvarria, "SC Identifies 117 Environmental Courts," *Philippine Daily Inquirer* (13 January 2008).

¹⁵⁰⁶ Erika T. Dy and Abigail T. Sze, "Chief Justice, United States Ambassador among the speakers; High Court convenes Forum on Environmental Justice," *Supreme Court* online:

<<http://sc.judiciary.gov.ph/publications/benchmark/2009/03/030901.php>> Last updated: 31 March 2009 (Date accessed: 10 March 2010).

balanced ecology.¹⁵⁰⁷ As a result, the Supreme Court approved a special Rule of Procedure for Environmental Cases on 29 April 2010.¹⁵⁰⁸

The new Rules introduce a number of procedural innovations by formalizing judicial precedents, and providing completely new remedies specially designed for environmental cases. For example, citizens suits may be made by “(a)ny Filipino citizen in representation of others, including minors or generations yet unborn.”¹⁵⁰⁹ The Court may issue an Environmental Protection Order, or a Temporary Environmental Protection Order in matters of extreme urgency.¹⁵¹⁰ The reliefs in a citizen suit include “the protection, preservation or rehabilitation of the environment” which could include requiring the violator “to submit a program of rehabilitation or restoration of the environment, the costs of which shall be borne by the violator, or to contribute to a special trust fund for the purpose subject to the control of the court.”¹⁵¹¹ The Court may issue a Writ of *Kalikasan*,¹⁵¹² in favor of any person whose right to a healthful and balanced ecology is violated or threatened, involving “environmental damage of such magnitude as to prejudice the life, health or property of inhabitants in two or more cities or provinces.”¹⁵¹³ The Court may also issue an extraordinary Writ of Continuing *Mandamus*,¹⁵¹⁴ for cases where the government or any of its officers or agencies neglect the performance of lawful duties “in connection with the enforcement or violation of an environmental law or regulation or a right therein, or unlawfully excludes another from

¹⁵⁰⁷ *Ibid.*

¹⁵⁰⁸ Norman Bordadora, "SC Eyes New Writ to Speed Up Environmental Cases," *Philippine Daily Inquirer* (31 January 2010). See *Rules of Procedure for Environmental Cases*, A.M. 09-6-8-SC (2010) [Rules for Envi. Cases].

¹⁵⁰⁹ Rules for Envi. Cases, Rule 2, s. 5.

¹⁵¹⁰ *Ibid.*, Rule 2, s. 8.

¹⁵¹¹ *Ibid.*, Rule 5, s. 1.

¹⁵¹² *Ibid.*, Rule 7. ‘*Kalikasan*’ is the Filipino word for ‘Nature’.

¹⁵¹³ *Ibid.*, Rule 7, s. 1.

¹⁵¹⁴ *Ibid.*, Rule 8.

the use or enjoyment of such right.”¹⁵¹⁵ In addition, the Court provides for the application of other proceedings such as criminal prosecution,¹⁵¹⁶ mediation,¹⁵¹⁷ civil actions,¹⁵¹⁸ provisional remedies,¹⁵¹⁹ and protection against SLAPP suits.¹⁵²⁰ The Rules further require the application of the Precautionary Principle in cases where there is a lack of full scientific certainty.¹⁵²¹ Of note are the standards laid by the Court for application of the principle:

SEC. 2. *Standards for application.*- In applying the precautionary principle, the following factors, among others, may be considered: (1) threats to human life or health; (2) inequity to present or future generations; or (3) prejudice to the environment without legal consideration of the environmental rights of those affected.¹⁵²² (emphasis added)

From both the case law and the expressions of its recent leaders, it is clear that the Supreme Court’s judicial environmental activism is founded upon the existence of the collective right to a healthful and balanced ecology, which in turn is an integral part of the social justice policy of the 1987 Constitution. There is therefore a direct relationship between the Court’s inclination to establish precedents in favor of the environment and its duty to promote and uphold social justice.

¹⁵¹⁵ *Ibid.*, Rule 8, s. 1.

¹⁵¹⁶ *Ibid.*, Rule 9.

¹⁵¹⁷ *Ibid.*, Rule Rule 3, s. 3.

¹⁵¹⁸ *Ibid.*, Rule 10.

¹⁵¹⁹ *Ibid.*, Rule 13.

¹⁵²⁰ *Ibid.*, Rule 6.

¹⁵²¹ *Ibid.*, Rule 20.

¹⁵²² *Ibid.*, Rule 20, s. 2.

5.4 Philippine Ocean Laws

5.4.1 In General

Since the Philippines is an archipelago, a plethora of laws are applicable to coastal and marine resources and uses. It is very likely that several of them would be involved in the implementation of any particular technology in any coastal or marine space.

5.4.2 Principal Legislation

For the purposes of this research, the focus is on the special legislation for coastal or ocean uses principally and directly relevant to a typical Philippine coastal community. These are the laws on fisheries, biodiversity conservation, inter-tidal resources, tourism, and marine transportation.

5.4.2.1 Fisheries

As expected from the country's archipelagic nature, fisheries are one of the oldest and most important economic sectors, on average contributing 4-5% to the GDP.¹⁵²³ Fish provides more than 50% of the population's total protein intake.¹⁵²⁴ Fishing is the most important ocean resource use for coastal communities, where poverty is rampant. Four out of ten coastal residents live below the poverty line, and municipal fisherfolk earn only half the national average annual household income.¹⁵²⁵ The equitable allocation of fishery resources is therefore a matter of supreme local, not only national, interest. Figure 12 shows the fisheries ecosystem boundaries identified by the national government, overlaid with the 15km municipal waters and indicating areas undergoing the highest rate of exploitation by the commercial fishing sector.

¹⁵²³ World Bank, *Philippine Environment Monitor 2005: Coastal and Marine Resource Management*. (Washington DC: World Bank, 2005) at 13.

¹⁵²⁴ *Ibid.* at 30.

¹⁵²⁵ *Ibid.* at ix, 30.

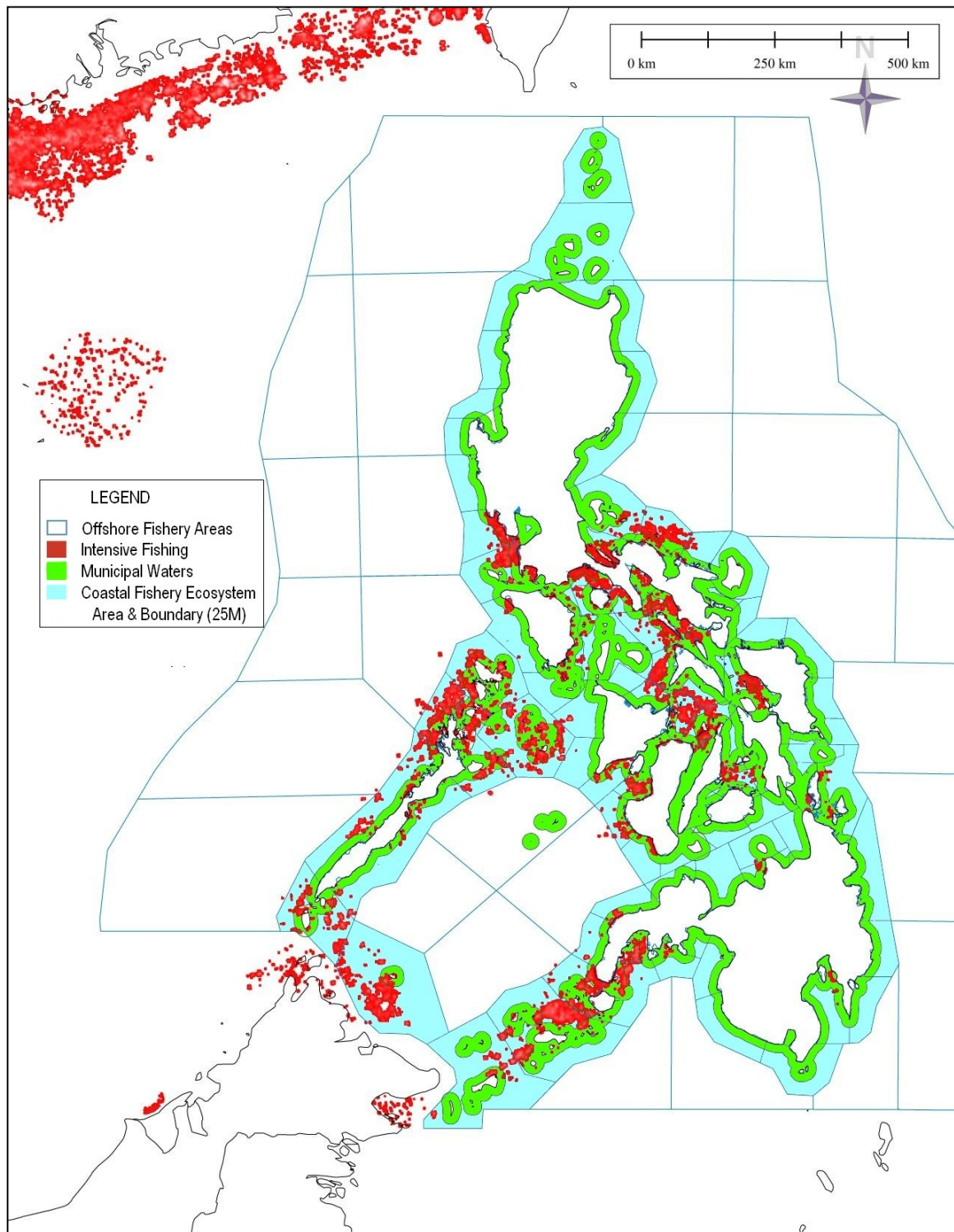


Figure 12. Philippine fisheries ecosystem boundaries up to 25 nautical miles from shore, the 15 km municipal waters under local management jurisdiction, and areas subject to highest intensity of commercial fishing effort. Sources: NFRDI (fisheries ecosystem boundaries) and NASA DSMP satellite data (commercial fishing effort).

Not shown is the range of fishing activities by the artisanal or municipal fishing sector, for whom the municipal waters are exclusively reserved by law. The map vividly indicates the intensity and distribution of fishing activities, signaling that any ocean energy development activities of any kind anywhere in the country will almost certainly affect fisheries and potentially raise issues of social justice.¹⁵²⁶

The Fisheries Code¹⁵²⁷ is the primary law on fisheries in the Philippines. Its overriding policy goal is to achieve food security through the rational management and sustainable development of fishery resources, and the limitation of access to fisheries to Filipino citizens.¹⁵²⁸ It specifically implements the Constitutional mandate to protect the rights of fisherfolk to preferential use of their municipal waters, and against foreign intrusion.¹⁵²⁹

The key government agencies responsible for managing Philippine fisheries are the LGUs and the national government through the Department of Agriculture's Bureau of Fisheries and Aquatic Resources (DA-BFAR). In the exercise of their respective management functions, the Fisheries Code provides for public participation through the Fisheries and Aquatic Resources Management Council (FARMC) comprised of representatives of the LGU, NGO, private sector, and a majority of fisherfolk organizations or cooperatives.¹⁵³⁰ Each city or municipality must have a multi-sectoral

¹⁵²⁶ See Jay L. Batongbacal, "Legal Aspects and a Proposed Strategy for the Establishment of an Ecosystem Approach to Fisheries (EAF) Management in the Philippines," *OneOcean.Org* online: http://www.oneocean.org/overseas/201004/legal_aspects_and_proposed_strategy.html Last updated: 30 April 2010 (Date accessed: 27 June 2010). Areas undergoing high rates of exploitation by commercial fisheries are identified through DMSP Nighttime Lights Time Series data downloaded from the National Oceanic and Atmospheric Administration's National Geophysical Data Center online, at <http://www.ngdc.noaa.gov/dmsp/downloadV4composites.html>.

¹⁵²⁷ Fisheries Code, R.A. 8550 (1998) [Fisheries Code].

¹⁵²⁸ *Ibid.*, s. 2.

¹⁵²⁹ *Ibid.*, s. 2(d) and 2(e).

¹⁵³⁰ *Ibid.*, s. 75:

FARMC in the locality.¹⁵³¹ The FARMC assists in municipal fisheries development planning and fisheries law enforcement, and advises the *sanggunian* on fishery matters and recommends the enactment of fishery ordinances.¹⁵³² At the national level, similar to the city and municipal FARMC, a National FARMC assists the DA-BFAR in fisheries policy planning and decision-making.¹⁵³³

The Fisheries Code divides jurisdiction between LGUs and the national government along geographical and technological lines. The geographical division is marked by a boundary extending seaward up to a maximum of 15 km from the shoreline. This encloses the “municipal waters,” which also include the inland waters such as rivers, lakes, and streams.¹⁵³⁴ Each city or municipality exercises fisheries management

Sec. 75. Composition of the M/CFARMC. - The regular member of the M/CFARMCs shall be composed of:

- a. Municipal/City Planning Development Officer;
- b. Chairperson, Agriculture/Fishery Committee of the Sanggunian Bayan/Panlungsod;
- c. representative of the Municipal/City Development Council;
- d. representative from the accredited non-government organization;
- e. representative from the private sector;
- f. representative from the Department of Agriculture; and
- g. at least eleven (11) fisherfolk representatives: seven (7) municipal fisherfolk, one (1) fishworker and three (3) commercial fishers) in each municipality/city which include representative from youth and women sector.

The Council shall adopt rules and regulations necessary to govern its proceedings and election.

¹⁵³¹ *Ibid.*, s. 69.

¹⁵³² *Ibid.*, s. 74-75. In cases of bays, gulfs, lakes, rivers and dams bounded by two or more LGUs, Integrated FARMCs whose membership are drawn from the bordering LGUs may be created. IFARMCs are similar to city and municipal FARMCs, except that the fisherfolk representation is reduced to 9, which must include representatives from the women and youth sectors.

¹⁵³³ *Ibid.*, s. 70.

¹⁵³⁴ *Ibid.*, s. 4(58).

jurisdiction throughout this 15 km marine zone.¹⁵³⁵ This special jurisdiction impliedly includes ancillary jurisdiction related to fisheries, such as marine environmental management and protection, on account of all-encompassing wording of the law in its grant of jurisdiction.¹⁵³⁶ From the 15 km boundary up to the maximum 200M EEZ,¹⁵³⁷ all remaining marine waters are considered national waters falling under national jurisdiction. The division of fisheries management jurisdiction is consistent with the principles of decentralization and devolution of powers mandated by the Constitutional provisions on local autonomy. National agencies retain their jurisdictions over all other activities such as shipping, offshore infrastructure, mining, and energy development.¹⁵³⁸

Fisheries management is partitioned along technological lines by the classification of fisheries into three sectoral groups: the municipal fisheries,¹⁵³⁹ commercial fisheries,¹⁵⁴⁰ and aquaculture.¹⁵⁴¹ The LGUs exercise primary jurisdiction over the first,¹⁵⁴² while the DA-BFAR is in charge of the latter two.¹⁵⁴³ It is estimated that one million coastal residents and their families are directly dependent on fishing for livelihoods in these

¹⁵³⁵ *Ibid.*, s. 16.

¹⁵³⁶ Jay L. Batongbacal, *Fisheries Management Policy in Relation to Other Resource Management Policies of the Philippines*, ed. Elvira C. Ablaza, 10 vols., vol. 2. Fisheries Resource Management Project Technical Monograph Series (Quezon City: Bureau of Fisheries and Aquatic Resources, 2004) at 16. The Fisheries Code, s. 16 makes the LGUs “responsible for the management, conservation, development, protection, utilization, and disposition of all fish and fishery/aquatic resources within their respective municipal waters.”

¹⁵³⁷ *EEZ Decree*, P.D. 1599 (1978) , in relation to Fisheries Code, s. 2(c).

¹⁵³⁸ See generally Batongbacal 2010.

¹⁵³⁹ Fisheries Code, s. 15-25, 51-53.

¹⁵⁴⁰ *Ibid.*, s. 26-44.

¹⁵⁴¹ *Ibid.*, s. 45-50.

¹⁵⁴² *Ibid.*, s. 16.

¹⁵⁴³ *Ibid.*, s. 29-30,

sectors, 69% in municipal fisheries, 25% in aquaculture, and 6% in commercial fisheries.¹⁵⁴⁴

Municipal fisheries refer to fishing activities undertaken with fishing vessels weighing up to a maximum of three gross tons (3 GT), including fishing without the use of fishing vessels.¹⁵⁴⁵ This includes all fishing done with the use of hand-made wooden boats less than 3 GT in weight, and all forms of traditional fishing with locally-made fishing gear, such as fish traps and corrals.¹⁵⁴⁶ Municipal fishing technologies tend to require less capital and specialization since they are based on traditional materials and knowledge. They tend to be individually-owned or operated and of smaller scale, and there are many different variations of fishing boats and gears across the country depending on the location and type of coastal environment.¹⁵⁴⁷

The Fisheries Code contains several distributive rules that allocate municipal fisheries exclusively to municipal fisherfolk, or persons engaged in municipal fishing,¹⁵⁴⁸ who comprise the majority of the poor in coastal communities. These rules include the reservation of municipal fisheries and grant of fishery privileges to municipal fisherfolk or their organizations and cooperatives;¹⁵⁴⁹ the limitation of entry into municipal waters to resident municipal fisherfolk;¹⁵⁵⁰ and numerous special preferences for the resident municipal fisherfolk organizations and cooperatives.¹⁵⁵¹ These distributive rules

¹⁵⁴⁴ World Bank, *supra* Note 1523 at 30.

¹⁵⁴⁵ Fisheries Code, s. 4(57).

¹⁵⁴⁶ *Ibid.*, s. 51.

¹⁵⁴⁷ See Cesar Allan Vera, Chito Dugan, and Alfredo Bernarte, *Guide to Fishing Gears in the Philippines*. (Quezon City: Sentro para sa Ikauunlad ng Katutubong Agham at Teknolohiya, 2003).

¹⁵⁴⁸ Fisheries Code, 2. 4(56).

¹⁵⁴⁹ *Ibid.*, s. 17.

¹⁵⁵⁰ *Ibid.*, s. 19.

¹⁵⁵¹ *Ibid.*, s. 20-22 (grant of demarcated fishery areas for fish capture, mariculture, fish farming), 45 (fishpond lease agreements), 53 (licenses for fish pens, cages, corrals, and traps in municipal waters).

impliedly recognize the vulnerability to, and special needs of for protection from, competing commercial fishing interests.

Commercial fisheries refer to all fishing undertaken not for subsistence purposes and using vessels of more than three gross tons, authorized outside municipal waters including the high seas.¹⁵⁵² All commercial fishing is regulated by the DA-BFAR which licenses commercial fishing vessels.¹⁵⁵³ Commercial fishing also includes a variety of technologies, from larger scale application of traditional fishing technologies (i.e. use of traditional fishing boats more than 3 gross tons in weight) operating in archipelagic waters and territorial sea, to the use of modern fishing vessels operating in the high seas and EEZs of other States. It is divided into small-, medium-, and large-scale commercial fishing depending on vessel weight and fishing gear.¹⁵⁵⁴ Small (3.1-20 GT) and medium (20.1-150 GT) scale commercial fishing vessels may be permitted by the LGUs to operate in the 10.1 to 15 km zone of municipal waters (if any) more than seven fathoms deep, subject to prior public consultation with the municipal or city FARMC, and certain conditions.¹⁵⁵⁵ This again establishes a distribution, and additionally provides an avenue for public participation in the decision to allow the entry of commercial fishing into the municipal waters that are normally reserved exclusively to municipal fisherfolk.

Aquaculture refers to all forms of raising and culturing fish and aquatic products in fresh, brackish and marine water areas.¹⁵⁵⁶ This covers a wide range and various scales of technologies, from the simple freshwater or brackishwater fishpond to large-scale

¹⁵⁵² *Ibid.*, s. 4(10).

¹⁵⁵³ *Ibid.*, s. 26-33.

¹⁵⁵⁴ *Ibid.*, s. 4(10).

¹⁵⁵⁵ *Ibid.*, s. 18. The additional conditions imposed are that the fishing methods or gears used are subject to national policies set by the DA-BFAR, and the vessel and crew are certified to have not previously violated fishery laws. However, no commercial fishing may be authorized by the LGU if the waters are under closed seasons or are within bays that have been deemed to be in environmentally critical condition.

¹⁵⁵⁶ *Ibid.*, s. 4(3).

mariculture in the open sea using fish cages, as well as pearl and seaweed farming.¹⁵⁵⁷ The scalability of aquaculture operations allow anyone from small fisherfolk cooperatives to commercial fishing corporations to engage in the business. The productive capacity often is proportional to the financial capital invested in aquaculture; for example, up to 70% of expenditures for fishpond operations are spent on feeds.¹⁵⁵⁸ There is less exclusivity and more overlap between LGUs and the DA-BFAR in the regulation of aquaculture, since aquaculture facilities such as fishponds may be located within the municipal land or water territory and thus subject to the cities' and municipalities' general regulatory jurisdiction over all activities within its territory, such as zoning, business licensing, sanitation regulations, and anti-pollution controls. The Fisheries Code likewise includes distributive rules for aquaculture such as a limit to the area of municipal waters that aquaculture may occupy,¹⁵⁵⁹ and a preference for the grant of fishpond lease agreements and licenses for fish pens, cages and traps to municipal fisherfolk organizations or cooperatives.¹⁵⁶⁰

Although the Fisheries Code provides the regulatory framework for exploitation and utilization of fisheries resources, it also includes the legal basis for conservation and protection measures within the respective local and national jurisdictions. In all cases of conservation measures, LGU and national government decisions are always subject to coordination between them and public participation through consultation with the corresponding FARMCs. Thus, either LGUs and the DA-BFAR may establish catch

¹⁵⁵⁷ Food and Agriculture Organization, "National Aquaculture Sector Overview: Philippines," *Food and Agriculture Organization* online: <http://www.fao.org/fishery/countrysector/naso_philippines/en> Last updated: 10 June 2010 (Date accessed: 14 March 2010)..

¹⁵⁵⁸ Rafael D. Guerrero III, "Eco-friendly fish farm management and production of safe aquaculture foods in the Philippines," *Food & Fertilizer Technology Center for the Asian and Pacific Region* online: <<http://www.agnet.org/library/bc/55003/>> Last updated: 12 March 2008 (Date accessed: 14 March 2010)..

¹⁵⁵⁹ Fisheries Code, s. 51 (only in zones designated by the LGU upon consultation with the FARMC, but not more than 10% of the area of lakes and rivers).

¹⁵⁶⁰ *Ibid.*, s. 45 and 53.

ceiling limitations,¹⁵⁶¹ closed seasons,¹⁵⁶² and limit entry into overfished areas¹⁵⁶³ in their respective jurisdictional areas.

All cities and municipalities are empowered to create fishery reserves, refuges and sanctuaries for fisheries and aquatic resources located within their municipal waters.¹⁵⁶⁴ The law requires at least 15% of the total coastal area of each city and municipality be designated as a fish sanctuary.¹⁵⁶⁵ These are essentially marine protected areas at the municipal level. The establishment of fish sanctuaries is a very popular local coastal management tool; it ranks second to law enforcement operations against destructive fishing practices (mainly blast and cyanide fishing) as the most commonly-implemented regulations for marine habitat enhancement.¹⁵⁶⁶ Such measures are heavily promoted for the economic upliftment of fishing communities all over the country through community-based coastal resources management.¹⁵⁶⁷ More than 500 of these small marine protected areas have been set up by LGUs, many of them only since 1995.¹⁵⁶⁸

¹⁵⁶¹ *Ibid.*, s. 8.

¹⁵⁶² *Ibid.*, s. 9.

¹⁵⁶³ *Ibid.*, s. 23.

¹⁵⁶⁴ *Ibid.*, s. 80-81.

¹⁵⁶⁵ *Ibid.*, s. 81.

¹⁵⁶⁶ Porfirio M. Aliño, Andre J. Uychiaoco, and Philreefs 1996-1997 workshop participants, "Philippine Initiatives in the Management of Coral Reefs." In *Atlas of Philippine Coral Reefs*, ed. Porfirio M. Aliño, Evangline F.B. Mielat, Cleto Jr. Nañola, Hilly Ann Roa-Quiaoit, and Reuben T. Campos (Quezon City: Goodwill Trading, 2002) at 18.

¹⁵⁶⁷ *Ibid.* at 19.

¹⁵⁶⁸ The number of these local marine protected areas can only be estimated because of wide variance in local practices as to their designation, coverage, and subject. Aside from fish sanctuaries, they have also been used to establish mangrove forest reserves and tourist zone reserves. University of the Philippines Marine Science Institute, Asian Bureau for Conservation, ASEAN Regional Centre for Biodiversity Conservation, Department of Environment and Natural Resources, and Association of Southeast Asian Nations, *Marine Protected Areas in Southeast Asia*. (Los Baños, Philippines: ASEAN Centre for Biodiversity Conservation - DENR, 2002) at 70.

With respect to marine waters beyond the 15-kilometer municipal waters, the DA-BFAR also has the power to establish fishery reserves, refuges, and sanctuaries.¹⁵⁶⁹ Reserves may be set aside for the exclusive use of the government or any of its political subdivisions, agencies or instrumentalities, or for propagation, educational, research and scientific purposes.¹⁵⁷⁰ Refuges and sanctuaries, on the other hand, are intended to be areas where fishing and other activities which may damage the ecosystem of the area are prohibited, and access thereto restricted.¹⁵⁷¹ At least 25% but not more than 40% of “bays, foreshore lands, continental shelf or any fishing ground” are legally required to be set aside as fish refuge and sanctuaries.¹⁵⁷² These also easily qualify as marine protected areas, depending on the purpose and the kind of measures put in place within its boundaries. However, the DA-BFAR is yet to exercise this power, and to date the only nationally-designated reserves, refuges and sanctuaries are those set up prior to the enactment of the Fisheries Code.¹⁵⁷³

It can be seen that the technological framework for municipal and commercial fisheries management in the Fisheries Code recognizes the inherent diversity of fishing vessels and gears, all of which may be described as variations of the technology of direct resource extraction. Between the original natural state of the fishery resource in Nature and the end-state of consumption (or want-satisfaction, as Polanyi would describe it), the stages of operation of fishing technologies are simply comprised of *extraction* and *transportation*. Intermediate processes of *processing* may also be involved before fishery and aquatic goods may be brought to the market. Conservation and protection technologies on the other hand rely on a combination of techniques of *restrictions* on

¹⁵⁶⁹ Fisheries Code, s. 80-81.

¹⁵⁷⁰ *Ibid.*, s. 80.

¹⁵⁷¹ *Ibid.*, s. 81.

¹⁵⁷² *Ibid.*, s. 81.

¹⁵⁷³ Bureau of Fisheries and Aquatic Resources, "Fisheries Administrative Orders," *Bureau of Fisheries and Aquatic Resources* online: <<http://www.bfar.da.gov.ph/legislation/list.htm>> Last updated: 09 June 2010 (Date accessed: 09 June 2010)..

utilization and *exclusion* of areas from exploitation. These operations are notably subject to specific rules of distribution and participation, both of which mostly tend to direct the fishery resources, or the decision-making, to the the municipal fisherfolk, who are duly recognized and given priority as the beneficiaries of the country's fisheries resources in both utilization and conservation. The public participation mechanisms available through the FARMCs, combined with the regulatory jurisdiction of the LGUs, allow coastal communities especially a significant degree of control and influence over the technologies that may be used within the municipal waters.

5.4.2.2 Bio-diversity Conservation

There are two main laws that provide the legal basis for bio-diversity conservation efforts: the National Integrated Protected Areas System Act (NIPAS Act)¹⁵⁷⁴ used to protect and manage identified habitats and spaces, and the Wildlife Conservation Act¹⁵⁷⁵ that focuses on specific species. As explained in the previous section, certain provisions of the Fisheries Code also allow the establishment of marine protected areas at a local and much smaller scale. Recognizing the existence of multiple pressures upon coastal and marine resources, the national government has identified over 200 key marine biodiversity areas to be subjected to some form of management, conservation, and protection efforts.¹⁵⁷⁶ Figure 13 is an integrated map indicating these sites, spanning a diverse range of species and habitats including corals, sea-grass beds, mangrove stands, and known habitats of rare, threatened or endangered species.¹⁵⁷⁷ This map does not include hundreds of fish sanctuaries established by the LGUs through local

¹⁵⁷⁴ National Integrated Protected Areas System Act, R.A. 7586 (1992) [NIPAS Act].

¹⁵⁷⁵ Wildlife Conservation Act, R.A. 9147 (2001) [Wildlife Conservation Act].

¹⁵⁷⁶ Department of Environment and Natural Resources, Bureau of Fisheries and Aquatic Resources, Conservation International Philippines and Haribon Foundation, *Priority Sites for Conservation in the Philippines: Marine Key Biodiversity Areas (Cd-Rom and Poster)* (Quezon City: Department of Environment and Natural Resources, 2002).

¹⁵⁷⁷ *Ibid.* Digital map data was included in an accompanying CD-ROM.

ordinances;¹⁵⁷⁸ while they may have been intended to support the productivity of local fisheries, they also serve the purpose of conservation and protection.¹⁵⁷⁹

¹⁵⁷⁸ See "List of municipality/city declared marine protected areas (MPAs) in the Philippines," *Coastal Conservation Education Foundation* online: <http://www.coast.ph/userfiles/LOCALmpa_database.pdf> Last updated: 01 May 2009 (Date accessed: 28 March 2010); TheFishSite News Desk, "500 marine protected areas established in Philippines," *TheFishSite* online: <<http://www.thefishsite.com/fishnews/7343/500-marine-protected-areas-established-in-philippines>> Last updated: 04 July 2008 (Date accessed: 30 March 2010); see also Brian Crawford, Miriam Balgos, and Cesario R. Pagdilao, *Community-Based Marine Sanctuaries in the Philippines: A Report on Focus Group Discussions*. (Rhode Island: Coastal Resources Center URI and Philippine Council for Aquatic and Marine Research and Development, 2000).

¹⁵⁷⁹ Since the 1990s, the establishment of local marine protected areas (MPAs) by LGUs has been a standard feature of many local, community-based projects like the Coastal Resource Management Project of the DENR and the Fisheries Resource Management Project of the DA-BFAR. Between 1990 and 2010, the total number of local MPAs grew from around 50 to 985, covering approximately 14,983 sq. km. This was encouraged by early successes in community-based management using local fish sanctuaries and reserves that had both environmental and economic benefits for poor coastal communities dependent on the fisheries. Decades of experience with community-based coastal resource management have led to the 'localization' of integrated coastal management down to the municipal levels. See Alan T. White, Porfirio M. Aliño, and Anna Meneses, *Creating and Managing Marine Protected Areas in the Philippines* (Cebu City: Fisheries for Improved Sustainable Harvest; Coastal Conservation and Education Foundation; University of the Philippines Marine Science Institute, 2006) at 3-5; Alan T. White et al., "Integrated Coastal Management in Philippine Local Governance: Evolution and Benefits" (2006) 34 *Coastal Management* 287; and Rebecca Weeks et al., "Effectiveness of Marine Protected Areas in the Philippines for Biodiversity Conservation" (2009) 24:2 *Conservation Biology* 531 at 533-35.

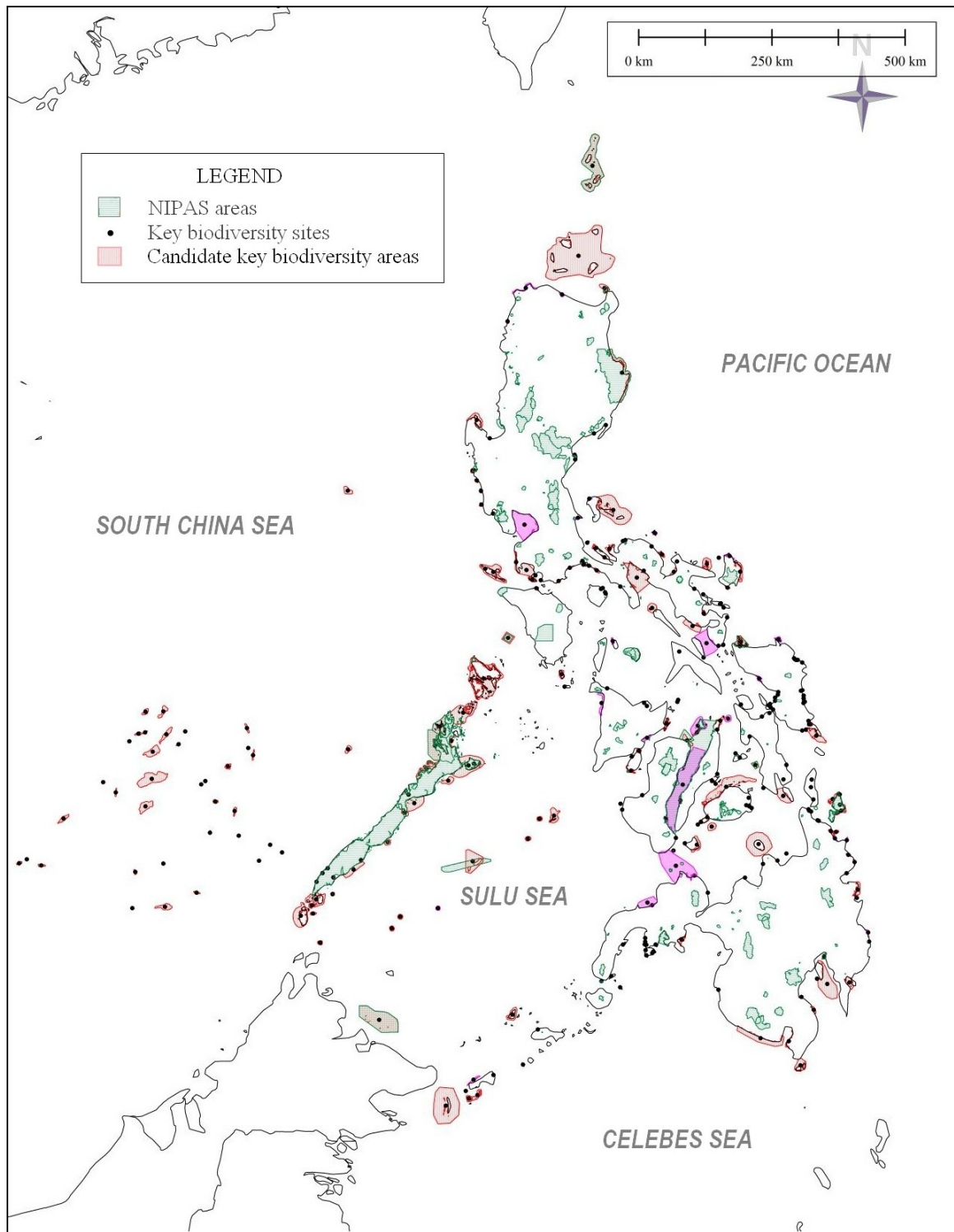


Figure 13. Key terrestrial and marine biodiversity areas in the Philippines, including those currently under the National Integrated Protected Areas System and priority sites for conservation and biodiversity protection. Source: DENR

5.4.2.2.1 *The NIPAS Act*

The NIPAS Act is the law with respect to national parks and reserves, enacted in order to protect areas with natural biological or physical diversities of the environment, notably those with unique biological features to sustain human life and development, as well as animal and plant life.¹⁵⁸⁰ Designated NIPAS sites encompass “outstandingly remarkable areas and biologically important public lands that are habitats of rare and threatened endangered species, bio-geographic zones, and related ecosystems,” on both land and sea.¹⁵⁸¹ There are several categories of protected areas under the NIPAS Act.¹⁵⁸² These include all areas or lands previously declared as national parks, sanctuaries, refuges, reserves, landmarks, protected areas, virgin forests, and watersheds as of 1992,¹⁵⁸³ and additional areas that may be designated pursuant to the law. The DENR initially identified 203 components for the NIPAS; as of June 2007, a total of 105 sites covering 3.3 Million hectares had been proclaimed.¹⁵⁸⁴

¹⁵⁸⁰ NIPAS Act, s. 2.

¹⁵⁸¹ *Ibid.*, s. 2, third paragraph

¹⁵⁸² *Ibid.*, s. 3:

The following categories of protected areas are hereby established:

- a. Strict nature reserve;
- b. Natural park;
- c. Natural monument;
- d. Wildlife sanctuary;
- e. Protected landscapes and seascapes;
- f. Resource reserve;
- g. Natural biotic areas; and,
- h. Other categories established by law, conventions or international agreements [to] which the Philippine Government is a signatory.

¹⁵⁸³ *Ibid.*, s. 5(a).

¹⁵⁸⁴ Protected Areas and Wildlife Bureau, "Facts and Figures," *Department of Environment and Natural Resources* online:
<<http://www.pawb.gov.ph/Facts%20&%20Figures.html>> Last updated: 28 January 2010 (Date accessed: 10 March 2010).

Placing an area under the NIPAS involves a relatively long process, beginning with the DENR's initial identification, mapping, and screening.¹⁵⁸⁵ Notably, a proposal to place an area under the NIPAS must include a forest occupant survey and ethnographic study, in addition to the resource profiles and land use plans.¹⁵⁸⁶ Public consultations and hearings must be held,¹⁵⁸⁷ and the DENR must "give due consideration to the recommendations at the public hearing" and "provide sufficient explanation" in case the recommendations are contrary to the general sentiments that were expressed.¹⁵⁸⁸ If favorably recommended, the President of the Philippines then issues a Presidential Proclamation declaring the area as subject to the NIPAS, and the process will culminate in the enactment of a special law for the area including it within the NIPAS.¹⁵⁸⁹

Each NIPAS site is under the national control and supervision of the DENR, through the Protected Areas and Wildlife Divisions in each of the regional DENR offices,¹⁵⁹⁰ while the Protected Area Management Board (PAMB) directly and locally administers each site.¹⁵⁹¹ The PAMB is a multi-sectoral body chaired by the Regional Executive Director of the DENR, and includes representatives of the LGU within whose jurisdiction the protected area falls, tribal communities, NGO's or local community organizations, and other departments or agencies involved in the protected area.¹⁵⁹² Each PAMB is responsible for formulating and implementing its own Protected Area Management Plan for its designated site.¹⁵⁹³ The law recognizes that local communities such as indigenous peoples and tenured migrants may already be residing in protected areas, and requires the

¹⁵⁸⁵ NIPAS Act, s. 5(a) to 5(d).

¹⁵⁸⁶ *Ibid.*, s. 5(d).

¹⁵⁸⁷ *Ibid.*, s. 5(d), ss. i-iv.

¹⁵⁸⁸ *Ibid.*, s. 5(d), ss. iv

¹⁵⁸⁹ *Ibid.*, s. 5.

¹⁵⁹⁰ *Ibid.*, s. 10.

¹⁵⁹¹ *Ibid.*, s. 11.

¹⁵⁹² *Ibid.*

¹⁵⁹³ *Ibid.*, s. 11.

management plans to provide guidelines for their protection.¹⁵⁹⁴ Indigenous peoples are especially recognized as the most vulnerable groups, since such groups often may be found residing in the areas that should be subject to protection; the Act requires the DENR to accord “due recognition” to ancestral lands and customary rights and interest, and to “have no power to evict indigenous communities from their present occupancy or resettle them to another area without their consent.”¹⁵⁹⁵ This is different from the case of other migrant settlers, who may be resettled by the PAMB outside the protected area site.¹⁵⁹⁶

The NIPAS Act contains a specific provision concerning energy resources. NIPAS sites may be subject to energy exploration to gather information on potential resources on the condition that the exploration activity are conducted in accordance with a program approved by the DENR and produces “least damage to surrounding areas”. The results of exploration must be made public and submitted to the President. Energy resources within NIPAS sites cannot be exploited and utilized, unless authorized by a law passed by Congress.¹⁵⁹⁷

Overall, the technologies involved in the implementation of the NIPAS may be fairly characterized as involving *segregation* of a specific geographic area for the purpose of special regulation, followed by either *exclusion* or non-use of resources as with national parks and sanctuaries, or *restriction* of the ways the resources are used such as in reserves, or a combination of both. The possible adverse social impact of these operations, the most iniquitous of which might be eviction of indigenous peoples, is mitigated by the recognition of the rights of indigenous peoples and the need to protect their rights and those of other tenured migrants.

¹⁵⁹⁴ *Ibid.*, s. 9.

¹⁵⁹⁵ *Ibid.*, s. 13.

¹⁵⁹⁶ *Ibid.*, s. 10(o).

¹⁵⁹⁷ *Ibid.*, s. 14.

5.4.2.2.2 *The Wildlife Conservation Act*

Turning to species conservation, the Wildlife Conservation Act governs the conservation and protection of wildlife species and critical habitats. The law divides jurisdiction over species between the DENR, the Department of Agriculture (DA) acting through the Bureau of Fisheries and Aquatic Resources (BFAR), and the Palawan Council for Sustainable Development (PCSD).¹⁵⁹⁸ The jurisdiction may be deemed to be divided along the waterline, with the DENR having jurisdiction over practically all terrestrial, amphibian, wetland, and avian species, and the DA having jurisdiction over all fisheries and aquatic wildlife except dugong and turtles or tortoises; except for the Province of Palawan where all wildlife in the province is under PCSD jurisdiction.¹⁵⁹⁹ The collection, possession, transportation, importation and exportation, and commercial propagation of wildlife, as well as bio-prospecting and scientific research, are strictly regulated.¹⁶⁰⁰ Rare and threatened species may be identified by the government and placed under special regulatory protection.¹⁶⁰¹

The Wildlife Conservation Act is also notable for permitting LGUs to engage in local species protection. LGUs may adopt locally-endemic species as "flagship species" to symbolize their conservation efforts, and undertake conservation measures to protect such species within their local territory.¹⁶⁰²

The DENR, DA, and PCSD each may independently designate critical habitats within their respective geographic jurisdictions *outside* areas already placed under the NIPAS.¹⁶⁰³ Designated critical habitats are to be protected from all forms of exploitation

¹⁵⁹⁸ *Wildlife Conservation Act*, R.A. 9147 (2001) , s. 4. The PCSD was created by The Strategic Environmental Plan for Palawan (SEPP) Law, discussed below.

¹⁵⁹⁹ *Wildlife Conservation Act*, s. 4.

¹⁶⁰⁰ *Ibid.*, s. 7-17.

¹⁶⁰¹ *Ibid.*, s. 22-24.

¹⁶⁰² *Ibid.*, s. 35.

¹⁶⁰³ *Ibid.*, s. 25.

and destruction that may threaten the survival of species dependent thereon.¹⁶⁰⁴ The Act also provides for the establishment of a fund and various offices to support the conservation of wildlife.¹⁶⁰⁵

The Wildlife Conservation Act essentially depends on *restriction* of the taking of protected species and *exclusion* of their habitats from utilization. These technologies are highly centralized as primary responsibility resides with national agencies (the DENR, DA, and PCSD), although there is a provision for LGU protection of locally endemic species. The centralization may be seen as a logical outcome of the need to protect species and habitats according to the species' range and ecological requirements, which often do not coincide with local political boundaries. However, the provision for local protection may also be seen as a recognition of LGU interests in their own local endemic species. Since the Act applies only to habitats and species located outside NIPAS sites and likely within LGU jurisdiction, consultation with LGUs and other concerned entities is also required in certain cases.¹⁶⁰⁶

5.4.2.2.3 *The Strategic Environmental Plan of Palawan Law*

The Strategic Environmental Plan of Palawan Act¹⁶⁰⁷ is legislation *sui generis* that creates a unique environmental management regime for the island-province of Palawan and sets up the multi-sectoral Palawan Council for Sustainable Development (PCSD) as the administering authority.¹⁶⁰⁸ It is intended to establish a comprehensive framework for the sustainable development of Palawan, with an emphasis on protection and

¹⁶⁰⁴ *Ibid.*

¹⁶⁰⁵ *Ibid.*, s. 29-33.

¹⁶⁰⁶ *Joint Implementing Rules and Regulations of the Wildlife Conservation Act*, Joint DENR-DA-PCSD Administrative Order 1 (2004) , s. 12 (introduction, re-introduction, or restocking of endemic/indigenous wildlife), 14 (bio-prospecting), 20 (issuance and renewable of permits), and 21 (determination of fees and charges).

¹⁶⁰⁷ *Strategic Environmental Plan for Palawan Act*, R.A. 7611 (1992) . [SEPP Act]

¹⁶⁰⁸ *Ibid.*, s. 16.

enhancement of its fragile environment and natural resources.¹⁶⁰⁹ One of its unique features is its enactment into law of its own “Strategic Environmental Plan Philosophy,” defined as “the improvement in the quality of life of its people in the present and future generations through the use of complementary activities of development and conservation ...to allow upcoming generations to sustain development growth.”¹⁶¹⁰ The philosophy has three specific features:

- (1) Ecological viability – The physical and biological cycles that maintain the productivity of natural ecosystems must always be kept intact.
- (2) Social acceptability – The people themselves, through participatory process, should be fully committed to support sustainable development activities by fostering equity in access to resources and the benefits derived from them.
- (3) Integrated approach – This allows for a holistic view of problems and issues obtaining in the environment as well as opportunities for coordination and sharing that will eventually provide the resources and political will to actually implement and sustain SEP activities.¹⁶¹¹

The SEPP Act creates the Environmentally Critical Areas Network (ECAN) as the main strategy for achieving sustainable development.¹⁶¹² The ECAN defines a geographically-delineated and -graded zones for management, protection and development divided into terrestrial, coastal/marine, and tribal ancestral lands, each of which are subdivided into core and other regulated use zones.¹⁶¹³ These zones are managed in accordance with an environmental monitoring and evaluation system supported by environmental research.¹⁶¹⁴ An environmental education and extension program is included “to gradually wean the people away from destructive practices” and encourage

¹⁶⁰⁹ *Ibid.*, s. 4.

¹⁶¹⁰ *Ibid.*, s. 5.

¹⁶¹¹ *Ibid.*

¹⁶¹² *Ibid.*, s. 7.

¹⁶¹³ *Ibid.*, s. 8-11.

¹⁶¹⁴ *Ibid.*, s. 13-14.

alternatives.¹⁶¹⁵ Policy formulation and implementing is vested in the PCSD, supported by the PCSD Staff, based in Puerto Princesa City.¹⁶¹⁶

5.4.2.3 Inter-tidal Areas

Coastal communities often subject inter-tidal areas along the coast to multiple uses; they may host human settlements, serve as storage and berthing areas or areas for ancillary fishing activities like drying and net-weaving, be sources of food or building materials, or many other possible small-scale uses that support community subsistence. The fact that the inter-tidal zone is part of the public domain not subject to private appropriation characterizes it as a coastal ‘commons.’ As a rule, the range of uses permitted is not expressly specified in any law, but fall under the general regulatory powers of the LGU. They may also be subject to customary use and regulation by an adjacent coastal community. However, two major resource uses are regulated by national law: mangrove resources and the foreshore areas.

5.4.2.3.1 *Mangrove resources*

Mangrove areas are legally classified as forest lands subject to the provisions of forestry law enacted back in 1975.¹⁶¹⁷ The term "mangrove" applies to either the type of forest occurring on tidal flat along the sea coast, extending along streams where the water is brackish,¹⁶¹⁸ or the community of inter-tidal plants including all species of trees, shrubs, vines and herbs found on coasts, swamps, or border of swamps.¹⁶¹⁹ However, mangroves that were determined at the time to be not needed for shoreline protection and suitable for fishpond development were placed under the administrative jurisdiction of the DA-

¹⁶¹⁵ *Ibid.*, s. 15.

¹⁶¹⁶ *Ibid.*, s. 19-20.

¹⁶¹⁷ *Revised Forestry Code*, P.D. 705 (1975) .

¹⁶¹⁸ *Ibid.*, s. 3(o).

¹⁶¹⁹ *Ibid.*, s. 4(5).

BFAR.¹⁶²⁰ The government made these available for fishpond development by private persons under fishpond lease agreements. When the Fisheries Code was enacted more than two decades later, it included provisions to address issues with these mangrove areas under the law's provisions on aquaculture.

Areas legally reserved for forest purposes include mangroves within twenty (20) meter strips of land along the edge of the normal high waterline of rivers and streams with channels at least five (5) meters wide;¹⁶²¹ strips of mangrove or swamplands at least twenty (20) meters wide along shorelines facing oceans, lakes, and other bodies of water; and strips of land at least twenty (20) meters wide facing lakes.¹⁶²² Strips of mangrove forest bordering numerous islands which protect the shoreline, the shoreline roads, and even coastal communities from the destructive force of the sea during high winds and typhoons, are required to be maintained and not subject to alienation. Such mangrove swamps set aside for coast-protection purposes cannot be subject to clear-cutting operations.¹⁶²³

Under the Fisheries Code, the alienation and disposition of additional areas of mangroves are prohibited.¹⁶²⁴ The conversion of existing mangrove stands into fishponds or for any other purpose is likewise prohibited.¹⁶²⁵ Only areas released for fishpond development prior to 1998 may be used, but if permitted they should be subject to the EIS System.¹⁶²⁶ Such utilization is under the jurisdiction of the DA-BFAR which issues the Fishpond Lease Agreements (FLA).¹⁶²⁷ Mangroves which were previously released but not utilized, or abandoned for five (5) years from the date of release are mandated by law to revert to

¹⁶²⁰ *Ibid.*, s. 13.

¹⁶²¹ *Ibid.*, s. 16(7).

¹⁶²² *Ibid.*, s. 16(8).

¹⁶²³ *Ibid.*, s. 43.

¹⁶²⁴ Fisheries Code, s. 45.

¹⁶²⁵ *Ibid.*, s. 94.

¹⁶²⁶ EIS Law.

¹⁶²⁷ Fisheries Code, s. 45-46.

the category of forest land.¹⁶²⁸ Even if such areas have already been the subject of Fishpond Lease Agreements, the DENR is required to take steps to revert and restore abandoned, underdeveloped, or under-utilized fishpond areas back to their original mangrove state.¹⁶²⁹

The Fisheries Code includes a redistributive provision which promotes the grant of any remaining FLA areas (e.g. in cases where the FLAs expired or is revoked, but the area is still suitable for aquaculture) to fisherfolk organizations or cooperatives.¹⁶³⁰ This sought to address an imbalance in the law which led to massive tracts of land being appropriated by private interests without being used as fishponds, as originally intended, and became a means for unscrupulous individuals to illegally convert large tracts of fishpond areas into titled lands.¹⁶³¹ However, despite the edict for reversion of unutilized or abandoned fishpond areas, the reversion and reclassification of qualified mangroves back to forest state has yet to be completed.

Mangroves are a prime example of overlapping jurisdictions in Philippine law. Between the DA-BFAR and DENR, a jurisdictional competition arises over fishpond areas that may or may not qualify as unutilized or abandoned and which have not yet been reverted to their original mangrove state; it is in the interest of both agencies to place a parcel under their own jurisdiction. In addition, the LGU also has its own jurisdictional interests over activities that take place within the parcel, such as revenues for the conduct of a fishpond business, sanctuaries or conservation areas for fisheries purposes, or utilization

¹⁶²⁸ Revised Forestry Code, s. 43.

¹⁶²⁹ Fisheries Code, s. 49.

¹⁶³⁰ *Ibid.*, s. 45.

¹⁶³¹ *Ibid.* FLAs may be issued only for lands of the public domain, and as such are not subject to private appropriation.

by the local community. Conservation and management of mangroves stands next to fisheries as the main subjects of coastal resource management in the Philippines.¹⁶³²

5.4.2.3.2 Foreshore areas

The foreshore is defined by the Fisheries Code as “a string of land margining a body of water; the part of a seashore between the low water line usually at the seaward margin of a low tide terrace and the upper limit of wave wash at high tide usually marked by a beach scarp or berm.”¹⁶³³ Laws governing the foreshore are among the most archaic in the Philippines, with some rules dating back to the Spanish Era; they are also among the most scattered, spread across several different codes.¹⁶³⁴

In sum, the foreshore areas of the Philippines are a public commons, over which the law reserves certain easements for the public. As part of the banks and shores of the sea, foreshore lands are property of public dominion¹⁶³⁵ not subject to any form of alienation or disposition except lease.¹⁶³⁶ Such leases are subject to mandatory conditions prescribed by law,¹⁶³⁷ but do not affect any of the public easements over the foreshore.¹⁶³⁸ They are

¹⁶³² See D.M. Melana, J. Atchue III, C.E. Yao, R. Edwards, E.E. Melana, and H.I. Gonzales, *Mangrove Management Handbook* (Quezon City: Department of Environment and Natural Resources, Coastal Resource Management Project, 2000); also J.H. Primavera, "Mangroves and Brackishwater Pond Culture in the Philippines" (1995) 295 *Hydrobiologica* 303; J Primavera, "Development and Conservation of Philippine Mangroves: Institutional Issues" (2000) 35 *Ecological Economics* 91; Bradley B. Walters, "Local Management of Mangrove Forests in the Philippines: Successful Conservation Or Efficient Resource Exploitation" (2004) 32:2 *Human Ecology* 177; Jurgenne H. Primavera, "Mangroves, Fishponds, and the Quest for Sustainability" (2005) 310:5745 *Science* 57.

¹⁶³³ Fisheries Code, s. 4(46).

¹⁶³⁴ See *Chavez v. Public Estates Authority* [2002], S.C. 133250, 433 P.R. 506, 537, 566-568 in which the Court applied provisions of the Spanish Law of Waters of 1866 to litigation in the 21st century.

¹⁶³⁵ *Civil Code*, R.A. 386 (1949), art. 420(1); *Chavez* at 552.

¹⁶³⁶ Public Land Act, C. A. 141 (1936), s. 59; *Chavez* at 547-48.

¹⁶³⁷ *Ibid.*, s. 64.

¹⁶³⁸ *Ibid.*

not subject to private appropriation¹⁶³⁹ and cannot be alienated or encumbered except by legislative action.¹⁶⁴⁰

The use of the foreshore is a public right, and any person may make use of its resources.¹⁶⁴¹ Any rights over the foreshore or its resources may be revoked or rescinded in the interest of common good.¹⁶⁴² The construction of permanent structures in the foreshore or adjacent property is always subject to regulation,¹⁶⁴³ which under present law is a function of the LGUs under the Local Government Code. Under the remaining extant provisions of the archaic Spanish Law of Waters of 1866, the foreshore is subject the public easements of salvage and coast police.¹⁶⁴⁴ The relatively more recent Water Code¹⁶⁴⁵ also subjects the dry lands immediately adjacent to the foreshore to a public easement zone or "setback zone" along the banks of rivers and streams and the shores of the seas and lakes throughout their entire length.¹⁶⁴⁶ Within this area, no person may build structures of any kind, or stay longer than necessary for recreation, navigation, floatage, fishing, salvage.¹⁶⁴⁷

The laws specifically dealing with the foreshore predate the 1987 Constitution, and while it may be said that the reservation of the foreshore as a public commons is a rule of distribution, there are no provisions that could be regarded as signifying rules for either

¹⁶³⁹ *Republic v. Court of Appeals* [2004], S.C. 126316, 432 S.C.R.A. 593.

¹⁶⁴⁰ Public Land Act, s. 61.

¹⁶⁴¹ *Spanish Law of Waters of 1866*, art. 17.

¹⁶⁴² *Ibid.*, art. 21.

¹⁶⁴³ *Ibid.*, art. 22.

¹⁶⁴⁴ The easement of salvage permits the public to deposit articles from shipwrecks or temporarily ground fishing boats, while the easement of coast police requires adjacent property owners to allow the access to the foreshore by means of a right of way of at least six (6) meters. Spanish Law of Waters of 1866, art. 9 and 10.

¹⁶⁴⁵ *Water Code*, P.D. 1067 (1976) .

¹⁶⁴⁶ The width of the zone varies; it is three (3) meters in urban areas, twenty (20) meters in agricultural areas and forty (40) meters in forest areas. *Water Code*, art. 51.

¹⁶⁴⁷ *Ibid.*

participation or recognition. However, even though the foreshore area is part of the public domain, activities taking place on the foreshore such as recreational businesses or fishing are subject to the LGU's local legislative power to regulate the use of property¹⁶⁴⁸ and the conduct of all businesses¹⁶⁴⁹ within its territorial jurisdiction. These powers adequately compensate for whatever may be the shortcomings of the archaic foreshore law with respect to participation or recognition.

5.4.2.4 Tourism

It was in 2009 that the Philippines brought the tourism sector under a systematic regulatory framework through the new Tourism Act.¹⁶⁵⁰ Prior to this, no comprehensive law directly regulated tourism activities in the country. Although a nominal Department of Tourism had existed since 1973, it did not have regulatory or policy-making powers and could only establish and maintain select tourist facilities operated by the national government and promote tourism activities.¹⁶⁵¹ The new Tourism Act transformed the Department of Tourism into a full-pledged department with planning, programming, coordinating, implementing, and regulatory functions¹⁶⁵² supported by a full range of personnel, and staff bureaus and regional offices.¹⁶⁵³ The brand new department indicates the great importance that the government places on the role of the tourism sector in the national economy.

The new law denotes a high priority for eco-tourism particularly. It declares that it is a State policy to promote a tourism industry that is “ecologically sustainable, responsible, participative, culturally sensitive, economically viable, and ethically and socially

¹⁶⁴⁸ *Local Government Code*, s. 447(a), ss. 2(vi), and s. 458(a), ss. 2(vi).

¹⁶⁴⁹ *Local Government Code*, s. 446(a), ss. 3(ii), and s. 458(a), ss. 3(ii).

¹⁶⁵⁰ *Tourism Act*, R.A. 9593 (2009).

¹⁶⁵¹ *Department of Tourism Charter*, P.D. 189 (1973) .

¹⁶⁵² *Tourism Act*, s. 5-6.

¹⁶⁵³ *Ibid.*, s. 7-24.

equitable for local communities.”¹⁶⁵⁴ Two of its stated objectives stand out for their emphasis on both ecological sustainability and social equity:

“(h) Ensure the right of the people to a balanced and healthful ecology through the promotion of activities geared toward environmental protection, conservation, and restoration.

“(i) Develop responsible tourism as a strategy for environmentally sound and community participatory tourism programs, enlisting the participation of local communities, including indigenous peoples, in conserving bio-physical and cultural diversity, promoting environmental understanding and education, providing assistance in the determination of ecotourism sites and ensuring full employment of the benefits of tourism by the concerned communities,”¹⁶⁵⁵ (emphasis added)

The law also taps into the ecotourism potential of the country’s many NIPAS sites, by allowing the Department of Tourism to coordinate with the DENR to identify NIPAS sites with “ecotourism potentials and cultural heritage value,” and prepare plans and programs for their development into “tourism enterprise zones.”¹⁶⁵⁶

The Tourism Act seeks to draw upon public participation through tourism councils and by encouraging the participation of NGOs, people’s organizations, and the private sector to open “programs for tourism development and environmental protection.”¹⁶⁵⁷ It also encourages LGUs in consultation with stakeholders “to utilize their powers” under the Local Government Code in preparing and implementing tourism development plans, enforcing standards and collecting statistical data for tourism purposes.¹⁶⁵⁸ Local tourism plans should “integrate zoning, land use, infrastructure development, the national system of standards for tourism enterprises, heritage and environmental protection imperatives in

¹⁶⁵⁴ *Ibid.*, s. 2(c).

¹⁶⁵⁵ *Ibid.*, s. 3(h) and 3(i).

¹⁶⁵⁶ *Ibid.*, s. 33.

¹⁶⁵⁷ *Ibid.*, s. 3(j).

¹⁶⁵⁸ *Ibid.*, s. 37.

a manner that encourages sustainable tourism development.”¹⁶⁵⁹ These are to be coordinated with national tourism plans, and for these purposes, the Department of Tourism may assist the LGUs by providing financial and technical assistance, training, and capacity-building.¹⁶⁶⁰

For the most part, the Tourism Act does not affect the existing powers of LGUs over tourism within their territorial jurisdiction. The provinces still bear the primary responsibility for tourism development since they are charged with tourism development planning,¹⁶⁶¹ while its component cities and municipalities provide tourist attractions, facilities, security, and equipment, as well as regulate related business concessions.¹⁶⁶² The *barangay* do not have any assigned functions over tourism other than those related to local sanitation or maintaining information centers.¹⁶⁶³ By respecting the LGUs’ existing structure and functions for tourism development, the Tourism Act promotes the distribution of tourism activities and their benefits at the local community level. At the same time, it maintains the mechanisms for participation and recognition in the Local Government Code. No particular technology for tourism is identified, since it is presumed to depend on the specific requirements of the local tourism activity; this means that LGUs retain the flexibility and prerogative to choose and apply those that are relevant and appropriate.

How management of local areas by LGUs will be affected by the new law remains to be seen. At least one multi-sectoral group has announced its rejection of the law for being “integral to the neoliberal agenda that expands the powers of [transnational corporations]

¹⁶⁵⁹ *Ibid.*.

¹⁶⁶⁰ *Ibid.*, s. 35.

¹⁶⁶¹ *Ibid.*, s. 17(b), ss. [3-xii].

¹⁶⁶² *Ibid.*, s. 17(b), ss. [2-xi].

¹⁶⁶³ *Ibid.*, s. 17(b), ss. 1(iii), 1(vi), and 1(vii).

to exploit the people, the culture and the natural resources of the country.”¹⁶⁶⁴ It points out that the tourism policy advanced by the law is linked to the liberalization of service industries under international trade laws and offers the country’s lands, culture, heritage, and natural resources to big business and transnational corporations.¹⁶⁶⁵

Initially, however, it appears that the Tourism Act has provided an avenue for LGUs to seek national government support to facilitate locally-led tourism development. The stated objective of ensuring ecologically sound, culturally sensitive, and equitable tourism industries indicates a significant opportunity for integrating environmental and social values into local tourism development. By relying on the LGUs and not imposing national tourism planning and programming obligations, the law provides an opportunity to promote a tourism industry grounded on the local communities’ needs and interests. It is notable for maintaining and perhaps strengthening decentralization as a means to enhance the tourism sector.

5.4.2.5 Marine Transportation

Aside from resource extraction, domestic and international shipping use practically all Philippine waters very extensively. These maritime highways exist as a matter of long usage and practice, rather than conscious regulation. Most of the basic legislation presently regulating the maritime industry in the Philippines were enacted in the 1970s at the height of authoritarian rule and prior to the 1987 Constitution. Until the present, the Philippines has not managed very actively the national network of maritime routes, other than to designate traffic separation schemes in very important and highly used places such as the Verde Island Passage, and approaches to the main ports like Manila Bay. It was only with the enactment of new legislation last February 2010 that the Philippine Coast Guard (PCG) was finally empowered to rationalize and regulate vessel traffic

¹⁶⁶⁴ Ecumenical Coalition on Tourism and Peace for Life Consultation, "Tourism in the Philippines: a view from the underside," *Peace for Life* online: Last updated: 19 March 2010 (Date accessed: 27 May 2010).

¹⁶⁶⁵ *Ibid.*.

throughout the archipelago.¹⁶⁶⁶ Whether this portends a major overhaul in maritime traffic management throughout the country's archipelagic waters remains to be seen.

Although the PCG now exercises greater enforcement powers, the policy-making and regulatory functions for maritime shipping remain with the Maritime Industry Authority (MARINA) pursuant to Maritime Industry Decree, the Domestic Shipping Development Act, and related laws.¹⁶⁶⁷ MARINA is responsible for the regulation of all Philippine flag vessels, including registration, standards for safety and seaworthiness, service standards, and the like, through the issuance of administrative circulars to ship operators, shipowners, and shipbuilders. Many large steel-hulled vessels sail in Philippines everyday, from old 1950s-era trampers to modern fast ferries. However, for every large seagoing vessel there are hundreds of small- and medium-sized *banca* (wooden-hulled outrigger-equipped vessels common in the Philippines) used by fishermen and small maritime traders and entrepreneurs in coastal cities and municipalities throughout the archipelago.¹⁶⁶⁸ Although they are primarily fishing vessels, the open design of the versatile *banca* allow them to also serve as light cargo and passenger boats, especially for poor coastal communities. The function of registering the smallest and most numerous of these, fishing boats of three gross tons and below, has been transferred to the LGUs.¹⁶⁶⁹ However, this does not affect the power of the MARINA and PCG to conduct inspections

¹⁶⁶⁶ *Philippine Coast Guard Law*, R.A. 9993 (2009) , s. 3(f).

¹⁶⁶⁷ *Maritime Industry Decree*, P.D. 474 (1974) ; *Domestic Shipping Development Act*, R.A. 9295 (2004); *Philippine Overseas Shipping Development Act (Amendment)*, R.A. 9301 (2003); *Philippine Overseas Shipping Development Act (Amendment)*, R.A. 9301 (2003); *Reorganization Act of the Ministry of Transportation and Communication*, E.O. 125 (1987); and *Reorganization Act of the Ministry of Transportation and Communication (Amendment)*, E.O. 125-A (1987) .

¹⁶⁶⁸ In 2008, there were 469,807 registered *banca*, only 36% of which were motorized. Bureau of Fisheries and Aquatic Resources, "Municipal Fisheries Production, 2008," *Bureau of Fisheries and Aquatic Resources* online: <http://www.bfar.da.gov.ph/styles/Publications03/munici_prod_05/municipal_fisheries%2808%29.htm> Last updated: 03 June 2010 (Date accessed: 09 June 2010).. Many more *banca* surely remain unregistered on account of widespread poverty.

¹⁶⁶⁹ *Devolution of Registration of Municipal Fishing Vessels*, E.O. 305 (2004) .

and enforce maritime regulations;¹⁶⁷⁰ the power devolved to the LGUs may be said to be largely administrative in nature.

The ports in which large passenger and cargo vessels dock, however, are normally under the jurisdiction of the Philippine Ports Authority under the PPA Charter,¹⁶⁷¹ unless the port has its own charter as an independent port authority.¹⁶⁷² Cities and municipalities may establish and administer municipal ports under the Local Government Code,¹⁶⁷³ but these are generally limited to servicing small *banca*. The PPA may also temporarily transfer less productive ports (those with less than 50,000 tons cargo throughput over three years) to LGU administration.¹⁶⁷⁴

Of the principal legislation concerning ocean activities that are directly relevant to coastal communities, those for marine transportation continue to lack provision for extensive local participation. Non-government participation is limited to only one private sector representative on the MARINA Board,¹⁶⁷⁵ who speak for of the various sectors of the shipping industry, not the local communities. Historically, the PPA has resisted attempts of LGUs to exercise any form of jurisdiction within the port area and or over any port

¹⁶⁷⁰ *Implementing Guidelines of Executive Order 305*, (2004) , s. 3.1.

¹⁶⁷¹ *Revised Charter of the Philippine Ports Authority*, P.D. 857 (1975) .

¹⁶⁷² There are several independent port authorities in the Philippines, among them the Cebu Port Authority (*Charter of the Cebu Port Authority*, R.A. 7621 (1992)), the Subic Bay Metropolitan Authority (*Bases Conversion and Development Act*, R.A. 7227 (1992)), the Cagayan Economic Zone Authority (*Cagayan Special Economic Zone Act*, R.A. 7922 (1995)), and the Phividec Industrial Authority (*Phividec Decree*, P.D. 538 (1974)).

¹⁶⁷³ *Local Government Code*, s. 447(a), ss. 3(vii) and 458(a), ss. 3(vii).

¹⁶⁷⁴ *Transfer of Government Ports By Local Government Units and Government Corporations*, PPA AO 002-1998 (1998) .

¹⁶⁷⁵ Maritime Industry Authority, "About Us - Organization," *Maritime Industry Authority* online: <<http://www.marina.gov.ph/about/organization.aspx>> Last updated: 27 June 2010 (Date accessed: 27 June 2010)..

activities, going so far as to refuse to pay real estate and business taxes.¹⁶⁷⁶ LGUs continue to seek to place both shipping and port activities under the coverage of the 40% revenue sharing scheme of the Local Government Code or some other revenue measure, on the argument that such activities comprise a use of the LGUs' marine resources.¹⁶⁷⁷ After all, port areas and sealanes take up harbor space in coves and bays that could also shelter productive fishing or spawning grounds, while large shipping activities interfere with the activities of small *bancas* or exclude fishing gears of resident municipal fishers.

The regulation of the marine transportation industry is thus still very highly centralized, and excludes coastal communities from meaningfully participating in its governance or substantially partaking in its benefits. The current laws tend to discount completely the interests of the coastal communities in the marine transportation industry, leaving the latter's regulation, management and development entirely a national concern. This marginalization of coastal communities and their interests is likely to be the source of future frictions between the LGUs and the national government.

5.6 The Ecological Social Justice of Philippine Environment and Ocean Law

Writing on the trajectory of Philippine environmental politics, Francisco Magno asserted Philippine environmentalism was based on the assumption that "the environmental issue in the Philippines is, more than anything else, an equity issue."¹⁶⁷⁸ This observation holds true even with respect to the evolution of Philippine environment law. The "Third World perspective" of sustainable development in the late 1980s and early 1990s meshed neatly

¹⁶⁷⁶ This issue was finally resolved in the case of *PPA v. Iloilo* [2003], S.C. 109791, 406 S.C.R.A. 88., where the Supreme Court ruled in favor of the LGUs' power to tax the ports.

¹⁶⁷⁷ See for example, Development Alternatives, *LGU Revenue Share in Maritime Transportation and Port Operations: A Policy Study for the Navigation and Transport Coastal Zone of Davao City*. The Philippine Environmental Governance 2 Project (Manila: United States Agency for International Development, 2006).

¹⁶⁷⁸ Magno, *supra* Note 1201.

with the crystallization of the Philippine environmental movement and resulted in the emergence of a keen awareness of the social equity issues that lay behind every problem of allocation and distribution of environmental amenities and natural resources.

When the opportunity arose in 1987 for the formulation of a new social contract in the aftermath of martial rule and dictatorship, the Constitutional Commissions tasked with defining the terms of that contract were able to establish the essential link between social equity and the environment. This was done through the elevation of the right to a balanced and healthful ecology, previously recognized only in legislation, into an express right under the Fundamental Law.

5.6.1 Impact of Social Justice as a Constitutional Policy

The Philippine social justice policy, combining the elements of solicitude for the disadvantaged and a priority for democratic decision-making has indubitably been a major influence in environment and natural resource laws from 1987 to date. The survey of environment and ocean resource laws directly relevant to the ordinary citizen in coastal communities demonstrates further the impact of the Philippine concept of social justice. There is a distinct correlation between the time of enactment of laws and the extent to which they promote distribution, participation, and recognition; environment and ocean resource laws enacted after 1987 are particularly strong on these principles. The recent overhaul of anti-pollution laws since 2000 are marked mainly by decentralization and devolution of powers to the LGUs, and provisions enhancing public access to justice. The temporal correlation also appears in the interpretations of the Court in environmental jurisprudence since the 1990s.

The 1987 Constitution rightly expanded the scope of social justice by expressly including within its scope a mandate for natural resources reform.¹⁶⁷⁹ The record of Philippine environment and natural resources law reform is not perfect, as it is obvious from the

¹⁶⁷⁹ 1987 Const., art. 13, s. 4-8.

previous sections that at least in the ocean field, there are sectors still governed by legislation from the authoritarian era. But the more recent legislation clearly indicate the openness of environment and natural resource legislation to alternative and direct means of input into government decision-making through multi-sectoral advisory boards and bodies that always include in their membership representatives of peoples' organizations and NGOs, thus expanding the scope of public participation in many instances.

The expansion of public participation complements the recognition of, and greater role accorded to, LGUs in environment and natural resource management after 1987. The legislation during this period is marked by expanding environment jurisdiction in favor of LGUs, such as the consultation requirement for national projects that affect the ecological balance, exclusive fisheries jurisdiction in the 15 km municipal waters, and the finality of licensing decisions after issuance of ECCs. The most recent development, the Supreme Court's recognition of the LGU's right to veto national projects as a necessary implication of the national government's duty to consult, is perhaps one of the most important manifestations of this greater role, and enhances the opportunities for participation through decentralized local governance.

5.6.2 Judicial Contribution to the Emergence of Ecological Social Justice

Articulated through the imposition of a State duty in favor of its citizens, this "social right" to environmental quality attained the status of a primordial right that "predate[d] all governments and constitutions" and existing *ab initio* in favor of humankind through the judicial interpretation of an environmentally-friendly Supreme Court in the *Oposa* case. That Court could not have made that extraordinary interpretative leap had it not been capable of being an 'activist' institution armed with a long experience and jurisprudential history of social justice doctrine.¹⁶⁸⁰ The elements for a ruling in favor of

¹⁶⁸⁰ In Birnie, Boyle, and Redgwell, *supra* Note 125 at 119-120, the authors note that despite *Oposa*, other jurisdictions have not followed the lead seems unique, which begs the question of why the *Oposa* ruling has not been mirrored elsewhere. It is

a social justice bias were present: a disadvantaged group (minors) seeking the protection of one organ of the State (the Court) against the inaction of another (the Executive) on a matter of social policy (the environment and the welfare of future generations). Any possible source of doubts, such as the absence of a clear and articulate set of logical arguments based on legal provisions and precedents, were set aside by an intuitive choice in favor of the disadvantaged party (future generations). The *ponente* former Chief Justice Davide's idea of a "preferential option for the environment" is evidence of a philosophical link between this intuitive choice and the culturally and historically defined conception of social justice already entrenched in Philippine jurisprudence.

5.6.3 Infusion of Ecological Social Justice in Ocean Resources Law

The survey of selected ocean resource laws shows that the Philippines has made significant headway in promoting ecological social justice, or social justice in the utilization of Nature and its resources. These laws to a great extent promote the equitable sharing of resource uses and benefits. The Philippines has advanced with respect to the fisheries and bio-diversity conservation sectors, employing multi-sectoral advisory council mechanisms in management and specific allocations, preferences, or reservation clauses in favor of identified social groups. The tourism sector holds great promise by promoting maintaining and promoting the decentralization of tourism development, and it has taken steps with respect to the resources in its inter-tidal zones. These laws have significantly increased coastal communities' influence over decisions affecting these ocean resources and their direct access to their benefits. The risks and burdens have similarly been distributed, since the sharing of utilization and management also entails a corresponding accountability.

argued that the answer is that the *Oposa* ruling emerged out of the confluence of factors, among them the presence of supporting principles and doctrines on social justice. The Court did not make its decision because it recognized intergenerational equity in international law as an enforceable legal principle, as most foreign legal academics seem to assume, but rather because it was predisposed to intuitively accept that it was 'just' to accept a claim for intergenerational equity.

The survey of ocean resource laws also reveals a correlation between the scales and levels of technologies involved, and the extent to which such technologies are subject to rules of distribution, participation, and recognition. Scale appears to incorporate two factors: (a) whether the technology may be employed individually at local levels or only through collective entities such as corporations at national levels, (b) whether coastal communities or their residents directly are able to utilize, or at least control the utilization of, the technology in question. Levels of technology are either ‘high’ or ‘low’ depending on the levels of capital and specialized knowledge needed to use and operate the technology.¹⁶⁸¹

Scale and levels of technology influences the extent to which a particular technology may either marginalize or democratize coastal communities’ direct access to the utilization of and benefits from ocean resources. “Higher” technologies such as those in the case of shipping and large scale commercial fishing, tend to be less subject to such rules. “Lower” technologies that are more diverse, accessible, or less financially burdensome like municipal fishing and inter-tidal zone activities tend to be more so. This implies that higher and larger scale technologies are more likely to create situations that may be perceived as socially unjust because, all things being equal, they will tend to promote or at least maintain the maldistribution, marginalization, and non-recognition. These issues are inevitable and normally arise in social life due to the inherent inequality of means, talents, and status with which people are born. Law must therefore pay special attention to addressing these negative effects especially when dealing with the regulation of high and large-scale technologies.

¹⁶⁸¹ Note that the distinction between higher and lower technologies here is not based on complexity of the operations, or special characteristics such as the use of special materials, automation, or specially designed processes in producing or using the technology. Complexity and special characteristics all require the investment or expenditure of corresponding amounts of capital. Thus, an old 1950s vintage container vessel may still considered as a higher level technology compared with a *banca*.

The Philippines has yet to make progress in the marine transportation sector. The absence of rules for distribution, participation, and recognition in the management of the various components of the marine transportation industry indicate that it will be a source of management conflicts, and possibly social injustices, in the future. Considering the nature and location of marine transportation activity in the archipelago, this are likely to arise from displacements induced by growth in the industry (e.g. expansion of ports, increase in vessel traffic) or exposure to the risks it generates for other sectors. Although it may be argued that centralization in the management of the marine transportation sector is necessary in order to promote broad compliance with national and international standards, the relegation of coastal communities to mere bystanders in the management of marine transportation undermines and interferes with communities' control or influence over the management of ocean resources within their jurisdictional spaces.

5.7 The Future of Philippine Environmental Law

The foregoing chapter has demonstrated the utility of using an ecological social justice framework in regarding the plethora of laws regulating numerous technologies currently in use in an ocean setting. By focusing on how the various laws incorporate rules of distribution, recognition, and participation, different ocean economic activities may be compared and contrasted to indicate definite trends and characteristics that move laws toward or away from ideal and equitable terms of access and use of oceanic resources. Given the discernible movement toward enhancing democratic participation in decision-making and increased local autonomy for purposes of regulation, it may fairly be said that the development of Philippine environmental laws in the future will be increasingly challenged along these lines. The expanded social justice policy of the 1987 Constitution has indeed unleashed a formidable force for the democratization of political and economic power in the context of the management of Philippine ocean resources. New laws for new technologies, and the law reforms for older or established ones, will be subjected to scrutiny and comparison with these established trends and expectations. Whether new or reformed laws will contribute to social justice will be determined in part

by whether or not they pursue or suppress the marked expansion of stakeholder participation and protection of continued access and use at the level of the local community or grassroots.

CHAPTER 6

ECOLOGICAL SOCIAL JUSTICE IN PHILIPPINE OCEAN ENERGY LAW AND POLICY

Ocean energy resources in the Philippines are diverse and plentiful on account of its archipelagic geography. As indicated in Chapter One, the potential range of ocean energy development activities is very wide, ranging from those designed for exclusively ocean-based resources (e.g. waves, currents) to applications of land-based energy development to areas of the sea (e.g. submarine mining, offshore petroleum). A perusal of energy legislation and policy in general is useful prior to focusing on the ocean energy sectors specifically examined in this research in order to properly contextualize the latter within the highly complex system of Philippine energy law.

6.1 In General

6.1.1 Institutional Arrangements

6.1.1.1 National Administration and Management

The Department of Energy (DOE) is the national government agency with planning, managing, and coordinating all activities relating to energy in the Philippines, spanning exploration, development, utilization, distribution, and conservation.¹⁶⁸² The DOE exercises a comprehensive set of powers and functions encompassing energy development planning and implementation; establishment and administration of energy-related programs and projects; supervision and control over government activities relating to energy projects; regulation of certain activities of the private sector; dissemination of

¹⁶⁸² *Department of Energy Act*, R.A. 7683 (1992) , s. 4.

information from energy research and development programs; development of nonconventional energy systems; visitorial powers; and contingency powers.¹⁶⁸³ These functions are carried out through four line bureaus, an administrative support staff, and various attached agencies.¹⁶⁸⁴

Certain powers of the DOE certainly stand out for their emphasis on the environment and their distributive characteristics:

(a) Formulate policies for the planning and implementation of a comprehensive program for the efficient supply and economical use of energy consistent with the approved national economic plan and with the policies on environmental protection and conservation and maintenance of ecological balance, and provide a mechanism for the integration, rationalization, and coordination of the various energy programs of the Government;

(b) Develop and update the existing Philippine energy program which shall provide for an integrated and comprehensive exploration, development, utilization, distribution and conservation of energy resources, with preferential bias for environment-friendly, indigenous, and low-cost sources of energy. The program shall include a policy direction towards the privatization of government agencies related to energy, deregulation of the power and energy industry and reduction of dependency on oil-fired plants...

...

(i) Devise ways and means of giving direct benefits to the province, city, or municipality, especially the community and people affected, and equitable and preferential benefit to the region that hosts the energy resource and/or the energy-generating facility; Provided, however, That the other provinces, cities, municipalities, or regions shall not be deprived of their energy requirements;

(j) Encourage private enterprises engaged in energy projects, including corporations, cooperatives, and similar collective organizations, to

¹⁶⁸³ *Ibid.*, s. 6, 24-25.

¹⁶⁸⁴ *Ibid.*, s. 12-13.

broaden the base of their ownership and thereby encourage the widest public ownership of energy-oriented corporations; ...¹⁶⁸⁵ (emphasis added)

The first and second paragraphs above show the distinct influence of the protection of the right to a healthful and balanced ecology as a State policy just prior to the 1993 *Oposa* decision, while the third is an implementation of the mandate to share the national wealth with the LGUs. Finally, the last paragraph reflects the social justice policy of broadening the base of ownership of property, which is consistent with the need for distribution of resources and their benefits.

Through its line bureaus, the DOE has distinct environment-related functions over projects and activities relating to energy development. These include the formulation of rural energy programs;¹⁶⁸⁶ environmental monitoring of energy projects;¹⁶⁸⁷ recommendation of actions to address adverse environmental impacts;¹⁶⁸⁸ research on economic, environmental, social, and political impacts of the energy program;¹⁶⁸⁹ and incorporation of the environmental, health, and safety goals in the implementation of energy programs.¹⁶⁹⁰ Since the DOE presumably already has the technical capacity and skills needed for oversight over the development of the energy industry, the additional grant of functions for monitoring, remedies, and research relating to environment gives the DOE a definite advantage over the DENR with respect to environmental compliance and enforcement issues.

Legitimate questions arise as to whether the DOE should exercise such environment-related functions, considering that its primary mandate is the promotion of energy development. However, in practice the DOE has taken a simple position of not interfering

¹⁶⁸⁵ *Ibid.*, s. 5.

¹⁶⁸⁶ *Ibid.*, s. 12(b), ss. 4.

¹⁶⁸⁷ *Ibid.*, s. 12(b), ss. 7.

¹⁶⁸⁸ *Ibid.*, s. 12(b), ss. 8.

¹⁶⁸⁹ *Ibid.*, s. 12(d), ss. 4.

¹⁶⁹⁰ *Ibid.*, s. 12(d), ss. 5.

with either the DENR's environment standards or regulatory functions, and expressly requires in its service contracts that project proponents should be responsible for compliance with the country's environment laws and regulations. A former DOE Secretary explained that when it comes to issues outside of energy development and more firmly within the scope of other agencies (such as environment al management under the DENR), the DOE will simply follow the rule of "primary administrative jurisdiction" and defer to such other agency's authority.¹⁶⁹¹

6.1.1.2 Energy Policy

6.1.1.2.1 *Development Planning*

The energy policy of the State in general is laid out in the DOE Act as ensuring "a continuous, adequate, and economic supply of energy" to achieve energy self-reliance through the "integrated and intensive exploration, production, management, and development of the country's indigenous energy resources," self-sufficiency, and enhanced productivity, including energy conservation, renewal, and efficiency strategies.¹⁶⁹² The DOE Act emphasizes that these must consider "the active participation of the private sector" in energy resource development, and should be undertaken "without sacrificing ecological concerns."¹⁶⁹³

The Philippine Energy Plan (PEP) issued by the DOE implements these general State policies. The PEP guides the country's energy development policies and programs to address its existing and projected energy requirements. As of 2007, more than half of the country's energy demand was driven by the transportation (41.58%) and industrial (24.46%) sectors.¹⁶⁹⁴ This corresponded to the fuel demand being borne largely by oil

¹⁶⁹¹ Department official, personal interview, 12 August 2006. Note that from this point, interviews will be cited by the interviewee's last name and the year of the interview.

¹⁶⁹² *Department of Energy Act*, R.A. 7683 (1992), s. 2.

¹⁶⁹³ *Ibid.*, s. 2.

¹⁶⁹⁴ Department of Energy, "Philippine Energy Situation," *Department of Energy* online: <[http://www.doe.gov.ph/PEP/consultations/PLENARY%20\(A.M.\)/Philippine%20E](http://www.doe.gov.ph/PEP/consultations/PLENARY%20(A.M.)/Philippine%20E)

(54.12%) and electricity (22.12%).¹⁶⁹⁵ The DOE expects energy demand to keep increasing between 4%-6% annually from 2010 to 2030 depending on the rate of growth in the GDP, i.e., at least double within the next 20 years.¹⁶⁹⁶ In 2005, more than half (57.1%) of the country's energy supplies were indigenous sources such as geothermal, hydropower, natural gas, and oil; the rest being sourced from imported oil (36.5%) or coal (6.4%).¹⁶⁹⁷ The share of indigenous energy sources were expected to increase to 61.5% in 2010, though the country was to begin importing natural gas (2.1%) and increase coal imports (8%) while decreasing foreign oil (28.4%).¹⁶⁹⁸

The PEP supports the country's medium-term economic development plans and public investment programs.¹⁶⁹⁹ Since 2003, the PEP has undergone significant changes in specific goals and strategies, the most recent version being the 2009-2030 PEP. However, certain policy thrusts remain relatively constant throughout the different iterations. These include the increase in energy self-reliance and self-sufficiency, expansion of access to electricity through rural electrification, domestic energy market reforms, and enhancing energy efficiency and conservation.¹⁷⁰⁰

nergy%20Situation.pdf> Last updated: 22 April 2010 (Date accessed: 04 May 2010) at 16.

¹⁶⁹⁵ *Ibid.* at 17.

¹⁶⁹⁶ Department of Energy, "Philippine Energy Outlook," *Department of Energy* online: <[http://www.doe.gov.ph/PEP/Philippine Energy Outlook.pdf](http://www.doe.gov.ph/PEP/Philippine%20Energy%20Outlook.pdf)> Last updated: 22 April 2010 (Date accessed: 04 May 2010). at 4.

¹⁶⁹⁷ Department of Energy, "Philippine Energy Plan 2005-2014," *Department of Energy* online: <http://www.doe.gov.ph/PEP/PEP_2005_2014.pdf> Last updated: 22 April 2010 (Date accessed: 04 May 2010). at 4.

¹⁶⁹⁸ *Ibid.*

¹⁶⁹⁹ Department of Energy, "Highlights of the Philippine Energy Plan 2009-2030," *Department of Energy* online: <<http://www.doe.gov.ph/PEP/default.htm>> Last updated: 22 April 2010 (Date accessed: 04 May 2010) at 1.

¹⁷⁰⁰ Between 2003 and 2009, three distinct PEP were issued covering the periods from 2003-2012, 2005-2014, and 2009-2030. The DOE offers no explanation for the changes, though it may be related to the changes in leadership of the DOE during the period. See Department of Energy, Highlights of the Philippine Energy Plan 2009-2030 ; Department of Energy, Philippine Energy Plan 2005-2014; Department of

6.1.1.2.2 The Energy Service Contract

Energy development is undertaken in the Philippines through the use of service contracts, a system originally devised for the petroleum sector in the 1970s. In a service contract, service and technology are furnished by the service contractor¹⁷⁰¹ in exchange for a stipulated service fee, while financing is provided by the government.¹⁷⁰² All exploration risks are assumed by the contractor;¹⁷⁰³ if no petroleum in commercial quantity is discovered and produced, it is not entitled to reimbursement of expenses incurred in connection with the contract.¹⁷⁰⁴ If government financing is not available, the service fee and the operating expenses of the contractor may be paid from the proceeds of sale of petroleum produced under the contract.¹⁷⁰⁵ All service contracts require Presidential approval, and may be concluded after public bidding or negotiations.¹⁷⁰⁶ The contracts may be concluded by negotiation only in case no bids are submitted, or submitted bids are rejected by the government.¹⁷⁰⁷

Energy, "Philippine Energy Plan 2004-2013," *Department of Energy* online: <http://www.doe.gov.ph/PEP/PEP_2004_2013.pdf> Last updated: 22 April 2010 (Date accessed: 04 May 2010); and Department of Energy, "Philippine Energy Plan 2003-2012," *Department of Energy* online: <http://www.doe.gov.ph/PEP/PEP_2003_2012.pdf> Last updated: 22 April 2010 (Date accessed: 04 May 2010).

¹⁷⁰¹ *Oil Exploration and Development Act*, P.D. 87 (1972), s. 8. The contractor may be a single corporate entity or a consortium of several domestic and/or foreign corporations.

¹⁷⁰² *Oil Exploration and Development Act*, s. 6.

¹⁷⁰³ *Ibid.*, s. 8(e).

¹⁷⁰⁴ Department of Energy, *Model Service Contract*. (Taguig City, Philippines: Department of Energy, 2003) at para. 1.3

¹⁷⁰⁵ *Oil Exploration and Development Act*, s. 7.

¹⁷⁰⁶ *Ibid.*, s. 5.

¹⁷⁰⁷ *Ibid.*, s. 5.

Prior to 2003, the practice in DOE was to negotiate service contracts confidentially on an individual “first-come-first-serve” basis.¹⁷⁰⁸ The secrecy accompanying this system and the perceptions that it allowed multinational oil corporations to control and siphon off the country’s natural wealth led to calls to prohibit service contracts in the 1987 Constitution.¹⁷⁰⁹ According to the Supreme Court, however, this move was not successful, and resulted only in the creation of the FTAA that were described as “service contracts with safeguards.”¹⁷¹⁰ The confidential negotiations policy changed in 2003, when the Philippines adopted a public bidding and auction system through the first Philippine Contracting Round for Petroleum.¹⁷¹¹ All petroleum exploration proposals are now made only through the contracting rounds when opened by the government.¹⁷¹²

Subsequently, the DOE adopted the same system of awarding energy exploration and development privileges through service contracts and “financial/technical assistance agreements” for all other energy resources, such as coal, geothermal, and renewable energy resources.¹⁷¹³ This means that all energy exploration and development now begin

¹⁷⁰⁸ *Procedures for Contract Area Definition and Public Contracting Rounds* at 2nd Whereas Clause

¹⁷⁰⁹ *La Bugal B'laan v. Secretary* [2004], 421 S.C.R.A. 148 at 774-76.

¹⁷¹⁰ *Ibid.* at 815.

¹⁷¹¹ Department of Energy, "PCR-1 draws firm interest from international oil companies," Press release, 03 March 2004 (Date accessed: 13 April 2004).

¹⁷¹² Myrna Velasco, "DOE No Longer Accepts Exploration Proposals Beyond Contracting Round," *Manila Bulletin* (08 May 2009), online: <<http://www.mb.com.ph/articles/205263/doe-no-longer-accepts-exploration-proposals-beyond-contracting-round>>. To date, there have been three contracting rounds for petroleum, the last held in 2006.

¹⁷¹³ Donnabelle L. Gatdula, "DOE Opens Contracting Round for Coal Exploration," *The Philippine Star* (10 May 2009), online: <<http://www.philstar.com/Article.aspx?articleId=465958&publicationSubCategoryId=66>> ; Reuters, "RP Targets \$2.5B Geothermal Dev't," *Malaya* (09 November 2009), online: <<http://www.malaya.com.ph/11062009/business/busi6.html>>; Donnabelle L. Gatdula, "Bidders Swarm DOE Auction for Geothermal Energy Deals," *The Philippine Star* (26 November 2009), online: <<http://www.philstar.com/Article.aspx?articleId=526689&publicationSubCategoryId>

with a transparent competitive process, and negotiated contracts are the exception to the rule.

6.1.2 Energy Sector Law and Policy

Philippine energy law and policy is a complicated mix of instruments spanning a wide variety of resources, industrial sectors, and specific energy-related concerns. To simplify the discussion of the energy law and policy context, it is best to consider Philippine energy law as divided into upstream and downstream sectors, further sub-divided into specific energy resources and development activities.

The upstream sector includes all exploration, development, and production activities. Philippine energy policy generally distinguishes between indigenous and imported energy sources. One of its constant policy objectives has been to become energy self-reliant by using indigenous energy resources. Presently the country relies on conventional fossil fuel resources such as coal, oil and natural gas, with the latter being the newest addition to its energy mix. Thus, while there are already several laws for coal and oil resources, there is not one law specifically for natural gas.¹⁷¹⁴ Existing general legislation¹⁷¹⁵ covers only the exploration and development activities for natural gas resources.

=66>; Donnabelle L. Gatdula, "RP Seeks Investors in Wind Power Sector," *The Philippine Star* (14 March 2005), online: <<http://www.philstar.com/Article.aspx?articleId=270316&publicationSubCategoryId=66>>; Donnabelle L. Gatdula, "DOE Mulls Inclusion of Renewable Energy Projects in Bidding Rounds," *The Philippine Star* (16 May 2009), online: <<http://www.philstar.com/Article.aspx?articleId=467936&publicationSubCategoryId=66>>. The rules for the contracting rounds are consolidated in *Transparent and Competitive System of Awarding Service/operating Contracts*, DOE DC 2009-04-004 (2009) ; and *Guidelines Governing Renewable Energy Service/operating Contracts*, DOE DC 2009-07-0011 (2009) .

¹⁷¹⁴ The DOE is pursuing the passage of a Natural Gas Bill as part of its legal reform agenda for 2009-2010. Department of Energy, Highlights of the Philippine Energy Plan 2009-2030 at 8.

¹⁷¹⁵ *Oil Exploration and Development Act*, as amended.

For purposes of simplicity and comparability, electricity generation is here considered among the energy resources, though technically speaking it is actually a product of other energy resources. While a generating plant may use non-renewable fossil or nuclear fuels or renewable sources, in policy papers and public statements the DOE generally treats electricity as itself a separate energy source regardless of how it is produced.¹⁷¹⁶

Aside from conventional energy, the Philippines has always been very open to alternative energy resources. Since the 1970s, it has been one of the leading users of geothermal energy;¹⁷¹⁷ in the late 1990s it provided a framework for development of ocean, solar, and wind energy resources;¹⁷¹⁸ and it recently enacted new legislation on bio-fuels and renewable energy resources.¹⁷¹⁹ Although the Philippines does not currently use nuclear power for political reasons,¹⁷²⁰ the DOE is seriously considering nuclear energy as an alternative to fossil fuels,¹⁷²¹ certainly a very controversial move.

¹⁷¹⁶ See generally Department of Energy, "Electric Power Development Plans," *Department of Energy* online: <<http://www.doe.gov.ph/EP/Devp.htm>> Last updated: 22 April 2010 (Date accessed: 04 May 2010).

¹⁷¹⁷ *Ibid.*

¹⁷¹⁸ *Commercialization of Ocean, Solar, and Wind Energy Resources*, E.O. 462 (1997) [EO 462]; *Private Sector Participation in OSW Energy Resources*, E.O. 232 (2000) [EO 232].

¹⁷¹⁹ *Biofuels Act*, *supra* Note 4; *Renewable Energy Act*, *supra* Note 5.

¹⁷²⁰ The first plant, the Bataan Nuclear Power Plant, was built in the final years of the Marcos dictatorship and was so ridden with allegations of corruption, mismanagement, and lack of safety that the Aquino government and successor administrations mothballed the plant just before it was about to become operational. According to then Secretary of Energy Geronimo Velasco, this in truth was a purely political decision that had nothing to do with the plant's actual financing, engineering, and design. Geronimo Z. Velasco, *Trailblazing: The Quest for Energy Self-Reliance*. (Pasig City: Anvil Publishing, 2006) at 89-130. In recent years, however, the government has tested the waters of public opinion with announcements and press releases that it was reviewing the safety of the plant and seriously considering the possibility of putting it into operation. See generally Fernando del Mundo, "Nuke Energy Key to Stem Climate Change," *Philippine Daily Inquirer* (02 March 2009), online: <<http://newsinfo.inquirer.net/inquirerheadlines/nation/view/20090302-191783/Nuke->

The downstream sector includes all transportation, transmission, and distribution activities, as well as consumer-related concerns. In contrast to the upstream sector, the downstream sector is less regulated by law, instead governed through executive issuances of the DOE.¹⁷²² Occasionally though, the President has chosen to directly regulate various aspects of the downstream industry, such as a recent attempt to establish oil price controls in aftermath of a natural disaster.¹⁷²³

6.1.3 Benefits to Host Communities

LGUs, as host communities of energy projects, derive different types of benefits from the operation of energy projects pursuant to specific provisions of the *Local Government Code*, the *DOE Act*, the *Renewable Energy Act*, and the *Electric Power Industry Reform Act*.¹⁷²⁴ These provisions implement the Constitutional mandate for the national government to share the national wealth with local government units¹⁷²⁵ and are generally consistent with the redistributive character of ecological social justice.

energy-key-to-stem-climate-change>; "UN Team to Review Bataan Nuclear Plant." *Philippine Daily Inquirer* (29 January 2008), online:

<http://services.inquirer.net/print/print.php?article_id=20080129-115396>; Izah Morales, "184 House Endorsers of BNPP Bared," *Philippine Daily Inquirer* (04 March 2009), online:

<http://services.inquirer.net/print/print.php?article_id=20090304-192305>; Michael L. Ubac, "Arroyo Orders Study on Use of Nuclear Energy for Power," *Philippine Daily Inquirer* (20 August 2008), online:

<http://newsinfo.inquirer.net/breakingnews/nation/view/20070820-83681/Arroyo_orders_study_on_use_of_nuclear_energy_for_power>.

¹⁷²¹ Department of Energy, Highlights of the Philippine Energy Plan 2009-2030 at 5-6.

¹⁷²² See for example, *Interim Rules and Regulations for Natural Gas*, DOE DC 2002-08-005 (2002); *Guidelines, Importation of Natural Gas Vehicle for Public Transport*, DOE DC 2004-04-004 (2006); *Policy Guidelines for Natural Gas*, DOE DC 95-06-006 (1995).

¹⁷²³ *Emergency Price Control for Petroleum*, E.O. 839 (2009) .

¹⁷²⁴ *Electric Power Industry Reform Act*, R.A. 9136 (2001) .

¹⁷²⁵ 1987 Const., art. X, s. 7

The minimum benefits come from business permit fees¹⁷²⁶ and real estate taxes¹⁷²⁷ imposable by the city or municipality under the Local Government Code, since the energy project or activity takes place within its territorial jurisdiction. Greater benefits may also be derived from other sources: the national revenue/production share (40%), and the power generation royalty (Php0.01/kWh).

6.1.3.1 National Revenue/Production Share (40%)

6.1.3.1.1 *In General*

As explained in Chapter 5.2.6 above, LGUs are entitled to a 40% share in the national government's revenues from both (a) taxes, royalties, fees, charges, fines, or penalties arising from the utilization of natural resources, and (b) shares in any co-production, joint venture, or production sharing agreements in the utilization and development of natural resources, all within their territorial jurisdiction.¹⁷²⁸ These shares are divided among the concerned LGUs depending on the location of the resource, population, and land area of the LGUs affected.¹⁷²⁹

Normally the proceeds of the national revenue shares from natural resources should finance local development and livelihood projects.¹⁷³⁰ But in the case of energy projects, only up to 20% of the national revenue share may be used for those kinds of projects as may be decided by the *sanggunian*. The larger portion of at least 80% of the proceeds are to be used "solely to lower the cost of electricity in the local government unit where such a source of energy is located."¹⁷³¹ The host LGU is deemed to be that in whose area the coal, geothermal, hydro, or petroleum reservoir is situated according to geological

¹⁷²⁶ *Local Government Code*, s. 447(a), ss. 3(ii) and 458(a), ss. 3(ii).

¹⁷²⁷ *Ibid.*, s. 290

¹⁷²⁸ *Ibid.*, s. 290-291; See also *Electric Power Industry Reform Act*, s. 66.

¹⁷²⁹ *Local Government Code*, s. 292.

¹⁷³⁰ *Ibid.*, s. 294.

¹⁷³¹ *Ibid.*, s. 294.

surveys, as well as the location of the production and other physical facilities related to the project except for transmission lines and sub-stations.¹⁷³²

A direct subsidy or a non-subsidy scheme may lower electricity costs of the LGU.¹⁷³³ Through the direct subsidy, the cost of power used by consumers is lowered according to the LGU's choice of whether it should be applied based on customer types (i.e., distinct classes of electricity consumer may be accorded different subsidy rates) or power consumption (i.e., subsidy is based on graduated scale of power used).¹⁷³⁴ Non-subsidy schemes include upgrading and rehabilitation of electrical infrastructure, use of energy saving devices, or support for infrastructure facilities.¹⁷³⁵ Alternative power sources for isolated areas that cannot be energized directly from the national electrical grid may also be funded.¹⁷³⁶

6.1.3.1.2 Renewable Energy Projects

A new and special rule applies presently with respect to renewable energy projects, which includes biomass, solar, wind, geothermal, ocean energy, and hydropower.¹⁷³⁷ The *Renewable Energy Act* sets the government share on existing and new renewable energy projects at one percent (1%) of the gross income of the renewable energy developers from sales and other income derived from the generation, transmission, or sale of electric power.¹⁷³⁸ In the case of indigenous geothermal energy, this rate is set higher at one and a half percent (1.5%). The 1% or 1.5% share is divided between the national government

¹⁷³² *Ibid.*, s. 2.1(d).

¹⁷³³ *Utilization of the Share of National Wealth Derived From Energy Resources*, DOE-DILG Circular 98-01 (1998), s. 2.4(a).

¹⁷³⁴ *Implementing Rules and Regulations of the Electric Power Industry Reform Act*, (2002), Rule 29(B), s. 3(a), ss. ii.

¹⁷³⁵ *Ibid.*, Rule 29(B), s. 3(a), ss. i.

¹⁷³⁶ *Utilization of the Share of National Wealth derived from Energy Resources*, s. 2.4(b).

¹⁷³⁷ *Renewable Energy Act*, s. 4(uu). This is consistent with the first of the two options for LGU revenue sharing with government-owned and -controlled corporations under s. 291(a) of the *Local Government Code*.

¹⁷³⁸ *Ibid.*, s. 13.

and LGU at the rate of 60/40 respectively.¹⁷³⁹ The LGU's share is further divided between the different nested LGUs in accordance with the sharing formula in Section 292 of the Local Government Code.¹⁷⁴⁰

The government waives any share in the proceeds of the development of biomass resources and proceeds from micro-scale projects for communal purposes and non-commercial operations, such as community-based renewable energy projects generating not more than 100 kilowatts.¹⁷⁴¹

6.1.3.2 Power Generation Royalty (PhP0.01/kWh)

As noted above, Section 5(i) of the DOE Act and Section 66 of the Electric Power Industry Reform Act authorized the DOE to devise ways and means of directly giving benefits from energy projects to the LGUs, especially the communities and people affected. This is currently implemented through Energy Regulation No. 1-94, as amended.¹⁷⁴²

The purposes of the benefit-sharing scheme are to recognize and compensate the LGUs for contributing to national development by hosting the facility, lessen conflicts of rights among the stakeholders, and promote harmony and cooperation between them.¹⁷⁴³ It establishes a royalty in favor of the host LGUs of One centavo per kilowatt-hour (PhP0.01/kWh) of electricity sales generated by the facility. The amount goes into three separate trust funds established for the LGU's benefit, denominated as an Electrification Fund (EF), a Development and Livelihood Fund (DLF), and a Reforestation, Watershed

¹⁷³⁹ *Implementing Rules and Regulations of the Renewable Energy Act*, DOE DC 2009-05-008 (2009), s. 20(A) and 20(B). [Rules for RE Act]

¹⁷⁴⁰ *Ibid.*, s. 20(C).

¹⁷⁴¹ *Renewable Energy Act*, s. 13; Rules for RE Act, s. 20(E).

¹⁷⁴² *Rules and Regulations on Benefits to Host Communities*, Energy Regulations 1-94 (1994).

¹⁷⁴³ *Ibid.*, s. 2.

Management, Health and/or Environment Enhancement Fund (RWMHEEF).¹⁷⁴⁴ A principle of “radiating benefits” establishes the priority for the usage of the funds between the resettlement area of any persons displaced by the project, the host *barangay*, the municipality, the province, and lastly the administrative region.¹⁷⁴⁵

Since renewable energy systems are also electricity generation systems, it is not clear from the law whether the national government’s 1% -1.5% share in gross income (of which the LGUs receive 40%) either repeals or supplements ER 1-94 insofar as renewable energy systems are concerned. The government waived most of the tax revenues from renewable energy projects at least in their initial years of operation, so there may be no national internal revenues that can be divided as national revenue shares at this time, leaving the generation royalty as the only source of benefits. Since the royalty under ER 1-94 is also based on sales, set at a fixed rate of PhP0.01/kWh, treating it separately from the 1%-1.5% share in gross income would appear to be a double royalty that contradicts the law’s purpose of maximizing the incentives for renewable energy systems. Besides, on an annual basis, a 0.4%-0.6% share in the developer’s gross income may be larger than the PhP0.01/kWh rate and thus more favorable to the LGU.

6.2 Offshore Petroleum Law

6.2.1 In General

The onset of the first Middle East oil crisis and discoveries in the offshore areas of neighboring Indonesia and Malaysia, led to the enactment of the Oil Exploration and Development Act to shift exploration to the offshore regions.¹⁷⁴⁶ Although petroleum exploration and development activities in the Philippines started in 1896, it did not yield

¹⁷⁴⁴ *Ibid.*, s. 6.

¹⁷⁴⁵ *Ibid.*, s. 6(a) and 6(b).

¹⁷⁴⁶ Velasco, *supra* Note 1720 at 3-9.

fruit until the early 1970s.¹⁷⁴⁷ But despite some initially promising oil discoveries, commercially significant quantities of hydrocarbons, in the form of natural gas, were not found until the closing decades of the 20th century.¹⁷⁴⁸ After the inauguration of the country's first natural gas production platform in 2001, the government pursued petroleum exploration activities with renewed vigor through a number of administrative policy reforms that opened the industry to intensive competition.

As of March 2009, there were 34 active petroleum exploration and development contract areas in the Philippines.¹⁷⁴⁹ (See Figure 3) These are governed by the *Oil Exploration and Development Acts*, legislation issued in the early years of martial rule, and intended to hasten the discovery and production of indigenous petroleum.¹⁷⁵⁰ It permits the government to undertake petroleum exploration and production either directly or through "service contracts," the terms and conditions of which are defined in the Act.¹⁷⁵¹

Offshore petroleum exploration, development, and production comprise three distinct phases of offshore petroleum operations. The simplicity of the terms masks the technical and logistical complexity of the actual work undertaken by petroleum companies and the enormous finances and high technologies required. Exploration involves the conduct of

¹⁷⁴⁷ *Ibid.* at 41-42.

¹⁷⁴⁸ Although the country's first natural gas production facility was actually a land-based plant operated by the Philippine National Oil Company in Echague, Isabela, it powers only a 3MW power generating plant supplying electricity to 10,000 households through a small electric cooperative. No efforts appear to have been made to connect this small facility to any other population centers. Guillermo R. Balce and Eric F. Pablico, "Philippine Natural Gas Resources: Maximizing their Potential," *Department of Energy* online: <<http://www.doe.gov.ph/ER/ngreports.htm>> Last updated: 21 November 2007 (Date accessed: 05 May 2010).

¹⁷⁴⁹ Jesus F. Llanto, "Oil exploration in RP active, shows promise," *ABS-CBNnews.com* online: <<http://news.abs-cbn.com/special-report/10/07/08/oil-exploration-rp-active-shows-promise>> Last updated: 07 October 2008 (Date accessed: 30 April 2010).

¹⁷⁵⁰ *Oil Exploration and Development Act*, s. 7.

¹⁷⁵¹ *Ibid.*, s. 4.

marine seismic surveys in which slow-moving vessels tow devices that produce loud bursts of sound that penetrate water and earth used to generate virtual 2-D and 3-D images of the geological structures under the seabed.¹⁷⁵² The process identifies areas that might have petroleum reserves, the presence of which may be confirmed only by drilling exploratory wells.¹⁷⁵³ If hydrocarbons are present, delineation wells are drilled to determine the size and characteristics of the reserves, including whether it would be economically attractive to actually extract the resource.¹⁷⁵⁴ Good economic prospects lead to the drilling of development or production wells that are used to extract the hydrocarbons and take them to the marketplace for sale and use by power producers.¹⁷⁵⁵ The production phase lasts for as long as it is profitable to do so; production may stop at the point where the costs of extraction of the resource exceeds the profits from sales of the resource, not necessarily when the resource has run out. The wells are plugged and facilities decommissioned, abandoned or removed (when feasible) at the end of production.¹⁷⁵⁶

6.2.1.2 The Petroleum Contracting Round

A Petroleum Contracting Round is essentially a transparent and competitive public bidding process, where the DOE identifies areas for energy exploration and development and opens them at auction to interested energy exploration companies. It is similar to the

¹⁷⁵² Canadian Association of Petroleum Producers, *Seismic Surveys: The Search for Oil and Gas in Atlantic Canada*. (Calgary: Canadian Association of Petroleum Producers, 2001) at 1-3.

¹⁷⁵³ Canadian Association of Petroleum Producers, *Drilling an Offshore Well in Atlantic Canada*. (Calgary: Canadian Association of Petroleum Producers, 2001) at 1.

¹⁷⁵⁴ *Ibid.*

¹⁷⁵⁵ *Ibid.* at 2.

¹⁷⁵⁶ For a brief overview of decommissioning, see Virginia Parente et al., "Offshore Decommissioning Issues: Deductibility and Transferability" (2006) 34 Energy Pol'y 1992, at 1993-95.

Norwegian concessionary system for petroleum lease allocation.¹⁷⁵⁷ The DOE's Energy Resource Development Bureau designates these areas based on the geological characteristics of sedimentary basins of the country.¹⁷⁵⁸ The DOE then opens the available geological and geophysical data and information on the areas for perusal and analysis by interested parties upon payment of a Data Viewing Fee.¹⁷⁵⁹ Prospective contractors may then select the areas they wish to explore, for which they submit applications containing proposed workplans, data analysis, and proof of financial, technical, and legal qualifications.¹⁷⁶⁰ The DOE then evaluates the proposals and negotiates with the highest-ranked proponent to finalize the contract.¹⁷⁶¹

6.2.2 The Petroleum Service Contract

A Model Service Contract (MSC) with fixed standard terms and conditions specify the various duties and obligations of the parties and provide a clear and transparent basis for the contract between the government and prospective contractors.¹⁷⁶² The MSC is a public document that leaves actually little room for negotiation, as "no material deviation from the DOE model contract shall be allowed at any given time."¹⁷⁶³ Generally, what remains for the parties to negotiate are mainly the contract area, the exploration and development workplan, and the program of expenditures. In practice, when an applicant

¹⁷⁵⁷ The similarity is not accidental; the preparations for the first Petroleum Contracting Round was funded by Norwegian Agency for Development Cooperation (NORAD). Armonio-Magbanua, *supra* Note 7. For a comparison of various petroleum lease allocation mechanisms, see Kjell J. Sunnevåg, "Designing Auctions for Offshore Petroleum Lease Allocation" (2000) 26 Resources Policy 3.

¹⁷⁵⁸ *Transparent and Competitive System of Awarding Service/operating Contracts*, DOE DC 2009-04-004 (2009), s. 1.1.

¹⁷⁵⁹ *Ibid.*, s. 1.3.

¹⁷⁶⁰ *Ibid.*, s. 1.4 to 1.6.

¹⁷⁶¹ *Ibid.*, s. 1.7.

¹⁷⁶² The latest version of the MSC was issued on 13 August 2003. Department of Energy, *Model Service Contract*. (Taguig City, Philippines: Department of Energy, 2003).

¹⁷⁶³ *Transparent and Competitive System of Awarding Service/operating Contracts*, s. 1.7.

is awarded an exploration contract, it is initially denominated as a Geophysical Survey and Exploration Contract (GSEC) with a corresponding number. If the contractor discovers a petroleum reservoir that is commercially viable and decides to develop it, it is then designated as a Service Contract (SC).

6.2.2.1 Contract Area

The rules provide that the definition and delineation of the contract area “shall be in accordance with the provisions of applicable government laws, rules and existing procedures such as the National Integrated Protected Areas System (NIPAS) Law and the Indigenous People’s Rights Act (IPRA), among others.”¹⁷⁶⁴ However, it is not clear precisely what this implies in terms of restrictions or limitations on such definition or delineation. For example, the existence of NIPAS sites does not appear to have impeded the inclusion of the NIPAS area within the contract areas either offered or awarded to date.

Normally, a service contract may cover from 50,000 to 750,000 hectares in onshore areas, and 80,000 to 1,500,000 hectares in offshore areas.¹⁷⁶⁵ However, contracts for offshore areas with depths greater than 200m are considered as “deep-water” contracts and may contain even more liberal terms with respect to contract area, exploration period, and relinquishment.¹⁷⁶⁶ Amendments to the *Oil Exploration and Development Act* provided additional incentives for deep-water contracts in the form of cross-recovery provisions that allowed the recovery of costs and expenses across different contract areas.¹⁷⁶⁷ However, the MSC does not appear to have provided for any “more liberal terms” than those already provided by the Act, except perhaps for the indirect exemption

¹⁷⁶⁴ *Ibid.*, s. 2.

¹⁷⁶⁵ *Oil Exploration and Development Act*, s. 18(b).

¹⁷⁶⁶ *Ibid.*, s. 10. The 200m depth criteria is significant for being the geographic limit of the resource-rich insular shelves; the area of the seabed from this point up to 200M is included within the legal concept of the continental shelf.

¹⁷⁶⁷ *Oil Exploration and Development Act (1983 Amendment)*, s. 3.

of oil companies from income taxes as explained in the section below on equity and fiscal terms.

6.2.2.2 Contract Term

A service contract term is seven years, divided into three sub-phases.¹⁷⁶⁸ The term may be extended for another three years if the contractor has not been in default in its work obligations and has drilled a combined subsea depth of at least 10,700 meters in test wells.¹⁷⁶⁹ An extension may also be granted if any petroleum is discovered at the end of either the 7th or 10th year, in order to determine whether the discovery is of commercial quantity.¹⁷⁷⁰ An extension of five years, instead of three, is available for deepwater contracts where a discovery is made on the 10th year.¹⁷⁷¹

The contractor may request a two-year moratorium period to suspend the service contract in instances where a commercial discovery is made but it is at a depth or under conditions in which extraction is not yet technologically feasible.¹⁷⁷² If a moratorium is granted, the contractor has those two years to develop the technology, after which it may either continue with the contract or relinquish the areas.¹⁷⁷³ The two-year moratorium period is therefore another form of extension of the contract, although only for special cases. Considering the possible extension and suspension, the maximum offshore petroleum exploration period under a service contract is therefore 12 years.

In case of extension and subsequent production, the service contract remains in force for the remaining balance of the exploration period and an additional 25 years, after which it

¹⁷⁶⁸ *Model Service Contract*, para. 4.01.

¹⁷⁶⁹ *Ibid.* para. 4.01.

¹⁷⁷⁰ *Ibid.*

¹⁷⁷¹ *Oil Exploration and Development Act (1983 Amendment)*, P.D. 1857 (1983), s. 3.

¹⁷⁷² *Model Service Contract*, para. 4.03 and 4.04.

¹⁷⁷³ *Ibid.*

may be renewed for a series of up to three 5-year periods.¹⁷⁷⁴ But in no case will a service contract be in force for more than 50 years.¹⁷⁷⁵ These terms are not *per se* controversial, as it is common for petroleum development and production activities to span several decades depending on the size of the reserve and rate of production.

6.2.2.3 Assignments

Any transfer and assignment of rights and obligations under a service contract requires prior approval by the government, except that in cases where the transfer is between the contractor and its affiliate, the approval is automatic so long as the transferee has the same qualifications as the transferor to enter into the contract.¹⁷⁷⁶ The permissive policy on assignments and transfers allows relatively easy shifts in ownership, farm-in's and farm-out's, which work to the advantage of the government if the changes in equity and participation in the contract facilitate resource exploration and development.

6.2.2.4 Contractor's Obligations

The Contractor must submit a program of minimum work commitments and minimum expected exploration expenditures for approval by the DOE, and begin performance within six months from the effective date of the service contract.¹⁷⁷⁷ An extensive range of obligations is placed upon the Contractor, some involving government approval of Contractor plans and decisions,¹⁷⁷⁸ all apparently intended to establish the State's formal supervision over all the activities under the contract. The Contractor may also be required by the government to drill a minimum depth of test wells before the end of periods of time that may be specified in the contract. This will entitle the Contractor to

¹⁷⁷⁴ *Oil Exploration and Development Act*, s. 9(f) in relation to *Model Service Contract*, para. 4.02.

¹⁷⁷⁵ *Model Service Contract*, para. 4.02.

¹⁷⁷⁶ *Oil Exploration and Development Act*, s. 11.

¹⁷⁷⁷ *Oil Exploration and Development Act*, s. 9 and *Model Service Contract*, para. 6.01 to 6.05, 8.01, and 8.02.

¹⁷⁷⁸ *Model Service Contract*, para. 7.01.

avail of the three-year extension of the contract,¹⁷⁷⁹ unless it has been default in its work obligations.¹⁷⁸⁰

If the service contract is renounced or abandoned within two years from its effective date, the Contractor is required to pay to the government the amount it committed to spend during those two years.¹⁷⁸¹ If the minimum exploration work commitment is fulfilled but the expected corresponding minimum exploration expenditures are not, the unspent amounts shall be deemed as savings and need not be paid to the government.¹⁷⁸²

In case of development, the Contractor is also required to include a provision for abandonment and payment of abandonment costs.¹⁷⁸³ These costs are to be accrued and recovered annually as operating costs over the productive life of the oil/gas field.¹⁷⁸⁴ Generally, these are the only obligations in the MSC referring to abandonment and decommissioning, and it appears that the means and manner of such abandonment and decommissioning have been left entirely to the contractor's discretion and expertise.

6.2.2.5 Relinquishment

At least 25% of the initial area of the service contract must be relinquished to the government at the end of five years from its effective date, and another 25% at the end of seven years if the contract is extended to 10 years.¹⁷⁸⁵ This is currently implemented by the MSC which requires that on or before the end of the first sub-phase based on the

¹⁷⁷⁹ *Oil Exploration and Development Act*, s. 9(a). The contractor must have drilled at least a combined subsea depth of 10,700 in all of its wells to qualify for this extension. *Model Service Contract*, para. 4.01.

¹⁷⁸⁰ *Oil Exploration and Development Act*, s. 9(e).

¹⁷⁸¹ *Oil Exploration and Development Act*, s. 9(b).

¹⁷⁸² *Model Service Contract*, para. 6.04.

¹⁷⁸³ *Ibid.*, para. 7.01(h).

¹⁷⁸⁴ *Ibid.*

¹⁷⁸⁵ *Oil Exploration and Development Act*, s. 9(c).

approved Work Plan, the Contractor shall surrender 25% of the initial Contract Area,¹⁷⁸⁶ and another 25% on or before the end of the second sub-phase.¹⁷⁸⁷ These relinquishment requirements ensure that Contractors do not hold on to contract areas for an unreasonable length of time without undertaking exploration work, so that the government may have unexplored relinquished areas bidded out to other prospective contractors. The programmed reduction of exploration areas should also encourage Contractors to focus and prioritize their exploration efforts within the bounds of the original area.

The relinquished area need not include any portions that have already been delineated and set aside for production after discovery of petroleum in commercial quantity.¹⁷⁸⁸ There seems to be no express limitation on the hectarage of a production area, other than that it is subject to DOE approval.¹⁷⁸⁹ If such a discovery has been made, the Contractor may retain up to 12.5% of the initial area, in addition to the delineated production area, after the exploration period and during the effectivity of the service contract.¹⁷⁹⁰ Rentals are due on the retained areas,¹⁷⁹¹ which are presently fixed at a symbolic flat rate of Forty Philippine Pesos (PhP 40.00, or less than One CAD) per hectare per year.¹⁷⁹²

6.2.2.6 Equity and Fiscal Terms

6.2.2.6.1 *Philippine Participation*

Neither the *Oil Exploration and Development Act* as amended, nor the MSC, expressly provide a specific proportion of Philippine participation (whether by the State or private sector) in any oil and gas exploration and development venture. The amount of

¹⁷⁸⁶ *Ibid.*, in relation to *Model Service Contract*, para. 5.01.

¹⁷⁸⁷ *Model Service Contract*, para. 5.02.

¹⁷⁸⁸ *Oil Exploration and Development Act*, s. 9(c) and 9(d), and *Model Service Contract*, para. 5.3.

¹⁷⁸⁹ *Model Service Contract*, para. 2(53).

¹⁷⁹⁰ *Oil Exploration and Development Act*, s. 9(e), and *Model Service Contract*, para. 5.04.

¹⁷⁹¹ *Ibid.*

¹⁷⁹² *Model Service Contract*, para. 5.04.

Philippine participation in the venture is optional,¹⁷⁹³ and the 60/40 equity requirements of the 1987 Constitution have been applied only to determine the State's royalties or production share.

6.2.2.6.2 Contractor's Privileges and Exemptions

Generally, the Contractor is entitled to many fiscal privileges and exemptions in its operations in the country, among them:

1. exemption from all national internal revenue taxes except income tax;
2. exemption from import and export duties and taxes on the importation of machinery, equipment, spare parts and all materials required for operations, subject to certain conditions;
3. exportation of petroleum subject only to prior filling *pro-rata* of domestic needs;
4. repatriation of capital investment over a reasonable period;
5. retention abroad of all foreign exchange representing proceeds arising from exports accruing to the contractor over and above local costs of administration and operations and revenues due to the Government.¹⁷⁹⁴

National internal revenue taxes in the first paragraph above refer to taxes imposable under the National Internal Revenue Code as amended,¹⁷⁹⁵ and do not include local taxes such as business permits and real estate taxes which are imposed under Book 2 of the Local Government Code.¹⁷⁹⁶ The applicability of local taxes commenced only under the

¹⁷⁹³ Only a Filipino Participation Incentive Allowance (FPIA) is offered in exchange for such participation.

¹⁷⁹⁴ *Oil Exploration and Development Decree*, P.D. 8 (1972) , s. 12 and s. 13.

¹⁷⁹⁵ *Tax Reform Act*, R.A. 8424 (1997), s. 27-30 (corporate income taxes), 148 and 151 (excise taxes).

¹⁷⁹⁶ *Local Government Code*, s. 128-383 (local government taxation).

Local Government Code, and does not apply to service contracts executed prior to its effectivity on 01 January 1992.¹⁷⁹⁷

Although it appears under the *Oil Exploration and Development Act* that the contractor is still liable to pay income taxes, under the MSC those income taxes are actually payable by the government.¹⁷⁹⁸ Since the government cannot be paying taxes to itself on behalf of a taxable person, this is for all practical intents and purposes also an exemption from all income taxes. The government's total exemption of the Contractor from all national taxes is an abandonment of one of the main means of recapturing the economic rent from all petroleum activities in the country, and among the most effective for generating revenues for the government.¹⁷⁹⁹ Whether such an exemption is permissible may be legally challenged,¹⁸⁰⁰ as it is very clear from the provisions of the law that the intention was to subject the contractors to income taxes.¹⁸⁰¹

¹⁷⁹⁷ Letter/Opinion, Bureau of Local Government Finance Exec. Dir. Benjamin Geronimo, (12 August 2001).

¹⁷⁹⁸ *Model Service Contract*, para. 7.03:

The DEPARTMENT shall remit, on behalf of each company comprising CONTRACTOR, all Philippine Income Taxes as defined under Section II of this Contract, the National Internal Revenue Code, and the Act based on income or profit derived from Petroleum Operations under this Contract. The DEPARTMENT shall separately remit such Philippine Income Tax to, and obtain separate official receipts acknowledging payment of said taxes from, the proper Government authority and shall furnish to each of the companies comprising CONTRACTOR their respective official receipts issued in their names.

The government's obligation to remit income tax payments on behalf of the contractor/s is reiterated in para. 11.03 and 11.04 of the MSC. But para. 11.02 of the MSC indicates that the contractor's obligation only is to submit a tax return to the DOE.

¹⁷⁹⁹ Kenneth Dam, "The Evolution of North Sea Licensing Policy in Great Britain" (1974) 17:2 J.L. & Econ. 213 at 252.

¹⁸⁰⁰ The independent Commission on Audit (COA) called the attention of the Department of Energy to the irregularity of the offsetting of national income taxes by payment out of the government share in its 2004 audit. According to the COA:

1. Shell Philippines Exploration B.V. was in effect, freed from the payment of corporate income taxes amounting to P4,812,912,093 because this amount was

6.2.2.6.3 Contractor's Operating Expenses and Service Fee

For the first seven years, the Contractor is entitled to reimbursement for all operating expenses, up to an amount not exceeding 70% of the gross proceeds from production in any year; any expenses in excess of 70% may be recovered from operations in succeeding years.¹⁸⁰² These allow any prospective contractors to quickly and easily recover their initial investments once production has commenced. Since operating costs are a continuing cost throughout the lifetime of the project, the Contractor is also entitled to continually recover its annual costs from production. The rules for accounting of such costs are also prescribed by the DOE.¹⁸⁰³

Meanwhile, the service fee cannot exceed 40% of the balance of the gross income after all operating expenses have been recovered, i.e. the net income. A Filipino Participation Incentive Allowance (FPIA) may further be deducted in cases of contracts in which Philippine citizens or corporations have a minimum participating interest of 15%. This allowance is equivalent to an amount not exceeding 7.5% of the posted or market price of petroleum exports produced in the contract area, and from the market price of petroleum produced and sold or disposed for consumption in the Philippines. The current MSC provides for a sliding scale of from 1.5% to 7.5% depending on the proportion of Filipino

directly deducted from the 18% Government Share arising from the sale of gas and condensate from the Malampaya Natural Gas Project, contrary to Section 8.1 of Service Contract No. 38, and Sections 8, 12 and 19 of PD 87, resulting in the understatement of the receivable and income/revenue accounts.

Since corporate income taxes is the sole responsibility of the contractor, we recommend that the Service Contractor should be required to remit to the DOE, the corporate income taxes paid by the Department out of the government share. From then on, corporate income taxes should be paid by the contractor out of its earnings and should not be taken from the government share. Commission on Audit, *Annual Audit Report on the Department of Energy for Cy 2004*. (Quezon City: Commission on Audit, Philippines, 2006), Executive Summary at 2.

¹⁸⁰¹ *Oil Exploration and Development Act*, s. 19.

¹⁸⁰² *Oil Exploration and Development Act*, s. 8(1).

¹⁸⁰³ Department of Energy, *Accounting Procedure (MSC Annex B)* (Taguig City, Philippines: Department of Energy, 2003).

participation and on whether the contract is for the onshore, offshore (0-200 m), or deep-water (200 m and beyond).¹⁸⁰⁴ The FPIA is voluntary in nature, and a foreign corporation is not obligated to have a Philippine partner in its exploration and development activities. The advantage gained by having a Philippine partner is to increase the allowable deductions from gross income from production and thereby reduce the service fee payable to the government. Although the official intention of the FPIA is to promote Filipino participation and technology-transfer, it also raises the possibility of “dummy” corporations being established and used as a means to maximize energy company profits.

6.2.2.6.4 *State Royalties*

The law provides that the annual net revenue or share of the government, including all taxes paid by or on behalf of the Contractor, should never be less than 60% of the difference between the gross income and sum of operating expenses and FPIA.¹⁸⁰⁵ Unless the government elects to receive its share of petroleum in kind, the Contractor is allowed to market all the petroleum produced after supplying the domestic requirements of the country, afterwards accounting for and paying to the government an amount equivalent to 60% of the net proceeds from each lifting or delivery operation.¹⁸⁰⁶

The provision for payment of at least a 60% of the net proceeds of petroleum resources keeps within the 60/40 equity requirements of the 1987 Constitution on the utilization and exploitation of natural resources. Since the government also pays the contractor’s income taxes, and that the contractor is allowed to keep up to 70% of the proceeds from gross production for purposes of recovery of costs for the first 7 years, the amount that eventually enters the government coffers may actually be less than the minimum 60% required by law. Since the 60/40 requirements of the 1987 Constitution also refer to

¹⁸⁰⁴ *Oil Exploration and Development Act*, s. 28 in relation to *Model Service Contract*, para. 2.31.

¹⁸⁰⁵ *Oil Exploration and Development Act*, s. 18(b).

¹⁸⁰⁶ *Oil Exploration and Development Act*, P.D. 87 (1972), s. 8; *Model Service Contract*, para. 10.4(a).

shares in production or profit and not only ownership of capital, there is measure of legal uncertainty in these arrangements. The Supreme Court ruled in *La Bugal B'laan* that 100% foreign ownership of capital is permissible for the petroleum, mineral, and mineral oils sector, and implied that the reason for relaxing foreign ownership requirements also applied to the profit-sharing requirements.¹⁸⁰⁷

6.2.2.7 Environment, Health and Safety

The MSC provisions on environment, health and safety occupy less than half a page of the entire 48-page document. It simply stipulates that the Contractor is “subject to the laws, decrees and regulations on environmental protection, indigenous peoples rights and safety promulgated by the Government and [shall] endeavour to make its best efforts to prevent pollution and damage to the atmosphere, oceans, rivers, lakes, harbours and land, and secure the safety and health of the operating personnel.”¹⁸⁰⁸ Its environmental obligation is only to “use all reasonable endeavours as are applicable to eliminate promptly any pollution occurring in the performance of the petroleum operations and minimize its consequences.”¹⁸⁰⁹

Obviously, there is paucity of guidance and legally enforceable standards for responsibility (and liability) that the terms “best efforts” and “reasonable endeavours” provided by this provision. There is no provision of law or legal precedent in the Philippines that can shed light on what these terms mean legally. This is exactly a situation where there is an absence of law, which is one of the sources of social injustice. Aggrieved parties affected by the Contractor’s operations would not have basis to call the Contractor to account for some damage or injury suffered for as long as the Contractor is able to show that it was working within its own standards of environment, health, or safety. The absence of clear guidance and standards distribute risks inequitably against

¹⁸⁰⁷ *La Bugal B'laan* at 870-72.

¹⁸⁰⁸ *Model Service Contract*, para. 25.01.

¹⁸⁰⁹ *Model Service Contract*, para. 25.01.

any disadvantaged party and in favour of the Contractor with respect to environmental, health, or safety issues arising from petroleum exploration and development operations.

6.2.3 Transmission and Distribution of Petroleum

In the downstream petroleum industry, which includes and transmission and distribution activities, only the oil and natural gas sectors are regulated by existing laws or regulations. The downstream oil sector is governed by the Downstream Oil Industry Deregulation Act,¹⁸¹⁰ while the downstream natural gas sector is administratively managed by the DOE.¹⁸¹¹

6.2.3.1 Oil

The *Downstream Oil Deregulation Act* was enacted in 1998 as part of the government's policy of economic liberalization and deregulation.¹⁸¹² It opens the domestic petroleum market to all domestic and foreign players,¹⁸¹³ provides for a single and uniform tariff on all imported crude oil and refined petroleum products,¹⁸¹⁴ and establishes fair-trade and anti-trust mechanisms to prevent cartelization and predatory pricing.¹⁸¹⁵ It also promotes the entry of new participants in the industry through various fiscal incentives,¹⁸¹⁶ and encourages retail competition.¹⁸¹⁷ In contrast to its greater regulatory control in the upstream sector, the DOE's regulatory functions in the downstream industry pertain only to its anti-trust enforcement¹⁸¹⁸ and monitoring functions.¹⁸¹⁹ There is no provision

¹⁸¹⁰ *Downstream Oil Industry Deregulation Act*, R.A. 8479 (1998)

¹⁸¹¹ *Interim Rules and Regulations for Natural Gas*.

¹⁸¹² *Downstream Oil Industry Deregulation Act*, s. 2.

¹⁸¹³ *Ibid.*, s. 5.

¹⁸¹⁴ *Ibid.*, s. 6.

¹⁸¹⁵ *Ibid.*, s. 7 and 11.

¹⁸¹⁶ *Ibid.*, s. 8 and 9.

¹⁸¹⁷ *Ibid.*, s. 10.

¹⁸¹⁸ *Ibid.*, s. 11-13(a).

¹⁸¹⁹ *Ibid.*, s. 13(a), 14-15.

concerning the involvement or participation of any entities other than the DOE, except for a singular subsection that allows a private person or entity to report, file a suit, and seek relief for violation of the anti-trust provisions of the law.¹⁸²⁰ It is clear that the *Downstream Oil Deregulation Act* is primarily concerned with establishing a free market for petroleum, and for the most part deprives the public of recourse in case market conditions result in hardship for the disadvantaged. No part of the Act would account for distribution, participation, or recognition of any minimum rights or entitlements in favor of any citizen or social group, leading to the assumption that the Act is prone to creating situations of social injustice.

6.2.3.2 Natural Gas

The Philippine natural gas industry was born only in 1995 through executive policy,¹⁸²¹ when the government committed to including natural gas in its energy mix for being an “environment-friendly, indigenous, and low-cost source of energy.”¹⁸²² While the upstream sector is included within the terms of the *Oil Exploration and Development Act* (natural gas being considered a form of petroleum), there is as yet no specific legislation governing the downstream industry. A Natural Gas Bill is still pending in Congress, and the DOE has included its working on its passage as one of the first agenda items in its plans for 2009-2030.¹⁸²³ In the meantime, the DOE has undertaken to regulate the natural gas industry by virtue of its general administrative powers under the DOE Act.¹⁸²⁴

The downstream natural gas sector is divided into the transmission, distribution, and supply sub-sectors.¹⁸²⁵ As a general rule, entry into the downstream natural gas sector is

¹⁸²⁰ *Ibid.*, s. 13(b).

¹⁸²¹ *Policy Guidelines for Natural Gas*, *supra* Note 1722.

¹⁸²² *Ibid.*, s. 2.

¹⁸²³ *Downstream Oil Industry Deregulation Act*.

¹⁸²⁴ *Interim Rules and Regulations Governing the Transmission, Distribution, and Supply of Natural Gas*, DOE DC 2002-08-005 (2002). [Interim Rules for Natural Gas]

¹⁸²⁵ *Ibid.*, Part II.

encouraged by government, subject only to the requirement of a legislative franchise for operation, as a public utility, of natural gas transmission and distribution, and the necessary permits from the DOE.¹⁸²⁶ Cross-ownership between different industry segments are permitted,¹⁸²⁷ on the assumption that the huge investments required by the industry can be facilitated by vertical integration of the different upstream and downstream industries.¹⁸²⁸ This, however, provides an opening for the establishment and maintenance of monopolies and cartels in the industry.

To prevent the emergence of natural monopolies, all owners and operators are generally required to provide third-party access to other gas suppliers on a non-discriminatory basis.¹⁸²⁹ But third-party access may be deferred for three to five years if necessary to make the infrastructure planning more efficient, to generate the initial demand needed to justify investments, or to ensure stability of supply.¹⁸³⁰ Horizontal competition for transmission, distribution and supply is also promoted by the DOE.¹⁸³¹ Agreements to fix prices or output and other practices which restrict, prevent, or distort competition such as predatory pricing, excessive pricing, bundling, denial of fair access to essential facilities, and similar practices are prohibited.¹⁸³²

Due to its early developmental stage, the prices of natural gas services (i.e. transmission, distribution, and supply) are subject to price-setting until a competitive market develops.¹⁸³³ However, the pricing of natural gas itself is allowed to be market driven.¹⁸³⁴

¹⁸²⁶ *Ibid.*, Rules 3, 10, and 12.

¹⁸²⁷ *Ibid.*, Rule 10, s. 4.

¹⁸²⁸ J.V. Emmanuel A. De Dios, *Developing the Philippines Natural Gas Industry*. (Taguig City: Department of Energy, 2002) at 5.

¹⁸²⁹ *Interim Rules for Natural Gas*, Rule 11. An exception is provided in the case of those constructed and operated for own use.

¹⁸³⁰ *Interim Rules for Natural Gas*, Rule 11, s. 3.

¹⁸³¹ *Ibid.*, Rule 16.

¹⁸³² *Ibid.*, Rule 16, s. 1.

¹⁸³³ De Dios, *supra* Note 1828 at 5; *Interim Rules for Natural Gas*, Rule 15.

The rates and schedules of prices are fixed by the Energy Regulatory Commission (ERC), an independent body attached to the DOE.¹⁸³⁵ The ERC is essentially responsible for all price regulation, while the DOE exercises non-price regulation such as the issuance of permits and standards for construction, operation, and safety.¹⁸³⁶ Unlike oil, then, the provision in the interim administrative rules for natural gas price-setting provides a mechanism for the State to protect the public from natural gas price fluctuations. This is especially important at present where the Philippine natural gas market is dominated by one supplier, the Malampaya Deepwater Gas-to-Power Project.¹⁸³⁷

6.2.4 Special EIA Rules

Application of the Philippine EIS Law to the petroleum industry has been subject to special rules by virtue of an agreement entered into in 1999 between the DOE and DENR.¹⁸³⁸ The agreement arose out of the requirement for the DENR to accord “preferential attention” to the DOE’s energy exploration and development activities.¹⁸³⁹ It exempts from the EIS requirement all

“(e)nergy projects involving seismic survey, gravity survey, geoscientific, geophysical surveys, reconnaissance, exploration, feasibility studies, piloting, core drilling/sampling research and development activities, and all other activities that do not involve significant earth

¹⁸³⁴ De Dios, *ibid.* at 6; *Interim Rules for Natural Gas*, Rule 4.

¹⁸³⁵ *Interim Rules for Natural Gas*, Rule 15, s. 1.

¹⁸³⁶ De Dios, *supra* Note 1828 at 6; *Interim Rules for Natural Gas*, Rule 13-14.

¹⁸³⁷ It may take a few more years for this situation to change; it was only in late February 2010 that the DOE announced the issuance of a new service contract (SC 101) for development of the Sampaguita gas field in Reed Bank west of Palawan by the British company Forum Energy. “Forum Energy Given Palawan Oil Service Contract.” *Businessworld* (18 February 2010), online: <<http://www.abs-cbnnews.com/business/02/17/10/forum-energy-given-palawan-oil-service-contract>>.

¹⁸³⁸ DENR-DOE Memorandum of Agreement on Streamlining of EIS Process for Energy Projects (11 October 1999) [*Agreement on EIS for Energy Projects*],.

¹⁸³⁹ *DOE Act*, s. 23; *Agreement on EIS for Energy Projects*, 5th Whereas clause.

moving and ecological/vegetative disturbance activities using mechanical equipment that affect the environment.”¹⁸⁴⁰

Also included in the exemption are “(a)ll retesting of old/existing wells in indigenous energy resource locations for purposes of data gathering and/or verification of validity of historical energy resource information.”¹⁸⁴¹

Relatively smaller-scale components of petroleum projects and facilities, namely fossil fuel power plants of less than 10MW capacity, pipelines up to 20km long, petroleum depots, and refineries with less than 30,000 barrels annual capacity are only required to submit the simplified IEE Document.¹⁸⁴² A full EIS is required for the following:¹⁸⁴³

1. Any energy resource exploration activity or portion of any energy project that requires significant mechanical earth moving and ecological/vegetative disturbance activities;
2. All production and development systems and refineries of petroleum or natural gas;
3. Petroleum-powered energy generation projects with a capacity greater than ten MW;
4. Petrochemical, oil and natural gas terminals;
5. All petrochemical industry projects with designed annual rated capacities greater than 30,000 tons;
6. Oil and natural gas pipelines more than twenty (20) km long.

Based on these exclusions and inclusions, it is clear that all offshore petroleum exploration activities are practically exempt from the EIA process. Even the petroleum development activities undertaken to probe the size and extent of a petroleum reservoir may be covered by this exemption, if a Contractor argues that its drilling activities “do

¹⁸⁴⁰ *Agreement on EIS for Energy Projects*, para. 2.1.1.

¹⁸⁴¹ *Ibid.*, para. 2.1.4.

¹⁸⁴² *Ibid.*, para. 2(a), 2(c), 2(e), and 2(f).

¹⁸⁴³ *Ibid.*, para. 2.2.3.

not involve significant earth moving and ecological/vegetative disturbance activities.” It may be difficult for an interested party that is not a petroleum company to argue otherwise, considering the likely absence of capability to monitor directly any offshore drilling impacts and the ambiguity of the qualification for exemption.¹⁸⁴⁴ It thus appears that energy companies are obligated to undertake an EIA only at the later stage of development, if and when they are ready to construct actual production facilities. However, the exploration and development phases of a petroleum project are precisely the stages at which there are high risks of a disaster that could have enormous environmental impact.¹⁸⁴⁵

¹⁸⁴⁴ It may legitimately be asked how the term “significant earth moving” should be construed, particularly whether the amount of earth displaced by drilling a well thousands of feet deep and discharging it into the surrounding undersea area should fall within its meaning. The absence of “ecological/vegetative disturbance” may likewise be difficult to disprove when one considers offshore drilling, as no information may be available on what or how undersea life is affected at the location of the well.

¹⁸⁴⁵ As this portion of the thesis is being written, the *Deepwater Horizon* oil spill in the Gulf of Mexico is taking place. *Deepwater Horizon* was an offshore drilling rig leased by British Petroleum to develop the Macondo Prospects off the coast of Louisiana, USA. An explosion occurred for as yet unknown reasons on 20 April 2010, sinking the rig, killing at least 12 and injuring many of the 126 persons onboard at the time. The accident has created a massive oil spill, as an estimated 5,000 to 25,000 barrels of crude oil (as well as other materials) leaks uncontrolled from the well located on the seabed 1,500m deep. The *Exxon Valdez* pales in comparison to the expected effects of the disaster, which will like cause extensive damage to fisheries, habitats, wildlife, tourism, and coastal areas along the Gulf of Mexico. See British Broadcasting Corporation, "What do we know about the Deepwater Horizon disaster?," *BBC News* online: <http://news.bbc.co.uk/2/hi/world/us_and_canada/10370479.stm> Last updated: 22 June 2010 (Date accessed: 29 June 2010).; British Broadcasting Corporation, "Gulf of Mexico oil leak 'worst US environment disaster'," *BBC News* online: <http://news.bbc.co.uk/2/hi/world/us_and_canada/10194335.stm> Last updated: 30 May 2010 (Date accessed: 30 May 2010).; Cable News Network, "Timeline: Oil spill in the Gulf," *CNN* online: <<http://edition.cnn.com/2010/US/05/03/timeline.gulf.spill/index.html>> Last updated: 22 June 2010 (Date accessed: 29 June 2010)..

6.2.5 The Law and Offshore Petroleum Technologies

The service contract system was established in order to promote offshore petroleum exploration and development in the 1970s, and is likely to remain the only mechanism for offshore petroleum development for years to come. Adjustments have been made mainly with respect to the administrative process of awarding of such contracts, not their scope or content. As such, the law is largely focused on the contractual relations between the national government and the petroleum company, and there is little in the law in regard to other parties such as LGUs and coastal communities. Indeed, stipulations *pour autri* in regard to such third parties to the contract might even appear out of place.

There is little doubt that the offshore petroleum law primarily serves petroleum exploration and development technologies. The petroleum contracting round process for awarding service contracts is largely a technical matter in which potential exploration areas are opened to exploration, data on such areas are offered for viewing by interested energy companies, and bids are submitted and awarded by the national government. There is no opportunity for third parties that may be affected by prospective exploration activities to provide any input, and the process is kept highly technical and entirely between the national government and the energy companies. It may fairly be said to be largely closed to popular knowledge and understanding. The identification of areas is a science-based decision, based solely on geological characteristics: while the government delineates the exploration areas on offer, it is the Contractor that finally defines and negotiates for the actual contract area. There is no provision for notifying potentially affected LGUs and coastal communities that their territories may be subject to petroleum exploration, let alone development.

The law emphasizes a 7-10 year duration for the contract and facilitates the conduct of exploration work by the Contractor with a minimum of interference from other legal requirements. The agreement between the DOE and DENR practically exempting offshore petroleum exploration from EIAs is evidence of this; removing the EIA process eliminates uncertainties in compliance with the timeline arising from the process of

consultations that would likely be involved in full environmental assessments. The timeline is an important consideration for energy companies, since the technical and logistical requirements for mounting an exploration program (e.g. chartering an exploration vessel, supporting drilling operations) represents significant costs with no assurance of a successful find. While the costs of seismic survey work may be reliably estimated, the costs of drilling (whether in the exploratory or development phase) can be extremely variable, depending on many factors.¹⁸⁴⁶ The possibility of additional costs from external factors not directly related to the actual drilling (e.g., the conduct of EIA), is minimized by the exemption. There is very little room for adjustment in coordinating and mobilizing vessels, equipment, and personnel for exploration or development due to the financial implications of delay.

While Philippine energy law in general attempts to distribute benefits from energy resources to LGUs through the 40% revenue/production share and 0.01PHP/kWh power generation royalties, it is not clear how these rules will apply to the offshore context. There is no law that expressly grants marine territories to the LGU: the closest that does is the Fisheries Code in recognizing municipal waters, but this is a limited functional jurisdiction over fisheries only, not a territorial right. As a general rule, when Philippine law uses the term “territory” with reference to LGUs it refers only to the land, and does not include the sea between such land territories.¹⁸⁴⁷ Constitutionally, minerals and petroleum resources beneath the surface appertain to the State represented by the national government, not its component LGUs.¹⁸⁴⁸ In the absence of a specific law recognizing some LGU entitlement or ownership over offshore petroleum resources (in contrast to the clear situation for land-based resources), the lack of a distributive rule pertaining to the offshore is a likely source of claims to social injustice in the future.

¹⁸⁴⁶ See Kaiser, *supra* Note 148.

¹⁸⁴⁷ *Tan v. COMELEC* [1986], S.C. L-73155, 142 S.C.R.A. 727 at 749.

¹⁸⁴⁸ 1987 Const., art. 12, s. 2.

A major gap in the law is the absence of definite rules determining responsibility and liability for contingent risks and adverse impacts on third parties arising at any stage of the offshore petroleum exploration and development process. The service contract contains no provisions that would assist in the determination of responsibility or liability, apart from a general admonition to comply with all environmental laws and to exert “best efforts” and “reasonable endeavors” to minimize risks to environment, health, and safety. While health and safety issues that pertain to the petroleum company’s own operations and personnel may be expected to be covered by its own internal policies, the same cannot be said for environment, health, and safety issues that affect third parties. This leaves responsibility and liability for potential harms from offshore petroleum exploration and development operations in uncertainty. It effectively shifts the burden of such risks and unexpected damages upon third parties.

The regulation and governance of the offshore petroleum industry is highly centralized, which contrasts sharply with the trend toward decentralization in other ocean resource laws. Indeed, there seems to be no room whatsoever for accommodating any kind of public participation at any level within the exploration, development or production stages of any petroleum project; neither is there any provision which would encourage integration of the nationally-driven petroleum development plans and programs into the LGU’s own development plans and programs. The detailed exposition of the contents of the MSC emphasizes the point that the law and regulations have been designed primarily to serve the needs of offshore petroleum exploration and development operations; the provisions overall are meant to facilitate the conduct of exploration with minimal interference from any quarter. From the standpoint of both participation and recognition, these also represent additional sources of claims to social injustice in the future. Since most other ocean resource uses are governed with much more decentralized and participatory systems, the entry of offshore petroleum development into an area is likely to meet initial protest and opposition and seen as a threat to pre-existing plans and programs for the same area.

Reflecting upon the scope of offshore petroleum law, it may be surmised that the sequence of operations that form the technology path of offshore petroleum energy development and production is relatively long and comprised of several stages. To transform a petroleum resource as it exists in Nature into useable power, a series of highly technical and expensive operations must be undertaken. It begins with exploration through seismic surveys and exploratory drilling, it is followed by development drilling, after which production involving the actual resource extraction may commence. The extracted resource must then be transported to a processing facility that converts or refines the raw resource into a useable fuel like bunker oil, gasoline, or natural gas, which may then be transported to either a power generation facility or device, where the fuel is used to generate usable electricity or heat to power other devices. Each stage of the extended series of operations from exploration to power generation may be further broken down into their specific and localized operations, any one of which may interact or interfere with other technologies that operate in the oceans. This suggests that the sheer complexity of offshore petroleum energy development and production inherently makes it prone to interfering with any other pre-existing technologies in any given coastal or marine space in many different ways and stages. It also implies that it is impossible to bring the process effectively under any single government mechanism, such as a single governing law or regulatory agency. Yet, this is precisely what the law strives to achieve, placing other ocean use sectors at a disadvantage and making offshore petroleum energy exploration and development the priority

6.3 Ocean Renewable Energy Laws

At present, the regulations governing ocean, solar, and wind (OSW) energy, which may include those in the coastal and marine areas, are contained primarily in EO 462, as amended,¹⁸⁴⁹ and the *Renewable Energy Act*.¹⁸⁵⁰ EO 462 encouraged the utilization of

¹⁸⁴⁹ EO 462, *supra* Note 1718. This was later amended by EO 232, *supra* Note 1718.

OSW resources capable of generating more than 1MW of electricity through exclusive production-sharing contracts granted by public bidding and negotiation, after due consultations with host communities and LGU's.¹⁸⁵¹ The *Renewable Energy Act* provides for numerous incentives to liberalize the renewable energy market, promote all kinds of renewable energy technologies, and attract renewable energy technologies and investments.¹⁸⁵²

6.3.1 In General

6.3.1.1 The Renewable Energy Contracting Round

In 2008, the government adopted the Contracting Round system for bidding out service contracts for renewable energy, including wind, solar, and ocean energy resources,¹⁸⁵³ replacing the previous system of negotiated concessions.¹⁸⁵⁴ Renewable Energy Service/Operating Contracts (RE Contracts) are awarded through an open and

¹⁸⁵⁰ *Renewable Energy Act, supra* Note 5. Despite the enactment of the Renewable Energy Act and the issuance of implementing rules, the new law and its regulations only “repealed, amended, or modified accordingly” the provisions of previous laws and regulations “inconsistent with” the new law or rules. Portions of EO 462 and EO 232 that remain consistent with the new law and its implementing rules must therefore be deemed still in force.

¹⁸⁵¹ EO 462, s. 1 and s. 4, as amended by EO 232, s. 1.

¹⁸⁵² *Renewable Energy Act*, s. 21-22. Incentives for local manufacturers, fabricators, and suppliers include tax and duty-free importation of components, parts, and materials; tax credits on domestic capital components, parts and amterials, income tax holidays and exemptions, zero-rated value added tax transactions, tax rebates for components and equipment, and duty-free importation of agricultural inputs for biomass energy farmers and planters.

¹⁸⁵³ Gatdula, “RP Seeks Investors in Wind Power Sectors,” *supra* Note 1713; Gatdula, “DOE Mulls Inclusion of Renewable Energy Projects in Bidding Rounds,” *supra* Note 1713.

¹⁸⁵⁴ *DOE New & Renewable Energy Contract Negotiating Panel*, DC 02-02-001 (2002); as amended by *Order Reconstituting the DOE Contracts Negotiating Panel*, Department Order No. 2003-05-005 (2003).

competitive selection process in the RE Contracting Round.¹⁸⁵⁵ The DOE posts online the list of areas open for application by a developer as often as practicable, after which invitations for open and competitive selection are published.¹⁸⁵⁶ A Review Committee evaluates the proposals and applications received, and recommends the award of RE Contracts to qualified applicants.¹⁸⁵⁷ The award is based mainly on legal, technical, and financial criteria taking into account the type of RE resource, the contract stage offered, the size and location of the area, and other factors.¹⁸⁵⁸

6.3.1.2 Exceptions to the Contracting Round

RE Contracts may be awarded through direct negotiations instead of the Contracting Round in special cases. The first is in cases of “frontier areas” in which there are renewable energy resource potentials, but for which there is insufficient available technical data, and are not ready for immediate development and utilization.¹⁸⁵⁹ Other cases are when no proposal is received at the contracting round, or no applicant meets the legal requirements, or even they legally qualify they are unable to meet the technical and financial criteria.¹⁸⁶⁰

6.3.1.3 Local Interactions

6.3.1.3.1 Accreditation

Under EO 462, OSW power plants in private lands or ancestral domains with an installed capacity of from 500kW to 1MW are subject to accreditation by the LGU, which must

¹⁸⁵⁵ *Guidelines Governing Renewable Energy Service/Operating Contracts*, DOE DC 2009-07-0011 (2009) , s. 9.

¹⁸⁵⁶ *Ibid.*, s. 9(a).

¹⁸⁵⁷ *Ibid.*, s. 9(b).

¹⁸⁵⁸ *Ibid.*, s. 9(c).

¹⁸⁵⁹ *Ibid.*, s. 3(f) and s. 10(a).

¹⁸⁶⁰ *Ibid.*, s. 10(b).

submit quarterly reports to the DOE.¹⁸⁶¹ OSW projects of less than 500kW capacity do not require accreditation as long as the developer does not sell the power output to compete or interfere with the business of any existing electrical franchise in the area.¹⁸⁶² OSW projects generating more than 1MW are directly regulated by the DOE.

6.3.1.3.2 Concurrence

The concurrence and endorsement of the host municipality or city, and that of the host community, is required for the any service contract relying on OSW resources.¹⁸⁶³ This concurrence must be expressed in a resolution of the *sangguniang bayan* (municipal legislative council) or *sangguniang panglungsod* (city legislative council), in the case of the municipality or city, or by the written endorsement of the duly designated and recognized representative of the host community.¹⁸⁶⁴ The applicant must set aside an amount sufficient to cover the costs of consultation with the host municipality or city and the host community in addition to the application and processing fees.¹⁸⁶⁵ The regulations do not mention the need for an endorsement at the provincial level (through the *sangguniang panglalawigan* or provincial legislative council) but the Local Government Code requires this separately.¹⁸⁶⁶ Copies of the relevant resolutions and proof of the public consultations must be submitted in an application together other documentary requirements.¹⁸⁶⁷

¹⁸⁶¹ *Rules and Regulations Implementing Executive Order No. 462*, DOE DC 98-03-005 (1998), s. 31.

¹⁸⁶² *Ibid.*

¹⁸⁶³ *Guidelines Governing Renewable Energy Service/Operating Contracts*, s. 4(b), ss. i.

¹⁸⁶⁴ *Rules and Regulations Implementing Executive Order No. 462*, s. 25.

¹⁸⁶⁵ *Ibid.*, s. 12.

¹⁸⁶⁶ *Local Government Code*, s. 26-27.

¹⁸⁶⁷ *Guidelines Governing Renewable Energy Service/Operating Contracts*, Annex “B”, Part II. The consultation requirements must be complied with especially when converting a RE contract from a Pre-Development Stage to the Development/Commercial Stage, explained in Section 6.3.2 below.

6.3.1.3.3 Other Resource Use Regulations in the Area

As a general rule OSW resource use is seen to be potentially compatible with other resources uses in a given area, as EO 462 expressly allows a “multiple use concept” for an OSW project.¹⁸⁶⁸ In cases where a resource conflict cannot be resolved, the “first-come-first serve principle” prevails.¹⁸⁶⁹ In case of incompatibility, the contract area may exclude portions covered by competing rights to land or natural resources.¹⁸⁷⁰

In addition to the LGU endorsement, the Contractor is responsible for securing other legally-required permits, clearances, and certifications such as the business permits and water rights permits.¹⁸⁷¹ Among these documents is the “free prior informed consent” required under the *Indigenous Peoples’ Rights Act* for all projects located within ancestral domains,¹⁸⁷² which emphasizes the due regard given to indigenous peoples rights. These requirements expressly recognize the general regulatory authority of LGUs and open RE projects to the public participation requirements existing under environment and ocean resource laws.

6.3.1.3.4 Incentives for Host Communities

As incentives for host communities or LGUs, the *Renewable Energy Act* declares that 80% of the royalties or government shares from renewable energy projects “shall be used directly to subsidize the electricity consumption of end users in the host communities/LGUs whose monthly consumption do not exceed one hundred (100)

¹⁸⁶⁸ *EO 462*, s. 5.

¹⁸⁶⁹ *Ibid.*

¹⁸⁷⁰ *Rules and Regulations Implementing Executive Order No. 462*, s. 14.

¹⁸⁷¹ *Guidelines Governing Renewable Energy Service/Operating Contracts*, s. 4(b), ss. ii.

¹⁸⁷² *Indigenous Peoples’ Rights Act*, s. 46(a) in relation to s. 7(c) (right to stay in territories), 17 (environmental considerations), 32 (community intellectual property rights), 33(a) (rights to religious cultural sites and ceremonies), and 57 (natural resources within ancestral domains).

kWh.”¹⁸⁷³ This subsidy may be given in the form of rebates, refunds or any other form as determined by the DOE, Department of Finance, and Energy Regulatory Commission.¹⁸⁷⁴ This is a distributive rule that allows the host communities to derive a direct benefit from a RE project in its area. It is directed particularly toward the poorer segment of such communities, as indicated by the month energy consumption qualification.

6.3.2 The Renewable Energy Service/Operating Contract

The RE Contract normally includes two phases: a “Pre-Development Stage” that includes the preliminary assessment and feasibility study up to the financial preparation and finalization activities,¹⁸⁷⁵ and the “Development/Commercial Stage” that spans the development, production, and utilization of the resource, including the construction and installation of devices up to its operations.¹⁸⁷⁶

6.3.2.1 Contractor’s Qualifications

Any person seeking to become an RE Contractor must be a Filipino citizen, or a corporation at least 60% Filipino-owned and organized under Philippine law.¹⁸⁷⁷ It must possess the technical capabilities to undertake the obligations under the RE Contract, as shown by a track record of concurrent or completed contracts consistent with the RE Contract applied for, as well as personnel with sufficient and relevant work experience and capital equipment or assets.¹⁸⁷⁸ It must also demonstrate adequate financial capability to sustain the proposed work program for exploration activities or feasibility studies

¹⁸⁷³ *Renewable Energy Act*, s. 31.

¹⁸⁷⁴ *Ibid.*

¹⁸⁷⁵ *Guidelines Governing Renewable Energy Service/Operating Contracts*, s. 4(a), ss. i.

¹⁸⁷⁶ *Ibid.*, s. 4(a), ss. ii.

¹⁸⁷⁷ *Ibid.*, s. 6(a). In the case of geothermal resources the corporation may be 100% foreign, though it must apply for an RE Contract in the nature of a financial or technical assistance agreement.

¹⁸⁷⁸ *Ibid.*, s. 6(c).

during Pre-Development, measured through financial statements, bank certifications, cash flow statements, and assets.¹⁸⁷⁹

The RE Contract is transferable subject to prequalification and prior written approval by the DOE.¹⁸⁸⁰ The original Contractor must guarantee the performance of its assigned successor.¹⁸⁸¹

6.3.2.2 Contract Area

An RE Contract area is defined by meridional blocks, each of which covers an area of at least 81 hectares, regardless of whether on land or sea, up to a maximum of 8,100 hectares for wind and/or solar energy resources on land, and up to 81,000 hectares for ocean energy resources or a combination of all three.¹⁸⁸² As a general rule, production-sharing contracts are limited to lands of the public domain, offshore waters, and government reservations.¹⁸⁸³ Private properties may also host private OSW projects, but these are limited to those generating 1MW or less.¹⁸⁸⁴

The maximum areas cannot be exceeded through membership in groups, corporations, cooperatives, or associations.¹⁸⁸⁵ The coordinates of these blocks are available to the public.¹⁸⁸⁶ The area occupied should be located in only one municipality or city.¹⁸⁸⁷ This requirement clearly tends to concentrate the distribution of royalty benefits from the RE

¹⁸⁷⁹ *Ibid.*, s. 6(d). Newly organized subsidiaries of other corporations may instead submit a financial statement and an undertaking of support from its parent company.

¹⁸⁸⁰ *Ibid.*, s. 22.

¹⁸⁸¹ *Ibid.* FTAA's for geothermal resources must additionally be subject to prior approval by the President of the Philippines.

¹⁸⁸² *EO 462*, s. 10.

¹⁸⁸³ *EO 462*, s. 2 and s. 6, as amended by *EO 232*, s. 1.

¹⁸⁸⁴ *EO 462*, s. 3.

¹⁸⁸⁵ *Rules and Regulations Implementing Executive Order No. 462*, s. 15.

¹⁸⁸⁶ *EO 462*, s. 10 and *Rules and Regulations Implementing Executive Order No. 462*, s. 13.

¹⁸⁸⁷ *Rules and Regulations Implementing Executive Order No. 462*, s. 11.

project to a single host LGU, which is likely to be a significant contribution to local development and finances.

6.3.2.3 Contract Term

The term of an RE Contract is at least 25 years, renewable for another 25 years, inclusive of the Pre-Development and Development/Commercial Stages.¹⁸⁸⁸ The Pre-Development Stage takes at least two years, though it may be extended for another year depending on the terms and conditions agreed upon.¹⁸⁸⁹

6.3.2.4 Contractor's Obligations

The RE Contract binds the Contractor to comply with all work and financial commitments and provide all services, technology, and financing required.¹⁸⁹⁰ It is expressly bound to observe all laws on labor, health, safety, environment, ecology and indigenous peoples' rights;¹⁸⁹¹ and pay the corresponding government share and taxes.¹⁸⁹² It must give priority to employing qualified personnel from the area where the project is located and give preference to qualified Filipinos in all types of employment it may generate.¹⁸⁹³ The preference extends to local companies and agencies as subcontractors for activities or services the developer may carry out or require.¹⁸⁹⁴

The developer must also post a performance bond when required, submit timely technical and financial reports, and maintain complete and accurate records of all costs and

¹⁸⁸⁸ *Guidelines Governing Renewable Energy Service/Operating Contracts*, s. 15.

¹⁸⁸⁹ *Ibid.*, s. 15.

¹⁸⁹⁰ *Ibid.*, s. 16(a).

¹⁸⁹¹ *Ibid.*, s. 16(b).

¹⁸⁹² *Ibid.*, s. 16(c).

¹⁸⁹³ *Ibid.*, s. 16(d).

¹⁸⁹⁴ *Ibid.*, s. 16(e).

expenditures, data, samples, and other information.¹⁸⁹⁵ The contract area and all records of operations must also be accessible to DOE personnel at all times.¹⁸⁹⁶

6.3.2.5 Equity and Fiscal Terms

6.3.2.5.1 *Production Share*

As part of its effort to promote renewable energy projects through the Renewable Energy Act, the government has substantially reduced its production share in renewable ocean energy to a very low one percent (1%) of the gross income of the energy developers based on generation, transmission, and sale of electricity.¹⁸⁹⁷ This share is then divided between the national government and LGUs, where applicable.

Forty percent (40%) of the government share goes to the local government within whose territorial jurisdiction the project falls, which is then subdivided further according to a detailed formula specified in the *Local Government Code*.¹⁸⁹⁸ The RE Contract must include specific provisions on these benefits of the host communities or LGUs, and the Contractor is obligated to inform the host community and LGUs of such benefits as part of its information, education, and communication campaign.¹⁸⁹⁹

In the absence of a production share, the benefits derived from renewable energy projects will remain mainly those derived from the electricity generation royalty and collection of local and national taxes. The collection of national taxes, however, is subject to various incentives under the *Renewable Energy Act*, such as tax holidays, exemptions, and credits in the first years of operation of the renewable energy project.¹⁹⁰⁰ This effectively delays

¹⁸⁹⁵ *Ibid.*, s. 16(f) to 16(i).

¹⁸⁹⁶ *Ibid.*, s. 16(j).

¹⁸⁹⁷ *Renewable Energy Act*, s. 13

¹⁸⁹⁸ *EO 462*, s. 15 and *Local Government Code*, s. 290 and 292

¹⁸⁹⁹ *Guidelines Governing Renewable Energy Service/Operating Contracts*, s. 18

¹⁹⁰⁰ *Renewable Energy Act*, s. 15.

the proportional benefits from these sources until several years after the initial operation of the renewable energy facility.

6.3.2.5.2 *Contractor's Privileges and Incentives*

The *Renewable Energy Act* introduced very generous fiscal incentives for all renewable energy projects. A feed-in tariff system permits a fixed tariff to be paid to the energy producer for at least 12 years,¹⁹⁰¹ allowing a definite income stream for the Contractor which assists in the recovery of the initial development and operating costs of the renewable energy project. The Act also creates an income tax holiday for the first seven years of commercial operation,¹⁹⁰² followed by a special corporate tax rate of only 10 percent after the expiration of the tax holiday;¹⁹⁰³ and zero percent value-added tax on sales.¹⁹⁰⁴ All proceeds from the sale of carbon credits are also exempt from taxes.¹⁹⁰⁵

Imports of machinery, equipment, and materials used in the renewable energy facility are duty-free for ten years,¹⁹⁰⁶ while an especially low realty tax rate of only 1.5% of original cost is imposed on all realty and civil works, equipment, machinery, or improvements of the Contractor.¹⁹⁰⁷ If the machinery, equipment, materials, and parts are purchased from a domestic manufacturer, the developer is additionally entitled to a 100% tax credit based on the value-added tax and customs charges that would have been paid if they had been imported.¹⁹⁰⁸

The Contractor is also entitled to deduct its net operating losses from its first three years of commercial operation from its gross income for the next seven years following such

¹⁹⁰¹ *Ibid.*, s. 7.

¹⁹⁰² *Ibid.*, s. 15(a).

¹⁹⁰³ *Ibid.*, s. 15(e).

¹⁹⁰⁴ *Ibid.*, s. 15(g); also *Electric Power Industry Reform Act*, s. 6.

¹⁹⁰⁵ *Renewable Energy Act*, s. 15(i).

¹⁹⁰⁶ *Ibid.*, s. 15(b).

¹⁹⁰⁷ *Ibid.*, s. 15(c).

¹⁹⁰⁸ *Ibid.*, s. 15(j).

loss.¹⁹⁰⁹ It may apply for accelerated depreciation in its tax books in case it is unable to receive the income tax holiday before its full operation.¹⁹¹⁰ Lastly, it is also entitled to a generation-based cash incentive on a per kWh rate for “missionary electrification,”¹⁹¹¹ or the provision of basic electricity services to commercially unviable areas in order to eventually bring them to viable levels.¹⁹¹²

6.3.2.5.3 *Termination and Abandonment*

The DOE may suspend or terminate the RE Contract for cause and after due notice, at any stage.¹⁹¹³ For OSW contracts at the Pre-Development Stage, the grounds include non-compliance with the work program, technical design standards, or environmental regulations; tampering or plagiarizing of technical design and feasibility study reports; or failure to post the performance bond or any other guarantee or non-payment of any financial obligations as required by the RE Contract.¹⁹¹⁴ At the Development/Commercial Stage, the grounds are the same, with the additional ground of non-remittance of the government share.¹⁹¹⁵ The Contractor may avoid termination of the contract if it cures the ground for termination before the effective date of termination specified in the notice.¹⁹¹⁶

The costs of environmental insurance and rehabilitation during the termination and abandonment phase should be covered by a trust account opened jointly in the name of the Contractor, the DOE, and the concerned local government unit.¹⁹¹⁷ The trust fund is

¹⁹⁰⁹ *Ibid.*, s. 15(d).

¹⁹¹⁰ *Ibid.*, s. 15(f).

¹⁹¹¹ *Ibid.*, s. 15(h).

¹⁹¹² *Ibid.*, s. 2(cc).

¹⁹¹³ *Guidelines Governing Renewable Energy Service/operating Contracts*, s. 20. In case the RE is an FTAA for geothermal energy, it may be suspended or terminated only by the President upon recommendation of the Secretary of Energy.

¹⁹¹⁴ *Ibid.*, s. 20(a).

¹⁹¹⁵ *Ibid.*, s. 20(b).

¹⁹¹⁶ *Ibid.*, s. 20, penultimate para.

¹⁹¹⁷ *EO 462*, s. 17; *Rules and Regulations Implementing Executive Order No. 462*, s. 27.

created from a portion of the host municipality's royalties.¹⁹¹⁸ At the time of termination and abandonment, any costs in excess of the trust account are charged to the Contractor, but any remainder in the account after rehabilitation accrues to the municipality or city concerned.¹⁹¹⁹

6.3.3 Transmission, Distribution, and Supply

One advantage of OSW energy resources is that instead of having to extract or produce and then transport fuel to another facility that converts it into energy, OSW devices produce energy directly on-site in the form of electricity. This may then be transmitted immediately to an electrical sub-station, and into an electrical grid for use by consumers. Electrical transmission, distribution, and supply are governed by the *Electric Power Industry Reform Act*.

The Energy Regulatory Commission (ERC), an independent five-member quasi-judicial body attached to the DOE, regulates the electric power industry.¹⁹²⁰ Its functions include handling consumer complaints and promoting consumer interests;¹⁹²¹ enforcing the wholesale electricity spot market rules to ensure the supply and rational pricing of electricity;¹⁹²² amendment or revocation of franchises or licenses;¹⁹²³ price-setting of distribution wheeling rates and retail rates;¹⁹²⁴ review and amendment of the terms and conditions of service of the TransCo and distribution utilities;¹⁹²⁵ and monitoring and enforcement against abuse of market power, cartelization, and discriminatory behavior by

¹⁹¹⁸ *Ibid.*

¹⁹¹⁹ *Rules and Regulations Implementing Executive Order No. 462*, s. 27.

¹⁹²⁰ *Electric Power Industry Reform Act*, s. 38-44.

¹⁹²¹ *Ibid.*, s. 41.

¹⁹²² *Ibid.*, s. 43(d).

¹⁹²³ *Ibid.*, s. 43(e).

¹⁹²⁴ *Ibid.*, s. 43(f).

¹⁹²⁵ *Ibid.*, s. 43(h).

any market participant.¹⁹²⁶ Many other powers are granted the ERC in order to promote the development of an open and competitive market in electrical power while retaining sufficient authority to guard against abuse by participants and to protect the interests of disadvantaged groups.¹⁹²⁷ Anti-competitive behavior like cross-subsidization, price or market manipulation, cross-ownership, monopolies, and other unfair trade policies are prohibited.¹⁹²⁸

The *Electric Power Industry Reform Act* also promotes rural electrification by encouraging the establishment of electrical cooperatives.¹⁹²⁹ This continues the long-standing policy of the Philippines of seeking the total electrification of the Philippines, originally initiated with the creation of the National Electrification Administration (NEA).¹⁹³⁰ To this end the NEA is tasked with preparing rural electric cooperatives to operate and compete in the deregulated electricity market, strengthening their technical capability and financial viability, and revising and upgrading regulatory policies to enhance the viability of such cooperatives as public utilities.¹⁹³¹

6.3.3.1 Transmission

Unlike power generation, which under the law is not a public utility requiring a national franchise,¹⁹³² the transmission of electricity is a regulated common carrier business subject to the ratemaking and standard-setting powers of the Energy Regulatory Commission (ERC), an attached agency of the DOE.¹⁹³³ However, it is centralized since electrical transmission and subtransmission facilities nationwide and the entire electrical

¹⁹²⁶ *Ibid.*, s. 43(k).

¹⁹²⁷ *Ibid.*, s. 43-45.

¹⁹²⁸ *Ibid.*, s. 45.

¹⁹²⁹ *Ibid.*, s. 49.

¹⁹³⁰ *National Electrification Administration Decree*, P.D. 269 (1973) . The NEA is also an attached agency under the supervision of the DOE.

¹⁹³¹ *Electric Power Industry Reform Act*, s. 58.

¹⁹³² *Ibid.*, s. 6.

¹⁹³³ *Ibid.*, s. 7.

grid are operated, maintained, and improved by the National Transmission Corporation (TransCo),¹⁹³⁴ a corporation created by the Electric Power Industry Reform Act¹⁹³⁵ whose operation was recently privatized.¹⁹³⁶ TransCo's transmission charges are determined by the ERC.¹⁹³⁷

Access to TransCo's transmission system is open and non-discriminatory for all electricity users.¹⁹³⁸ A generation company can establish a dedicated transmission facility exclusively for the purpose of connecting to TransCo's grid.¹⁹³⁹ If the facility services other consumers, it must be transferred to TransCo at a fair market price or as determined by the ERC.¹⁹⁴⁰

6.3.3.2 Distribution

The distribution of electricity to end-users is likewise a common carrier business regulated by the ERC, requiring a franchise and undertaken by a private distribution utility, cooperative, or LGU.¹⁹⁴¹ A distribution utility must provide open and non-discriminatory access to all users, in exchange for collecting distribution wheeling charges, retail rates, and connection fees that are likewise set by the ERC.¹⁹⁴² Distribution

¹⁹³⁴ *Ibid.*, s. 8, 9(c) and 9(d).

¹⁹³⁵ *Ibid.*, s. 8-18.

¹⁹³⁶ *Ibid.*, s. 8 in relation to s. 21. See also Philippine Information Agency, "Monte Oro wins TransCo concession bidding," *Philippine Information Agency* online: <<http://www.pia.gov.ph/Default.asp?m=12&sec=reader&rp=2&fi=p071213.htm&no=16&date=12/13/2007>> Last updated: 13 December 2007 (Date accessed: 15 March 2010).; GMA News.TV, "Monte Oro wins Transco with \$3.95-billion offer," *GMA News and Public Affairs* online: <<http://www.gmanews.tv/story/72552/Monte-Oro-wins-Transco-concession-with-395B-bid>> Last updated: 12 December 2007 (Date accessed: 15 March 2010)..

¹⁹³⁷ *Electric Power Industry Reform Act*, s. 19.

¹⁹³⁸ *Ibid.*, s. 9.

¹⁹³⁹ *Ibid.*, s. 9, 3rd para.

¹⁹⁴⁰ *Ibid.*

¹⁹⁴¹ *Ibid.*, s. 22.

¹⁹⁴² *Ibid.*, s. 23-25.

utilities are required to provide universal service within their franchise areas, “including univable areas, as part of their social obligations” in their distribution development plans¹⁹⁴³

6.3.3.3 Supply

The supply sector is considered a business affected with public interest, and thus all suppliers of electricity to a “contestable market” are required to have a license issued by the ERC.¹⁹⁴⁴ The DOE established and defined the rules for a wholesale electricity spot market (WESM) to determine the price of electricity not subject to bilateral contracts between sellers and users.¹⁹⁴⁵ These rules are intended to provide a level playing field for all electricity suppliers,¹⁹⁴⁶ who may include any generating company, distribution utility, supplier, bulk consumers, or other entities in the electricity market.¹⁹⁴⁷ An autonomous entity, comprised of the DOE and representatives of all electric power industry participants, is established as a “market operator”.¹⁹⁴⁸ The supply market implements retail competition and open access on distribution wires.¹⁹⁴⁹

6.3.4 Special EIA Rules

Compliance with the EIS System is included among the legal obligations of the developer in an RE Contract.¹⁹⁵⁰ The conduct of the EIA and the issuance of the ECC are

¹⁹⁴³ *Ibid.*, s. 23, 7th para.

¹⁹⁴⁴ *Ibid.*, s. 29. A “contestable market” refers to electrical consumers who have a choice of electrical supplier. Electric Power Industry Reform Act, s. 4(h).

¹⁹⁴⁵ *Ibid.*, s. 30.

¹⁹⁴⁶ *Ibid.*, s. 30.

¹⁹⁴⁷ *Ibid.*, s. 30.

¹⁹⁴⁸ *Ibid.*, s. 30.

¹⁹⁴⁹ *Ibid.*, s. 31.

¹⁹⁵⁰ *Guidelines Governing Renewable Energy Service/Operating Contracts*, s. 16(b) and s. 20(a), ss. iii.

specifically required for conversion of a Pre-Development Contract into a Development/Commercial Contract.¹⁹⁵¹

The Memorandum of Agreement between the DOE and DENR to streamline the EIA process for energy activities also governs EIA for RE projects, particularly for OSW resources.¹⁹⁵² According to this agreement, ocean and solar energy projects with a rated capacity from one to ten MW are subject only to the simplified IEE Checklist procedure.¹⁹⁵³ The success of the Northwind Bangui Bay Windpower Project led to the adoption of a specialized IEE Checklist for wind energy projects with a rated capacity of 5MW to 100MW.¹⁹⁵⁴ As indicated in Chapter Five, the IEE Checklist is a simplified form document with specific questions and data requirements. As there is no experience yet with either ocean or solar energy production, there are as yet no new IEE Checklists for those types of energy facilities.

6.3.5 The Law and Renewable Energy Technologies

The above comparison of the differences in the regimes for non-renewable and renewable energy resources point toward markedly different impacts toward the rules of participation, recognition, and distribution. The content and ‘design’ of RE law that lay down the terms and conditions of the RE SCs are heavily imbued with a sense of recognition of the possible existence and legitimate interests of coastal communities, as shown by provisions for host benefits, obligations for consultations, and local concurrence. Quite the opposite, offshore petroleum law makes no room for the LGUs or the coastal communities, and is concerned solely with laying out the scope of a Contractor’s rights in the offshore petroleum MSC.

¹⁹⁵¹ *Ibid.*, Annex B, Part II.

¹⁹⁵² *Agreement on EIS for Energy Projects*, *supra* Note 1838.

¹⁹⁵³ *Ibid.*, s. 2.2.1(a)

¹⁹⁵⁴ *IEE Checklist for Wind Energy Projects*, DENR MC 06-03 (2006) .

Stipulations *pour autrui* in RE SCs such as those regarding host communities and indigenous peoples acknowledge the right of communities to partake in the decision-making processes involved in the entire technological system, in conjunction with the right of the national government. Express recognition of local licensing and taxation powers also assure such communities of a minimum measure of revenue benefit. Again, this is unlike the offshore petroleum SCs, which deal with the rights and obligations of the State and the Contractor almost exclusively, and for which tax exemption privileges shield against most local revenue streams. As a result of the inattention to third parties external to the contract, and perhaps on account of the need to provide further incentives for exploration, the offshore petroleum MSCs leave unclear the obligations of the Contractor to third parties. This is especially the case with the environment, health and safety clause of offshore petroleum MSCs, which relinquishes judgment over appropriate means to respond to pollution damage to the Contractor. The law even tends to protect the Contractor from having to be accountable under other laws, as it does through the practical exemption of offshore petroleum exploration and development from EIAs, leaving the Contractor free to carry out its tasks with the minimum of interference.

Unlike the offshore petroleum laws, the newer RE laws have more rules specifically dealing with distribution, participation, and recognition. The law makes a clear effort to disperse the benefits from RE projects to local communities directly through the 1% gross income royalty and sharing arrangement between the national government and the LGU; the requirement that RE projects should be located in one host LGU; the usage of royalties or shares to subsidize the electricity consumption of poorer members of host communities; and priority and preference for local employment and subcontractors for ancillary services. Public participation is likewise promoted and respected by expressly requiring Contractors to engage in an information, education, and communication campaign about their RE projects (especially the benefits that will accrue to the host communities), and to secure local concurrence as required under the Local Government Code. These are in addition to compliance with existing legal requirements such as licenses and permits, and Free, Prior and Informed Consent in the case of indigenous

peoples. The latter is also a recognition of the special interests of indigenous peoples in case RE projects will be located within their ancestral domains.

Another difference between offshore petroleum technologies and renewable energy technologies is the relatively simpler sequence of technologies involved in extracting renewable energy. As noted in the discussion above, offshore petroleum energy development requires a complex and well-coordinated sequence of extensive exploration, development, production, and transportation operations before power generation; in contrast, renewable energies involve minimal exploration, followed immediately by the power generation and transmission/distribution once the RE devices have been installed. The shorter technology path determined by the relative simplicity of the RE power generation process makes RE technologies like wind easier to understand on the part of persons without special technical knowledge. The principles behind how the devices generate energy are easy to grasp, and usable power is the immediate product of each type of RE device.

RE technologies also have a ‘scaleability’ and ‘mobility’ advantage. The RE project’s energy output, the corresponding number of energy producing units, and the amount of space such units require, can be controlled and pre-determined. It is possible for most RE facilities to be installed to produce anywhere from just a few kWh to hundreds of MWh, just by increasing the number of RE generating devices (e.g., wind turbines or solar panels), and the actual location and position of RE devices may be adjusted depending on any number of factors. The power requirements may be the primary consideration in determining the scale and location of an RE facility. This makes it possible for the law to specify where RE facilities can be located.

The scale and location of offshore petroleum facilities, in contrast, cannot be pre-determined as easily. Economic or commercial viability is the primary consideration for the decision to develop a petroleum resources, based on a combination of factors such as the size and location of the reserve, technologies required to extract the resources, the costs of producing and transporting the resource, the minimum profits needed to recover

the costs of exploration, and the availability of markets. This requires a proponent to reach a minimum economic threshold in terms of scale and costs before it can develop an offshore petroleum resource, about which the law can do nothing. And if a decision is made to develop the resource, the law is likewise powerless to determine the location and scale of the corresponding petroleum project because interfering with such elements could adversely affect the project's commercial viability. Thus the law has much less prior control over offshore petroleum projects' design, components, location, and social or environmental impacts. For this reason, the RE law can prescribe that RE projects be located in only one LGU for example, but cannot establish similar constraints for offshore petroleum projects.

6.4 Prelude to Two Ocean Energy Projects

It may be observed that there appears to be a definite correlation between the nature and characteristics of energy technologies and their tendency to promote or inhibit ecological social justice in the Philippines. On the one hand, offshore petroleum energy exploration and development which manifest longer and more complex technological paths seem to be more inclined to limit or deny broader participation, recognition, and distribution. On the other hand, RE development that offer much shorter and simpler technology paths seem to incorporate and promote them. Both tendencies are manifest in the respective laws applicable to each type of energy development: offshore petroleum law is much more exclusionary, while RE law is more inclusionary, in the terms and conditions that they lay in the SCs that the Philippines offers to prospective energy developers. This implies that all things being equal, offshore petroleum projects, no matter how safely and properly designed and implemented, are more likely to generate claims or demands for better participation, recognition, or distribution, i.e. claims of injustice, than RE projects like wind power. This proposition will be tested in the next two chapters that describe and analyze examples of two such different projects from an ecological social justice perspective.

CHAPTER 7

DOUBTS IN THE DEPTHS: THE MALAMPAYA DEEPWATER GAS-TO-POWER PROJECT

7.1 The Malampaya Deepwater Gas to Power Project

The Malampaya Deepwater Gas to Power Project (Malampaya) inaugurated in 2001 is the Philippines' first offshore petroleum production project. (Figures 3 and 14) It extracts natural gas from the conjoined Camago-Malampaya Field structure located three kilometres under the sea some 80 kilometers west of the northern tip of the island-province of Palawan. Estimates place proven reserves at between 2.3 to 4.4 TCF of natural gas and 85 Million barrels of oil condensate.¹⁹⁵⁵ These are extracted by nine wells under water 820 m deep, connected to a subsea manifold and two 30 km flowlines which transport the gas and condensate to a 91,000 MT Concrete Gravity Structure (CGS) mounting the *Malampaya* production platform located in shallower waters about 43 metres deep.¹⁹⁵⁶ The CGS holds up to 385,000 bbl of condensate that is retrieved and

¹⁹⁵⁵ Department of Energy, "The Philippine Natural Gas Industry: Vision, Strategy, and Policy (Briefing for the Proponents of House Bill No. 4754, House of Representatives)," *Department of Energy* online: <http://www.doe.gov.ph/ER/pdf/Nat_Gas_Presentation.ppt> (Date accessed: 21 August 2008); Department of Energy, "Developing the natural gas industry," *Department of Energy* online: <http://www.doe.gov.ph/servlet/page?_pageid=399,401,403,407&_dad=portal30&_schema=PORTAL30> (Date accessed: 03 April 2004).; Energy Information Authority, "EIA country analysis briefs: Philippines," *Energy Information Authority* online: <<http://www.eia.doe.gov/emeu/cabs/philippi.html>> Last updated: 01 August 2008 (Date accessed: 21 August 2008).

¹⁹⁵⁶ Susan Gallardo and Leonila Abella. "The challenges and opportunities of environmental catalysis in the natural gas based industry and the academe in the Philippines" (Presented at the *6th AEESEAP Triennial Conference*, 23-25 August

taken to shore by tanker; a separate floating Catenary Anchored Leg Mooring (CALM) Buoy allows tankers to load the condensate at a distance from the platform.¹⁹⁵⁷ The facility pumps natural gas into a 504-kilometre, 24-inch stainless steel pipe covered in a thick composite layer of fiberglass, asphalt enamel, wire cage, and concrete.¹⁹⁵⁸ Malampaya gas is composed mostly of methane (90.52%), the rest being carbon dioxide (3.77%), ethane (2.77%), propane (1.21%) and various other trace gases.¹⁹⁵⁹ From the platform, it travels eastward just outside the waters of the Municipality of El Nido to traverse the Linapacan Strait between the island-municipalities of Linapacan and Culion. From there, it heads toward the southern tip of the island-province of Mindoro. It then crosses nearly all of the municipal waters of Oriental Mindoro as it turns northward toward South-Central Luzon.

The pipeline makes landfall and is metered at an onshore gas plant located in the coastal *barangay* of Tabangao in Batangas City.¹⁹⁶⁰ The plant removes hydrogen sulphide from the gas (the sulphur is sold separately) and delivers 500 MM CFPD of 'sweetened' dry gas to buyers via onshore pipelines.¹⁹⁶¹ Three combined-cycle gas turbine power generating plants use the natural gas to generate 2,700 MW of electricity. They were built specifically for Malampaya and are all located within 12 kilometres of the gas plant, in the 3 *barangay* of Ilijan (1200 MW), Santa Rita (1000 MW), and San Lorenzo (500

2000); Facundo Roco and Karen Agabin, *Power From the Deep: The Malampaya Story*, vol. 1 (Makati: Shell Philippines Exploration, 2005) at 66.

¹⁹⁵⁷ Shell Philippines Exploration, "Malampaya Deepwater Gas to Power Project," *Shell Malampaya* online: Malampaya.com
<http://www.malampaya.com/web/H_project5.htm> (Date accessed: 04 April 2004). [Malampaya official website]

¹⁹⁵⁸ *Ibid.*; also Roco and Agabin, *supra* Note 1956 at 107.

¹⁹⁵⁹ Gallardo and Abella, *supra* Note 1956 at 1.

¹⁹⁶⁰ *Malampaya official website*.

¹⁹⁶¹ Shell Philippines Exploration, *Malampaya Project Brochure Kit* (Muntinlupa: Shell Philippines Exploration, undated), Leaflet 4: Malampaya Project.

MW), also within Batangas City.¹⁹⁶² In 2003, output from just the Ilijan and Sta. Rita plants already comprised 18.9% of the country's total installed power-generating capacity.¹⁹⁶³

Malampaya cost 4.5 Billion USD and is currently owned by a consortium comprised of Shell Pilipinas Exploration BV (45%), Chevron Texaco (45%), and the Philippine National Oil Company (10%).¹⁹⁶⁴ It is expected to operate for at least 20 years, generating some 500 Million USD annually for the Philippines after the service contractors' recovery of development and production costs.¹⁹⁶⁵ Shell expected to recover its costs in 2008, and in all, the Philippines will receive an estimated 8-10 Billion USD for the duration of the project.¹⁹⁶⁶

¹⁹⁶² Department of Energy, "Energy Resources: Natural Gas," *Department of Energy* online: <<http://www.doe.gov.ph/ER/Natgas.htm>> Last updated: 31 August 2005 (Date accessed: 21 August 2008).

¹⁹⁶³ The San Lorenzo plant came onstream later. Department of Energy. *Indicative Power Development Plan: Investment Opportunity in Power Generation* (Presented at the First Philippine Public Contracting Round, Makati, 23 August 2003).

¹⁹⁶⁴ *Malampaya official website*; Shell Philippines Exploration, *Malampaya Project Brochure Kit*, Leaflet 4 (Malampaya Project).

¹⁹⁶⁵ *Malampaya official website*.

¹⁹⁶⁶ Nonette Climaco, "Oh, Gas! Malampaya Promises Reduction in Oil Dependence From 47% to 9%," *Philippine Business Magazine* online <http://www.philippinebusiness.com.ph/archives/magazine/vol8-2001/8-3/photo_essay.htm> (Date accessed: 03 April 2004). Initial estimates pegged the national government's share at 8.1 Billion USD. See *Fulfillment of Obligations Under Gas Sales Ad Purchase Agreement With Shell/Oxy*, A.O. 381 (1998), Preamble 15, para. 2.

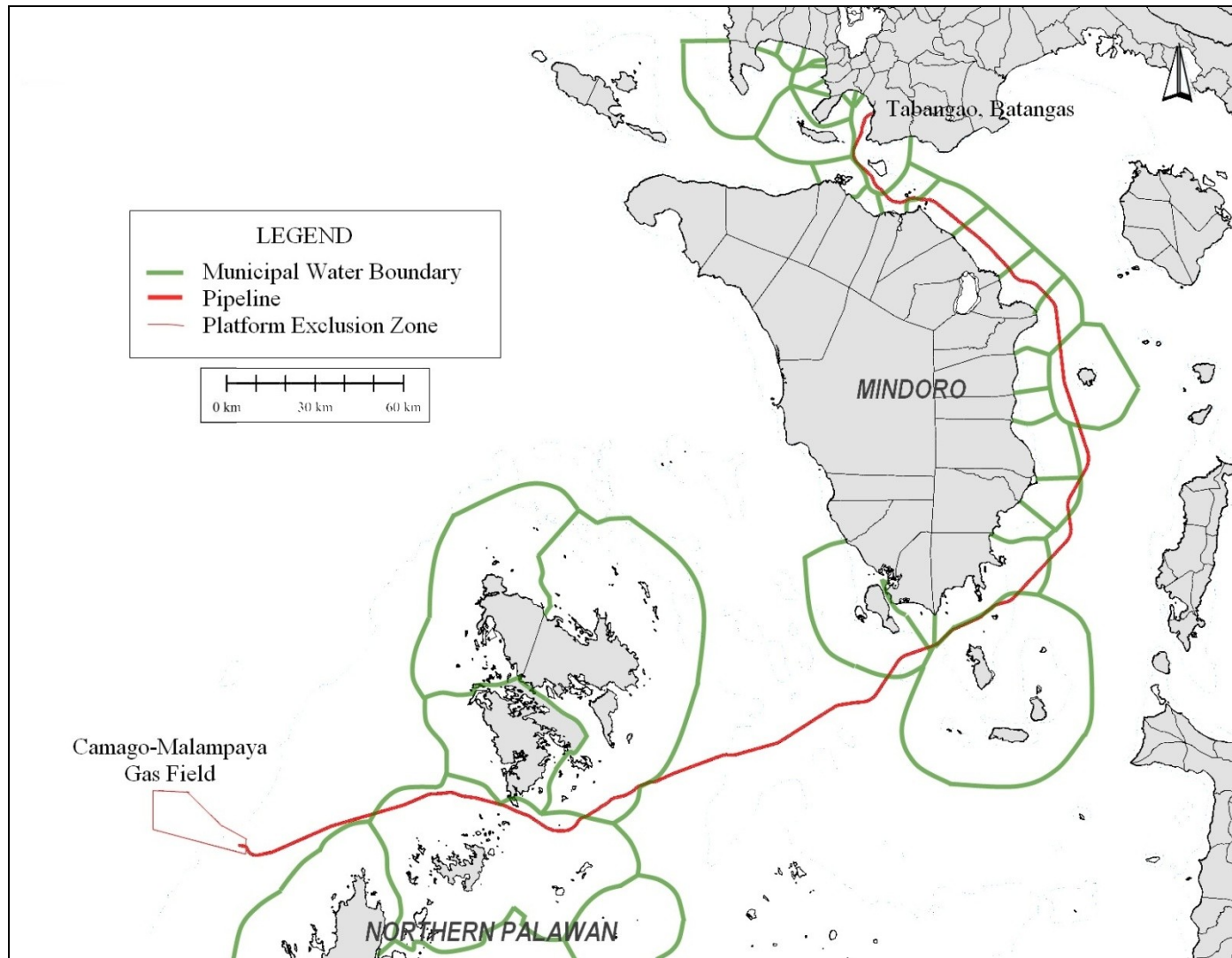


Figure 14. The Malampaya Deepwater Gas to Power Project spans 504 km from the continental shelf off Northwestern Palawan to the shores of Batangas Bay.

7.1.1 Malampaya's Strategic Role in Philippine Energy Policy

The national interest invested in Malampaya is overwhelming when one considers the sheer costs, technical sophistication, geographic scope, and its strategic position in the national energy infrastructure and development program. The entire Philippine natural gas industry itself began only in 2001 with the development of the Camago-Malampaya Gas Field.¹⁹⁶⁷ Up to the present, Malampaya is the sole foundation of the country's natural gas industry, providing up to 30% of Philippine energy requirements in the near-term.¹⁹⁶⁸

Investing in an entire industry with only a single source of natural gas was huge gamble on the part of the Philippines. The government took it because it coincided with the primary energy policy objectives of securing reliable energy supplies, diversifying energy sources, and increasing self-reliance on indigenous energy sources in order to save on imported fuel costs and stabilize energy prices.¹⁹⁶⁹

The DOE established the standing national policy on natural gas back in 1995.¹⁹⁷⁰ Under this policy, the government's main role is to create conditions for a Philippine gas industry that serves a broad variety of users, from industrial down to residential.¹⁹⁷¹ It seeks to reduce its direct involvement in the ownership of assets and facilities in the

¹⁹⁶⁷ Energy Information Administration, "Country Analysis Briefs: Philippines," *US Department of Energy* online: <<http://www.eia.doe.gov/emeu/cabs/Philippines/NaturalGas.html>> Last updated: 01 August 2008 (Date accessed: 21 August 2008).

¹⁹⁶⁸ Department of Environment and Natural Resources, "RP's natural gas project wins World Business Summit award," *Department of Environment and Natural Resources* online: <<http://www.denr.gov.ph/article/view/400/1/139>> (Date accessed: 04 April 2004); *Policy Guidelines for Natural Gas*, s. 2.

¹⁹⁶⁹ Department of Energy, "Mandate, Mission, Vision," *Department of Energy* online: <<http://www.doe.gov.ph/About%20DOE/Mandate,%20Mission,%20Vision.htm>> (Date accessed: 05 April 2008).; also *Policy Guidelines for Natural Gas*, s. 6.

¹⁹⁷⁰ *Policy Guidelines for Natural Gas*.

¹⁹⁷¹ *Ibid.*, s. 1.

industry, and encourage private sector participation; it reserves for itself only the function of policy direction and regulation.¹⁹⁷² To create a more permanent policy framework, the DOE has been working since 2003 for the enactment of a Natural Gas Law.¹⁹⁷³ In the draft legislation, the the government is to:

1. promote natural gas as an environment-friendly, secure, stable and economically efficient energy source;
2. promote competition by liberalizing entry into the industry and adopting pro-competitive and fair trade measures; and
3. ensure compliance with Philippine environmental laws and regulations and international safety standards.¹⁹⁷⁴

The proposed legislation intends to to promote competitive natural gas prices; increase the utilization of natural gas as fuel; increase the share of natural gas in the country's energy mix; adopt state-of-the-art technology; develop expertise; increase employment; and enhance the economic benefits of consumers.¹⁹⁷⁵

In the meantime, the DOE has pursued plans and programs to develop and expand participation in the country's natural gas market from its presently limited constituents of only three power-generation plants. These plans and programs are comprised of three major thrusts: (a) the establishment of a domestic infrastructure network for storage and distribution, (b) the expansion of domestic natural gas usage, and (c) interconnection with the ASEAN energy market.

¹⁹⁷² *Ibid.*, s. 3.

¹⁹⁷³ Department of Energy, "The Philippine Natural Gas Industry: Vision, Strategy and Policy; A Briefing for the Proponents of House Bill No. 4754," *Coordinating Committee for Geoscience Programmes in the East and Southeast Asia* online: <http://www.ccop.or.th/epf/philippines/philippines_profile.html> (Date accessed: 21 August 2008).

¹⁹⁷⁴ *Ibid.*

¹⁹⁷⁵ *Ibid.*

The domestic infrastructure network depends on Malampaya's natural gas plant in Tabangao, Batangas forming an extensive pipeline infrastructure spreading out across several provinces and supplying any new or converted power plants in Luzon. The DOE plans the construction of several hundred kilometers of pipeline in and around the areas of the capital city of Metro Manila.¹⁹⁷⁶ The Batangas-Metro Manila area is the priority for the pipeline network's growth due to the large number of industrial parks and special economic zones within that corridor.¹⁹⁷⁷ From this area, the pipeline network is expected to eventually expand southwards, crossing Southern Luzon into the Visayas region.

The natural gas market expansion program began in 2002 with the unveiling of the Natural Gas Vehicle Program for Public Transport, a package of incentives to encourage private sector participation in the support, logistics, and infrastructure needed for the domestic operation of vehicles that use natural gas as fuel.¹⁹⁷⁸ The program promotes the

¹⁹⁷⁶ *Ibid.* The pipeline network includes the following components:

1. An 80-100 km high-pressure gas transmission pipeline from Tabangao, Batangas to Metro Manila to service a thermal plant converted from coal, to supply co-generation needs of industrial areas on its route;
2. A 130-150 km high-pressure gas transmission pipeline from the Bataan Peninsula to Metro Manila to supply natural gas to possibly 2 plants, or in the alternative, a 40 kilometre undersea high pressure gas transmission pipeline from the Bataan Peninsula to Metro Manila or Cavite province to service a thermal plant and industrial co-generation needs;
3. A 35 km high pressure gas transmission pipeline from Sucat to Pililia, Rizal province to supply a 650MW thermal plant that currently uses bunker fuel; and
4. A 40 km city gas pipeline network along Metro Manila's main artery to service large commercial users.

¹⁹⁷⁷ De Dios, *supra* Note 1828 at 9. At the time of this writing, the Philippine National Oil Company was negotiating the first phase of the project, fancifully nicknamed BatMan-1 (Batangas-Manila No. 1) and spanning 100km and estimated to cost 1.2 Billion USD, with prospective investors from Italy and Saudi Arabia. Amy R. Remo, "Pnoc Eyes Power Deal With Abu Dhabi, Italy Firms," *Philippine Daily Inquirer* (25 May 2010), online: <<http://business.inquirer.net/money/topstories/view/20100524-271868/PNOC-eyes-power-deal-with-Abu-Dhabi-Italy-firms>>.

¹⁹⁷⁸ *Natural Gas Vehicle Program for Public Transport*, E.O. 290 (2004) .

use of Compressed Natural Gas (CNG) in the local transportation sector through a multi-agency coordinating mechanism, led by the DOE, and special privileges such as income tax holidays, reduced import duties, automatic issuance of certification of compliance with emissions standards, preferential and exclusive public utility franchises for new routes, faster permitting for natural gas facilities and refueling stations, training and technology transfer, lower prices for CNG, and others that may later be allowed.¹⁹⁷⁹ A special accreditation program was also established to promote the private sector conversion, retrofitting, or re-powering of gasoline and diesel fueled vehicles to enable them to switch to natural gas,¹⁹⁸⁰ total liberalization of the importation of natural gas vehicle equipment, parts and components through 0% import duties,¹⁹⁸¹ and the establishment of CNG refilling stations to support them.¹⁹⁸² The program has been successful in Metro Manila, in which there has been a highly visible proliferation of natural gas stations and public utility vehicles since the program began, but has yet to expand to other cities and regions.

The third program thrust has long-term and international dimensions. The Philippines plans to interconnect eventually with an ASEAN-wide energy grid under the auspices of the Trans-ASEAN Gas Pipeline Project (TAGPP). A Memorandum of Agreement between the ASEAN Energy Ministers signed in July 2001 foresees a project costing at least seven billion USD to establish seven pipeline connections spanning over 4,500 km, linking the gas fields from Malampaya up to the Gulf of Thailand. When completed, the

¹⁹⁷⁹ *Ibid.*, s. 2.5.

¹⁹⁸⁰ *Guidelines for Importation, Natural Gas Vehicle Program*, DOE DC 2004-04-004 (2004) .

¹⁹⁸¹ *Reduction of Import Duty on Compressed Natural Gas Motor Vehicles, Equipment, Parts and Components*, E.O. 396 (2004) .

¹⁹⁸² *Guidelines for Importation, Natural Gas Vehicle Program*, s. 1.

TAGPP is expected to supply the ASEAN region's natural gas needs well into the 21st century.¹⁹⁸³

Meanwhile, plans have also been afoot to construct a Liquefied Natural Gas (LNG) terminal in either the Bataan Peninsula or Batangas province, to take advantage of the Philippines' position astride major LNG shipping routes in the South China Sea.¹⁹⁸⁴ Entry into the LNG market would take advantage of the burgeoning worldwide LNG trade.¹⁹⁸⁵

7.1.2 Malampaya and the Environment

From the Philippine government's perspective, Malampaya was a fortuitous and environmentally-friendly investment in the context of the economic development goals of the Philippines in the late 1990s. At the time, the country was recovering from a serious economic slump prompted by political instability in the late 1980s due to a series of attempts by military rebels to bring down the Aquino government, exacerbating the

¹⁹⁸³ ASEAN Energy Center, "Developments on the Trans-ASEAN Gas Pipeline," *ASEAN Energy Center Online* online: <http://www.aseanenergy.org/energy_sector/natural_gas/developments_tagp.htm> (Date accessed: 30 March 2004).; Alexander's Oil and Gas Connections, "Work on Trans-ASEAN Gas Pipeline Project on schedule," *Alexander's Oil and Gas Connections Online* online: <<http://www.gasandoil.com/goc/news/nts32874.htm>> (Date accessed: 30 March 2004); Alexander's Oil and Gas Connections, "Trans-ASEAN Gas Pipeline Project takes shape," *Alexander's Oil and Gas Connections Online* online: <<http://www.gasandoil.com/goc/news/nts20615.htm>> (Date accessed: 30 March 2004). Note that since the time of these estimates, the prices of petroleum skyrocketed, and thus the total cost of the project has surely increased as well. Progress on the TAGPP has also been criticized as being very slow, although discussions on the project within ASEAN continue under the auspices of the ASEAN Council on Petroleum (ASCOPE), which held its latest meeting on the TAGPP last April 2009. See ASEAN Council on Petroleum, "Trans-Asian Gas Pipeline," *ASEAN Council on Petroleum* online: <<http://www.ascopegasportal.com.my/ascopewss/tagp1/default.aspx>> Last updated: 16 July 2009 (Date accessed: 26 May 2010).

¹⁹⁸⁴ Myrna Velasco, "Thailand Keen on Gas Pipeline Venture," *Manila Bulletin* (20 February 2004).

¹⁹⁸⁵ For a simple discussion of the reasons behind the growth in LNG markets, see Roberts, *supra* Note 119 at 165-87.

ongoing insurgency led by the communist New People's Army in Luzon and the Visayas, and two Muslim secessionist groups (the Moro National Liberation Front and the Moro Islamic Liberation Front) in Mindanao. A serious energy crisis had prompted an emergency energy infrastructure-building program that would have favoured oil- and coal-fueled power plants had Malampaya not been developed. Natural gas is seen officially as a cleaner alternative, which coincides with the DOE's vision statement of actively promoting the utilization of cleaner energy and developing alternative fuels, as well as its emission avoidance target of 32,000 Gg CO₂ by 2013.¹⁹⁸⁶ Malampaya can provide up to 30% of the Philippines' energy requirements, equivalent to savings of up to 700 Million USD per year in other fossil fuel imports.¹⁹⁸⁷ In 2006, although natural gas comprised 6.42% of the country's energy mix, it generated 28.82% of the electricity used.¹⁹⁸⁸

From the point of view of its prime operator Shell, as well as its partners in the consortium, Malampaya is a showcase demonstrating compliance with its Health, Safety, and Environment (HSE) Management System and Policy.¹⁹⁸⁹ Shell also proudly represents Malampaya to be evidence of its commitment of

¹⁹⁸⁶ Department of Energy, "Philippine Energy Plan, 2004-2013," <http://www.doe.gov.ph/PEP/PEP_2004_2013.pdf> Last updated: 31 December 2006 (Date accessed: 21 August 2008).

¹⁹⁸⁷ Michael Richardson, "A Gas Grid for Asia's Southeast," *International Herald Tribune* (30 October 2001), online: New York Times Media Group <<http://www.ihf.com/articles/37316.html>>.

¹⁹⁸⁸ Zenaida Y. Monsada and DOE, "National Oil Emergency Preparedness Policy (Philippines)" (Presented at the Workshop on Oil Security and Emergency Preparedness, 17-18 September 2007).

¹⁹⁸⁹ See Shell Philippines Exploration, *Malampaya Project Brochure*, Leaflet 1 (Health, Safety and Environment); Malampaya Consortium and Department of Energy, *Natural Gas: The Energy of Tomorrow*. (Muntinlupa City, Philippines: Shell Philippines Exploration BV, undated); Roco and Agabin, *supra* Note 1956; Shell Philippines Exploration, "Sustainable Development in the Midst of Industrialization: The Malampaya Story and Fueling Dreams (Video Documentary)," (Muntinlupa: Shell Philippine Exploration, 2002). ["The Malampaya Story"]

...meeting the needs of the present without compromising the ability of future generations to meet their own needs...[by] integrating the the economic, environmental, and societal aspects of its business activities to ensure resource developments are carried out effectively without compromising the environment, and to give assistance to impacted communities in such a way as to enable them to maintain long-term benefits far beyond the life of the project.¹⁹⁹⁰

In addition to supporting social and environmental projects while operating the facility, Shell calls attention to the importance of stakeholder engagement with the communities directly affected by the project. This, it says, was key to the social acceptability requirement of its Environmental Compliance Certificate.¹⁹⁹¹ A video documentary produced by Shell as part of its local information and education campaign and presented at the 2002 World Summit on Sustainable Development prominently highlights the project's compliance with local consultation requirements and its social development projects.¹⁹⁹² Malampaya won for Shell the recognition of the United Nations Environment Program and the International Chamber of Commerce at Johannesburg, as one of the top ten examples of Sustainable Development partnerships.¹⁹⁹³

¹⁹⁹⁰ Shell Philippines Exploration, *Malampaya Project Brochure*, Leaflet 3 (Sustainable Development).

¹⁹⁹¹ *Ibid.* According to the leaflet:
Stakeholder Engagement

Prior to the development phase of the project, an extensive social and environmental baseline study was conducted by SPEX. It includes, among others, a participative approach to stakeholder engagement with communities directly impacted by the project. This enabled the project to gain social acceptability which is a requirement for an Environmental Compliance Certificate.

¹⁹⁹² "The Malampaya Story," *supra* Note 1989.

¹⁹⁹³ Department of Environment and Natural Resources, "RP's natural gas project wins World Business Summit award," *Department of Environment and Natural Resources* online: <<http://www.denr.gov.ph/article/view/400/1/139>> (Date accessed: 04 April 2004); International Chamber of Commerce, "Shell wins major international Sustainable Development award," online: Shell Philippines <http://www.shell.com/home/content/ph-en/news_and_library/press_releases/2002/malampaya_award_0830.html> Last updated: 30 August 2002 (Date accessed: 04 April 2004).

Internationally, Shell publicizes Malampaya as a practical demonstration of sustainable development. Particular mention is made of the effective multi-stakeholder consultations and partnerships between the Philippine government, Shell, and NGOs.¹⁹⁹⁴ Malampaya's success turned it into one of the most prominent and internationally-known business case studies on the question of how to undertake Sustainable Development, particularly where it concerns local communities and stakeholder involvement.¹⁹⁹⁵

¹⁹⁹⁴ *Ibid.*; also Gerald G. Lacuarta, "Malampaya Gas Project Scores at World Summit," *Philippine Daily Inquirer* (03 September 2002), online: The Inquirer Company <http://www.inq7.net/gbl/2002/sep/03/gbl_5-1.htm>.

¹⁹⁹⁵ The Asian Institute of Management in Makati City, together with Synergos Institute in New York, used Malampaya as one of their case studies for integrating social acceptability into project implementation in their graduate business classes. The case study concludes that Shell's experience shows that appreciating the concerns of external stakeholders have a significant strategic impact on its business, and that in addition to having the appropriate business outlook, there must be appropriate leadership for effective communication and understanding between all those concerned. Chanie Marie Solleza and Jeremy Barnes, *Shell Malampaya (Case Study)* (Makati City and New York: Unpublished: Asian Institute of Management and The Synergos Institute, 2003) at 12.

A group called Engineers Against Poverty showcases Malampaya as a model by which an oil and gas maintenance subcontractor can approach social performance. The report was made for Flour-AMEC, one of Malampaya's engineering subcontractors, and recommended that the firm seek to contribute to community investment projects managed by the client (in this case, the Malampaya consortium); engage in local content and supplier enhancement such as through micro-investments in local skills training and local business outsourcing to local firms or NGOs; and improving social performance as means to enhance their business reputation for the long-term. Specifically, it recommended that the firm explore collaboration with Shell and its social arm, the Pilipinas Shell Foundation, on community investment projects in areas around the pipeline and to help build the institutional capacity of the adjacent provinces in public expenditure management of gas production revenues. Petter Matthews et al., "Learning from AMEC's Oil and Gas Asset Support Operations in the Asia-Pacific Region with a case study on the Shell 'Malampaya' Gas-to-Power Project: An Interim Report," (London: Engineers Against Poverty, Overseas Development Institute, and AMEC, 2004), at 3-5.

The International Petroleum Industry Environmental Conservation Association holds Malampaya out as a good case of the oil industry's ability to operate in sensitive

By all accounts, Malampaya has experienced trouble-free operations since 2001, with an unblemished operational safety record. As of the time of the field research, its only shortcoming had been the issuance of three Notices of Violation of the terms and conditions of the ECC, for three separate instances between 2001 and 2007, wherein the platform was found to have exceeded the oil and grease discharge standards of the

environments through advanced planning and strategic partnerships. It is shown as an example of balancing operational needs with the interests of the communities and the country in ecologically sensitive and socially responsible management of field development activities; a social management process that involved investing in surrounding communities through projects and partnerships; the importance of compliance with health, safety and environment standards and good business principles; and the need for internal and external transparency in assessing the progress and success of programs and projects against ‘sustainability’ criteria. International Petroleum Industry Environmental Conservation Association, *The Oil and Gas Industry: Operating in Sensitive Environments* (London: International Petroleum Industry Environmental Conservation Association, 2004) at 7.

The International Finance Corporation showcases Malampaya’s good practices in stakeholder engagement in project implementation and operations. It particularly highlights the participation of community representatives in monitoring the project’s operations through the Multi-sectoral Monitoring Teams at local and national levels. International Finance Corporation, *Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets* (Washington DC: International Finance Corporation, 2007) at 148-149. The basis for its endorsement is a more detailed study by the World Resources Institute, which presents it as the best example of how free, prior, and informed consent of host communities is essential to avoid significant business costs in planning and implementation. In *Development Without Conflict: The Business Case for Community Consent*, the WRI singled out Malampaya as a successful instance of business and community interaction through the employment of community outreach and interviews with key opinion leaders and decision makers; information, education, and communication activities; use of perception surveys and participatory workshops in discussing the project with stakeholders; and participatory involvement in the formulation of environmental management plans. These yielded community support for the project and prevented public opposition that could have been potentially damaging by delaying project implementation at any stage. Jonathan Sohn, ed., *Development Without Conflict: The Business Case for Community Consent* (Washington DC: World Resources Institute, 2007), at 1-2, 19-26.

DENR.¹⁹⁹⁶ This became an issue of contention because the DENR at the time did not have water quality standards for open marine waters where Malampaya was located, and instead applied the standard used for freshwater lakes.¹⁹⁹⁷ At the time of the field research, Shell and DENR were in talks to develop the contested water quality standard.

7.2 Profile of Affected Coastal Communities

7.2.1 The Province of Palawan

The island Province of Palawan is no stranger to petroleum exploration and development. Since the 1970s, the petroleum industry has concentrated in the offshore areas west of Palawan. Located on the western flank of the country facing the South China Sea, Palawan prides itself in being known as the Philippines' "last ecological frontier."¹⁹⁹⁸ Palawan's inhabitants are mostly migrants from elsewhere in the Philippines; the original indigenous inhabitants are the Tagbanua of the Calamianes Islands and northern coastal regions and the Batac in the southern regions and the hinterlands. (See Figure 15)

There are no manufacturing or heavy industries in Palawan. The main economic activities are eco-tourism, agriculture, forestry, and fishing. Most of Palawan's population did not even have access to electricity, nor was the national road network even paved, up until the late 1990s. Counted as among the 14 poorest provinces in the early 1990s, Palawan has lately benefited extensively from overseas development assistance and environmental projects using its ecological characteristics as leverage. Its rich terrestrial and marine resources are under pressure from logging, mining, and fishing activities by commercial

¹⁹⁹⁶ Personal interview, three provincial government representatives, Calapan, Oriental Mindoro (18 August 2006); Personal interview, Cleofe Bernardino, Palawan NGO Network, Puerto Princesa City, Palawan (23 March 2007).

¹⁹⁹⁷ *Ibid.*

¹⁹⁹⁸ Provincial Government of Palawan, "Official Website of the Province of Palawan: Environment," online: *Provincial Government of Palawan* <<http://www.palawan.gov.ph/environment.html>> Last updated: 26 May 2009 (Date accessed: 29 June 2010).

interests, as well as from subsistence activities undertaken directly by the residents. Tensions between these social forces create a constant friction between those interested exploitation against those working for natural resource conservation, indigenous peoples, and community development. A vibrant, diverse, and active NGO community of over 30 organizations, has arisen whose work together on issues of common concern under the umbrella of the Palawan NGO Network, Inc. (PNNI)¹⁹⁹⁹ based in the capitol of Puerto Princesa City. The PNNI sits as the NGO representative to the PCSD.

Four municipalities of Palawan lie adjacent to the production platform and the pipeline. Closest to the CGS and approximately 80km southeast of the Camago-Malampaya gas field is the Municipality of El Nido, a 1st class municipality dependent mainly on the ecotourism industry around Bacuit Bay and the fishing activities based around Malampaya Sound. It is a typical isolated one-road town with limited public utilities and services. Electricity is available only for 12 hours each day, there is no gas station, and the freshwater supply is limited to due to high mineral content in the groundwater. Transportation into the town from Puerto Princesa City takes 8 hours by land, arriving or departing only once a day. Apart from the relatively better-off 15% of the ecotourism-dependent population residing in the *poblacion*, El Nido's poor citizens living in wood and thatched-roof *nipa* houses scattered in 18 *barangay* along the coast and in the hinterlands. In the isolated coastal *barangay* mainly accessible by *banca* (the roads are little more than wide trails), the municipal fisherfolk eke out a living mostly in small 1- or 2-person *banca*.

¹⁹⁹⁹ Palawan NGO Network, "The Palawan NGO Network, (Homepage)," online: *Angelfire* <<http://www.angelfire.com/wi/pnni/>>.



Figure 15. The island-province of Palawan.

The island Municipality of Linapacan is next along the pipeline's route, traversing its municipal waters through the Linapacan Strait. Linapacan is the most isolated town of Palawan, classified as a 5th class municipality. The strait's strong currents and high waves are not for the faint of heart and there is no possibility of staying dry in a six hour, 75 km journey in a *banca* from El Nido that one may charter to get there. Up until 2006, Linapacan did not have a paved road (at present there is at least a 1 km strip of it in the *poblacion*), and carabao-drawn sleds were the favored mode of land transportation. Electricity is available for only 4 hours a day, and there is only one source of freshwater which is not on the main island. Practically all residents are dependent on fishing and harvesting fruit and forest products from the wild for income, apart from the few merchants who act as middlemen and traders in the inter-island trade.

The pipeline crosses Linapacan's municipal waters close to the southern and shallow waters of Culion Island to the north. A former leper colony established during the American period, Culion became a full-pledged municipality only in 1995. The descendants of former patients and hospital staff and communities of Tagbanua indigenous peoples struggle against old biases and fears and get the 4th class municipality's economy going with plans for ecotourism, fishing, and agriculture. Municipal services are minimal, as is the available electricity.

The last municipality of Palawan that the pipeline flanks is Coron, a small but relatively prosperous town located on the southeastern half of Busuanga Island currently emerging as a major tourist destination. Coron is surrounded by mangroves and coral reefs; in the waters there are also many shipwrecks from the Second World War. The local economy is borne by tourism, live fish collecting, pearl farming, and seaweed farming. Coron is also home to Tagbanua communities, including the Coron Tagbanua who successfully obtained the first, and thus far only, certificate of title to ancestral waters issued under the Indigenous Peoples' Rights Act. The Tagbanua's ancestral waters surround Coron Island, encompassing their sacred coral reefs and traditional fishing grounds. Aside from fishing, the Tagbanua depend for income on manually gathering *nido* edible birds' nests made by

the *balinsasayaw* or *nido* birds that inhabit Coron's sheer limestone cliffs. Recently, some Tagbanau communities have taken to seaweed farming as an alternative livelihood. The Tagbanua of the Calamian Islands comprise 11 different sub-groups scattered among the municipalities of Coron, Busuanga, and Culion. Coron's other residents, migrants from the Visayas and Luzon, also inhabit the rest of the Calamianes Islands, deriving their income from fishing, tourism, seaweed- and pearl-farming.

7.2.2 The Province of Oriental Mindoro

From Coron, the Malampaya pipeline crosses into the open sea to Mindoro, the 7th largest island of the Philippines. Oriental Mindoro is the island's eastern province (the western province being Mindoro Occidental). (Figure 16)

Oriental Mindoro has been known as a major agricultural production center for rice and fruits.²⁰⁰⁰ Some 70% of the population derive their income from agriculture and fishing, while 30% engage in commerce and other livelihoods, centered in the capitol city of Calapan.²⁰⁰¹ The province is best known for Puerto Galera, a town north of the capitol, that hosts a number of white beaches and mangrove-lined coves and have long attracted local and foreign tourists. The hinterlands are home to the Mangyan indigenous people, a gentle and simple folk of seven distinct groups who developed their own writing system in pre-colonial times.²⁰⁰² The inhabitants who congregate in the coastal areas are migrant Tagalog, Ilocano, and Visayan people.²⁰⁰³

²⁰⁰⁰ Province of Oriental Mindoro, "Official Website of Oriental Mindoro," *Province of Oriental Mindoro* online: <<http://www.ormindoro.gov.ph/index.asp>> Last updated: 01 September 2008 (Date accessed: 03 September 2008).

²⁰⁰¹ *Ibid.*

²⁰⁰² The Mangyans' original syllabary survived Romanization under colonial rule, and is still in use today in Mangyan communities. Mangyan Heritage Center, "Mangyan Heritage Center: About Us," *Mangyan Heritage Center* online: <<http://www.mangyan.org/aba/index.asp>> Last updated: 06 July 2010 (Date accessed: 06 July 2010).

²⁰⁰³ *Official Website of Oriental Mindoro.*



Figure 16. The island-provinces of Mindoro. Oriental Mindoro lies on the eastern side of the island.

Calapan City is easily and directly accessible by a variety of regular, daily ferries from the Port of Batangas; these range from slow roll-on roll-off vessels to fast ferries that can make the journey in 45 minutes. At the Port of Calapan, tricycles, vans, jeepneys, and buses await the ferries for passengers and cargo, to take them throughout the city and the entire province. However, for locals, especially the poorer communities on the coasts, the costs of transportation are very high on account of very low incomes.

The island of Mindoro is well known as an area of high endemicity and biodiversity. There are 42 indigenous mammal species, of which about 20% are considered endemic, the most unique being the *tamaraw*, a dwarf water buffalo.²⁰⁰⁴ Its forests also support rare, threatened and endangered species such as the Philippine warty pig, the Philippine deer, the hairy-tailed cloud rat; a critically endangered Philippine crocodile; and eleven (11) endemic bird species.²⁰⁰⁵ Mindoro's rich biodiversity has been highlighted in recent years by the discovery of endemic species of plants and animals.²⁰⁰⁶

²⁰⁰⁴ World Wildlife Fund and Mark McGinley, "Mindoro rain forests," *Environmental Information Coalition, National Council for Science and the Environment* online: <http://www.eoearth.org/article/Mindoro_rain_forests> (Date accessed: 03 September 2008).

²⁰⁰⁵ *Ibid.*; also GMA News.TV, "Mindoro fruit bat makes it to top 10 new species of '08," *GMA News and Public Affairs* online: GMA Network <<http://www.gmanews.tv/story/99445/Mindoro-fruit-bat-makes-it-to-top-10-new-species-of-08>> Last updated: 05 June 2008 (Date accessed: 03 September 2008).

²⁰⁰⁶ The new species (fruit bat or "flying fox") is scientifically described in Jacob A. Esselstyn et al., "A New Species of *Desmalopex* (Pteropodidae) From the Philippines, With a Phylogenetic Analysis of the Pteropodini" (2008) 89:4 *Journal of Mammology* 815. Other recent discoveries include those described in Maurizio Gigli, "A New Species of *Chrysodema* From Mindoro, Philippines (Coleoptera, Buprestidae)" (2007) 39:2 *Fragmenta entomologica* 291 (beetle); Soejatmi Dransfield, "A New Species and a New Combination of *Cyrtochloa* (Poaceae-Bambusoideae) From the Philippines" (2003) 58 *New Bulletin* 981 (flower); and R. de Jong and C.G. Treadaway, "A New *Celaenorrhinus* Species (Lepidoptera: Hesperidae) From a Remarkable Locality in the Philippines" (1993) 67:24 *Zoologische Mededelingen* 345 (butterfly).

Continuing on its route from Palawan, the Malampaya gas pipeline enters Mindoro's waters through the municipal waters between the towns of San Jose, Bulalacao, Caluyao, and Magsaysay, the southernmost municipalities of Mindoro. It straddles the municipal water boundary between Bulalacao and Caluya, before turning northward following Mindoro's deep coast. Although a 5th class municipality, Bulalacao is a little better-off among the southern Mindoro towns, owing to the rich fishing grounds in Bulalacao Bay and estuary directly in front of which the pipeline passes. Bulalacao is also a major fish landing site. It hosts the most sensitive reef areas and spawning grounds of the Mindoreño waters adjacent to the Malampaya pipeline since it is the shallowest area that the pipeline traverses. From there, the pipeline crosses almost all of the municipal waters in Oriental Mindoro, including those of fishing towns of Pola and Naujan to the north, before crossing the Verde Island Passage to make landfall in Batangas on the south-central portion of Luzon.

7.2.3 The Province of Batangas

The pipeline makes landfall in Batangas City, the urban industrial center of Batangas Province. Batangas City and the Batangas Province are a very prosperous region located in the south-central Luzon, about two and a half hours by land from Manila. The Batangas region has experienced consistent economic growth from agricultural and industrial sectors. The Port of Batangas is a major hub of domestic and international maritime trade, and is home to special economic zones and agro-industrial enterprises. Shell and the other oil majors have based their massive refineries, storage facilities, and petrochemical complexes in this region, around which are clustered a number of power generating plants supplying electricity to Manila and the rest of Luzon.

Batangas City hosts the massive natural gas processing plant to which Malampaya's natural gas is delivered, as well as other downstream components like the power generating plants and onshore pipelines. Since the effect of the land-based components of

Malampaya on their host communities in Batangas have been discussed elsewhere,²⁰⁰⁷ the research does not include Batangas, and instead focuses on the coastal communities adjacent to the offshore components in the two island provinces of Palawan and Oriental Mindoro. These are the closest to the production platform and the pipeline respectively.

7.3 Project History

7.3.1 Discovery of the Gas Field

Shell's implementation of Malampaya is a remarkable feat of large-scale financial, managerial, and technological mobilization executed with military precision. It began in 1989, when Occidental Petroleum (Philippines), Inc. (Oxy) explored offshore for oil in the waters west of Palawan under Service Contract No. 38. It did not find any, but its *Camago-1* well instead struck a gas field some 80 kilometres northwest of Palawan. Oxy did not have the technical capability for drilling for natural gas in deep water, so it began looking for partners to assist in delineating the field with three or more wells. A chance meeting between Shell Philippines President Cesar Buenaventura and Oxy's Vice President for Exploration John Carter in the United States eventually led to Shell agreeing to drill three wells in exchange for a 50% share in the service contract, for which it formed a local subsidiary Shell Philippines Exploration BV.²⁰⁰⁸

Drilling began in 1991 with the dynamically-positioned drillship *Pelerin*.²⁰⁰⁹ It encountered a number of major challenges in addition to the water depth, such as rough tropical weather, large cavities in the reservoir, and the composition of the rock. The first

²⁰⁰⁷ Sohn, *supra* Note 1995 at 19-26.

²⁰⁰⁸ According to Buenaventura, he just happened to sit beside and chat with Carter during then-President Corazon C. Aquino's state visit to the US. Roco and Agabin, *supra* Note 1956, vol. 1 at 16-17.

²⁰⁰⁹ A dynamically-positioned vessel maintains its precise location on the water via a system of water thrusters controlled by a computer linked to a GPS. This keeps the vessel on station at a precise location on the sea. Dynamic positioning allows drilling to be conducted by a vessel instead of a huge drilling rig.

well, *Iloc-1*, set a record drilling depth outside the US of 986m in 1991 and cost 30 Million USD, yet came up dry. But in May 1992 the second well *Malampaya-1* struck a gas field adjoining the Camago field, some 2000m below the seabed under 820m of water. It was Shell's first (and thus far only) significant discovery after spending more than 200 Million USD to drill 31 wells in the Philippines.²⁰¹⁰

In the years that followed, Shell drilled 10 appraisal wells in the Camago-Malampaya Gas Field using the semi-submersible drilling rig *Sedco 709* that was less affected by the bad weather, bringing its exploration costs to more than 175 Million USD.²⁰¹¹ This permitted Shell to estimate the commercial prospects of the field based on its size, development costs, and power-generating potential. The upstream component comprised of the wells, production platform, pipeline, and gas processing plant cost Two Billion USD, while the downstream components composed of the power plants would cost an additional 2.5 Billion USD.²⁰¹² The nearest possible electricity market that could make Malampaya a reasonable investment was Metro Manila, located some 400 km northeast. But at the time, it was without a natural gas industry; Central and Northern Luzon were almost entirely dependent on oil- and coal-fueled power plants.

7.3.2 Decision to Adopt Natural Gas Energy Technology

Shell persuaded the Philippine Government to create a natural gas market.²⁰¹³ The prospect of energy self-sufficiency drove the government, through the DOE, to give priority to the birth of a natural gas industry founded on Malampaya. With full and active support of then-President Fidel V. Ramos, the DOE secured a market for Malampaya by allocating power supply commitments of 1,200MW from the National Power Corporation

²⁰¹⁰ Antonio Lopez, "Manila hopes to cut power bills with deregulation and offshore gas," *Asiaweek* online: Time
<<http://www.asiaweek.com/asiaweek/magazine/99/1224/biz.philippines.gas.html>>
(Date accessed: 03 April 2004).; Roco and Agabin, vol. 1 at 21-29.

²⁰¹¹ Roco and Agabin, *supra* Note 1956, vol. 1 at 29.

²⁰¹² *Ibid.* at 45.

²⁰¹³ *Ibid.* at 33; also *Philippine Gas Project Task Force*, E.O. 254 (1995) .

(NPC) and 1,500MW from the Manila Electric Company (Meralco), both of which contracted independent power producers to build the plants and supply the electricity to them.²⁰¹⁴ In 1995, Meralco selected First Gas Holdings, a joint venture between its own management corporation First Philippine Holdings Corporation (60%) and British Gas (40%), for this purpose. First Gas in turn incorporated two subsidiaries to each build the power plants in Sta. Rita and San Lorenzo. A year later, the NPC selected the Korea Electric Power Corporation to build the Ilijan plant.²⁰¹⁵

A three-way negotiation process ensued between the national government, Shell, and the prospective power suppliers (NPC and Meralco), culminating in the signing of separate long-term, “take-or-pay” gas sales and purchase agreements for each of the prospective power plants between December 1997 and April 1998.²⁰¹⁶ Together with Service Contract No. 38 (SC 38), these formed an complex, interlocking set of public and private agreements that ensured the project’s initial market. With these, a Declaration of Commerciality was issued in May 1998 with the Philippines committing to buy the gas for power generation and distribution, and Shell to deliver it by October 2001.²⁰¹⁷ Production under SC 38 was authorized up to February 2024, and the area coverage reduced from 281,275 hectares to 158,526 hectares.²⁰¹⁸ The national government guaranteed performance of the gas sales and purchase agreements.²⁰¹⁹ (See Figure 17)

²⁰¹⁴ Roco and Agabin, *supra* Note 1956, vol. 1 at 29-33.

²⁰¹⁵ *Ibid.* at 33-34.

²⁰¹⁶ *Ibid.* at 34-37, 141; Department of Energy, "Study on the Regulatory Framework for the Development of the Natural Gas Industry," online: *Department of Energy Portal* <<http://www.doe.gov.ph/ER/ngreports.htm>> Last updated: 19 August 2008 (Date accessed: 21 August 2008).

²⁰¹⁷ *Ibid.* at 42.

²⁰¹⁸ *Ibid.* at 43.

²⁰¹⁹ *Fulfillment of Obligations under Gas Sales and Purchase Agreement with Shell/Oxy.*

7.3.3 Financial and Technical Mobilization

With the firm commitment to develop the field with the creation of the Philippine natural gas market, Shell mobilized massive resources to prepare for the project. In September 1998, Shell acquired 100% interests in SC 38 through an asset swap with Oxy.²⁰²⁰ Shell, essentially as the sole designer, developer, and operator, had to seek new partners and to bid out the contracts for the construction phase. These involved coordinated negotiations of numerous major and minor contracts, mostly in other countries, for the many components of the project such as the wells, subsea systems, CGS, topside production platform, pipeline manufacture, pipe-laying, and plant construction.²⁰²¹

²⁰²⁰ Roco and Agabin, *supra* Note 1956, vol. 1 at 43.

²⁰²¹ To see how many different international contractors and subcontractors were involved with different components, see the detailed account of the project's construction in Roco and Agabin, *supra* Note 1956, vol. 1 at 46-135.

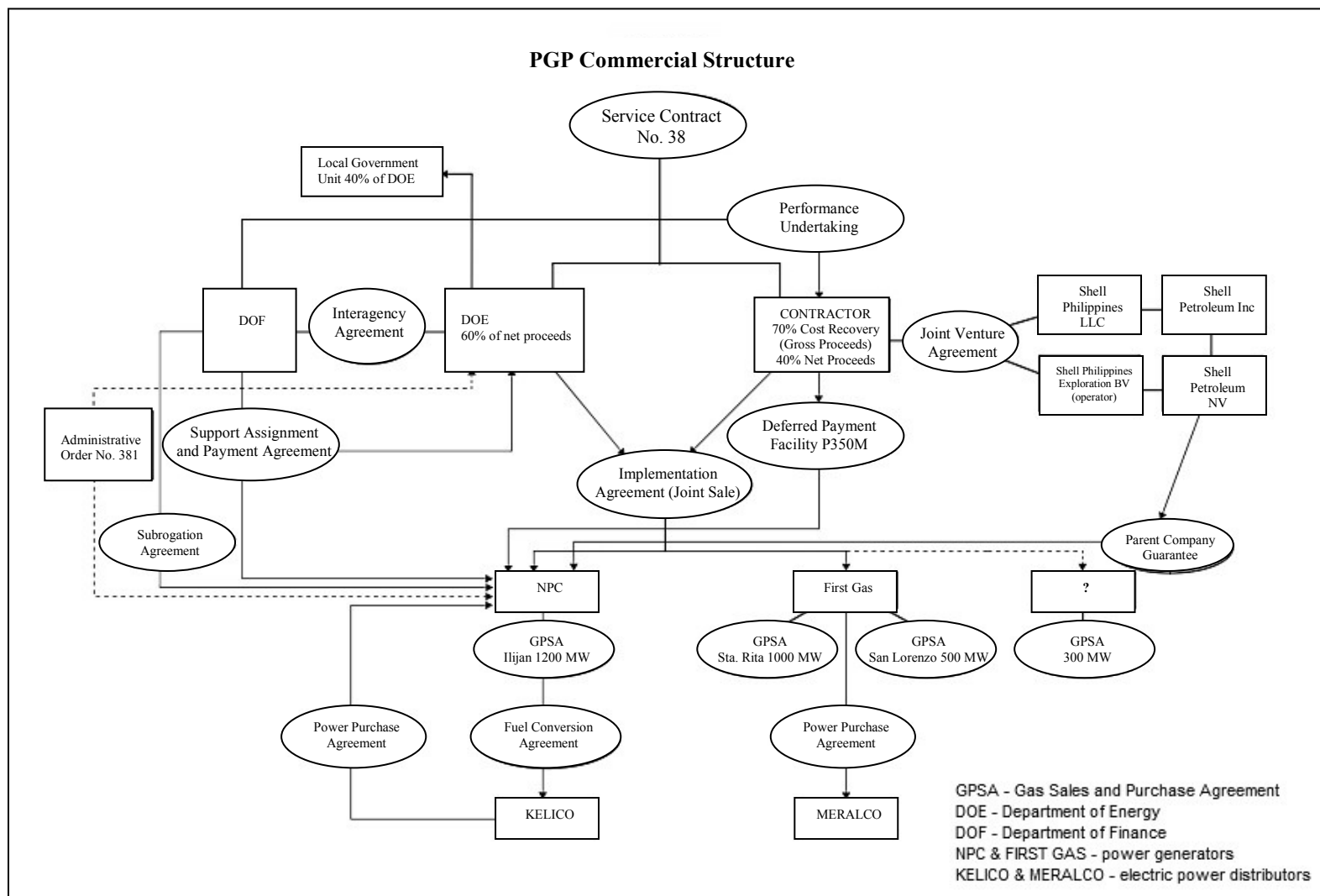


Figure 17. Numerous business agreements and financial guarantees attend the implementation of Malampaya Service Contract No. 38, all of which are negotiated and entered into independently of the EIA process. Source: DOE, Study on the Regulatory Framework for Natural Gas.

7.3.4 Conduct of EIA

As early as 1995, Shell had initiated informal consultations with potential stakeholder communities²⁰²² through its social arm, the Pilipinas Shell Foundation, Inc. (PSFI), a pre-existing foundation through which the Shell companies in the Philippines channeled charitable work.²⁰²³ The PSFI set the stage for the formal EIA process commissioned subsequently. Shell commissioned a American consultancy firm, Woodward-Clyde, Inc. (WCI), which in turn commissioned Filipino experts to conduct the EIA.²⁰²⁴ The EIA was programmed to commence in October 1996 to result in submission of the EIS in June 1997, with the ECC expected to be issued in December 1997.²⁰²⁵ The DENR formally approved the scope of work for the conduct of the EIA on 16 October 1996, which allowed WCI to proceed with the Scoping Workshops²⁰²⁶ and to conduct a number of scientific surveys for an Environmental Baseline Study Review.

7.3.4.1 Background of the Malampaya EIA

Malampaya began its EIA under conditions of very high public interest in major infrastructure projects and regulatory change. From the 1980s to the mid-1990s, several

²⁰²² Personal interview, Pilipinas Shell Foundation worker, Makati, Philippines (10 May 2007).

²⁰²³ Roco and Agabin, *supra* Note 1956, vol. 1 at 40. Roco asserts that as many as 35 consultations were conducted by PSFI. It is not clear from the public record whether this number includes those held for the EIA, but it does appear that the PSFI's activities were entirely separate from those conducted by Woodward-Clyde, the firm which was engaged to undertake the actual EIA. Documentation for only seven official Scoping workshops and nine Validation workshops are included in the Malampaya EIA as submitted to the DENR. No public record is available of PSFI's informal consultations.

²⁰²⁴ See Woodward-Clyde, *Environmental Impact Statement, Malampaya Gas Project*, 5 vols. (Quezon City: DENR Environmental Management Bureau, 1997), [Malampaya EIS] Executive Summary at ii (study team members).

²⁰²⁵ *Scoping Report: Malampaya Gas Project* in Woodward-Clyde, *Malampaya EIS*, in Annex F at 30. [Scoping Report]

²⁰²⁶ *Scoping Report* at 8.

high profile projects such as the Benguet Antamok Gold Operation open-pit mine, the Calaca II Coal-fired Power Plant, and the Mount Apo Geothermal Project had instigated clashes between their proponents and the host communities.²⁰²⁷ One of the losers was the Pilipinas Shell Petroleum Corporation (another subsidiary of the Shell Group), which had been forced to close down a 20 Million USD gas terminal in Laguna province only one year after completion of its construction, due to public protests that led to the denial of the facility's application for a permit to operate the business.²⁰²⁸ In the period immediately after the country's return to democratic rule in 1986, civil society groups and local communities were very vocal, active, and influential. Things came to a head in 1994, when the mine tailings dam of the Marcopper Mine in Marinduque broke and completely destroyed the major tributaries of the island upon which the population depended for freshwater.²⁰²⁹ Public opinion aligned against multi-national corporations conducting large-scale industrial operations that affected the environment in the country.

The confluence of both domestic and international pressures²⁰³⁰ led Shell executives in the Philippines to be extremely cautious and open to new ideas and approaches to

²⁰²⁷ Sohn, *supra* Note 1995 at 20.

²⁰²⁸ *Ibid.*; see also Solleza and Barnes, *supra* Note 1995 at 6.

²⁰²⁹ See Ma. Eugenia Bennagen, "Philippine mining disaster: Counting the cost of a ruined river," *IDRC.ca* online: <http://www.idrc.ca/en/ev-8276-201-1-DO_TOPIC.html> Last updated: 24 April 2003 (Date accessed: 29 June 2010).; Catherine Coumans, "Environmental Justice Case Study: Marcopper in the Philippines," *University of Michigan* online: <<http://www.umich.edu/~snre492/Jones/marcopper.htm>> Last updated: 01 May 2003 (Date accessed: 29 June 2010).; (reference not available).

²⁰³⁰ Elsewhere in the world, two major events in 1995 produced public backlashes against Shell's global corporate reputation. In Africa, Ken Saro-Wiwa, a prominent Ogoni leader in the opposition to Shell's operations in the Niger Delta, was executed along with 8 other activists amid accusations of Shell's intimate involvement with the Nigerian government in massive corruption, human rights violations, and environmental damage. See Richard Boele, Heike Fabig, and David Wheeler, "Shell, Nigeria and the Ogoni. A Study in Unsustainable Development. I. The Story of Shell, Nigeria and the Ogoni People - Environment, Economy, Relationships: Conflict and Prospects for Resolution" (2001) 9 *Sustainable Development* 74;

implementing the project.²⁰³¹ This coincided with the national government's decision to revise its EIA regulations, whose ineffectiveness in anticipating and dealing with the social concerns and contingencies were all the more demonstrated by Marcopper. In response, the government formulated an enhanced EIA process built around the principles of extensive public participation and "social acceptability."

The new process provided for three stages of public participation in the EIA process, through scoping workshops, validation consultations, and public hearings, all intended to determine the project's "social acceptability," at the time a completely new criterion.²⁰³² The Malampaya EIA was quite literally the test case for the strengthened participatory EIA process and the concept of social acceptability, defined as "the result of a process mutually agreed upon by the DENR, key stakeholders, and the proponent to ensure that the valid and relevant concerns of the stakeholders, including affected communities, are

Richard Boele, Heike Fabig, and David Wheeler, "Shell, Nigeria and the Ogoni. A Study in Unsustainable Development. II. Corporate Social Responsibility and 'Stakeholder Management' Versus a Rights-Based Approach to Sustainable Development" (2001) 9 Sustainable Development 121; David Wheeler et al., "Shell, Nigeria and the Ogoni. A Study in Unsustainable Development. III. Analysis and Implications of Royal Dutch/Shell Group Strategy" (2001) 9 Sustainable Development 177.

At about the same time in the United Kingdom, a fledgling Greenpeace waged a successful media campaign against Shell for its plans to dump the Brent Spar, a decommissioned floating oil storage facility, into the deep ocean. After a massive public relations battle, Shell abandoned its plans in favor of a costlier alternative of dismantling the facility onshore. See A. Neale, "Organizational Learning in Contested Environments: Lessons From Brent Spar" (1998) 6:2 Business Strategy and the Environment 93; Sharon M. Livesey, "Eco-Identity As Discursive Struggle: Royal Dutch/shell, Brent Spar and Nigeria" (2001) 38:1 Journal of Business Communication 58; Ragnar E. Loftstedt and Ortwin Renn, "The Brent Spar Controversy: An Example of Risk Communication Gone Wrong" (2006) 17:2 Risk Analysis 131.

²⁰³¹ Solleza and Barnes, *supra* Note 1995 at 2-5; Jesus Alfonso Z. Carpio, "Shell Malampaya Deepwater Gas to Power Project: A Model for Integrating Sustainable Development Into the Business" (Master's Thesis, Asian Institute of Management, 2003), Annex B.

²⁰³² *EIS System*, DENR AO 96-37 (1996) .

considered and/or resolved in the decision-making process for granting or denying the issuance of an ECC.”²⁰³³

The ‘scoping’ stage was a new procedural requirement inserted by the DENR, the purpose of which was to produce a report to guide the DENR and the project proponent in determining the actual scope of the EIS to be submitted subsequently.²⁰³⁴ The scoping exercise was “to allow stakeholders to make their concerns known to ensure that the EIA adequately addresses the relevant issues,” and “to determine and agree on the process of dealing with issues relating to social acceptability.”²⁰³⁵ The results of the scoping stage were then validated through a second round of public consultations, at which the proponent presented the results of the scoping workshops, and the ways and means by which it intended to address the issues and concerns that were raised. Prior to approval, the DENR may hold a third round of consultations by holding its own public hearings on the EIS that is submitted.²⁰³⁶

In 1995, a DENR-organized forum to discuss the proposed new regulatory framework was attended by Shell’s environmental advisor, J. Alfonso Z. Carpio, who endorsed the proposed framework to Shell for adoption and use even though the new regulations had not yet been issued, because “it was a sound framework resulting from lessons of the past.”²⁰³⁷ By then, Shell had realized the value of community acceptance and accepted the new approach.²⁰³⁸ It voluntarily began implementing the new procedure in late 1996

²⁰³³ *Ibid.*, art. 1, s. 1.0.cc.

²⁰³⁴ *Ibid.*, art. 3, s. 1.0.

²⁰³⁵ *Ibid.*, art. 3, s. 1.0.b and 1.0.f.

²⁰³⁶ *Ibid.*, art. 4, s. 4.0.

²⁰³⁷ Quoted in Solleza and Barnes, *supra* Note 1995 at 5.

²⁰³⁸ Sohn, *supra* Note 1995 at 20.

even before it was subsequently promulgated as DAO 96-37 and became effective in January 1997.²⁰³⁹

7.3.4.2 Scoping Consultations

Between 15 October to 15 November 1996, representatives of WCI and Shell visited local government offices, national government agencies, NGOs and peoples' organizations to introduce the project, inform them of the EIA process, secure endorsements from the local government units to implement the scoping and survey activities to be conducted as part of the EIA, and invite their participation in the Scoping Workshops.²⁰⁴⁰ WCI organized six actual workshops in rapid succession between 13 November and 02 December the same year.²⁰⁴¹

Each Scoping session took one day, divided into two parts following a familiar pattern used by NGOs in participatory action workshops.²⁰⁴² In the morning, for about an hour the proponent's representative presented the project, its background, and technical and scientific aspects. This included a presentation of the expected national and local

²⁰³⁹ *Malampaya EIS, supra* Note 2024, vol. 1, at ES-1. It is important to note at this point that this EIA process is slightly different from that currently prevailing in the Philippines; DENR AO 96-37 was replaced by DENR AO 03-30, and more recent issuances modified that procedure even further (See Chapter Five above). One important difference is with respect to the role of LGUs under the *Local Government Code*: under DENR AO 03-30, it is emphasized that the issuance of the ECC does not automatically result in issuance of any licenses, permits, or clearances by the LGU. The latter retains its independent authority and discretion to allow a project within its territory despite the issuance of an ECC. This was not so clear under DENR AO 96-37, as the LGU endorsement that was required as evidence of social acceptability tended to be regarded as equivalent to consent to the project by the LGU.

²⁰⁴⁰ *Malampaya EIS, supra* Note 2024 at 9.

²⁰⁴¹ *Scoping Report* at 10.

²⁰⁴² This opinion is based on the author's own personal experience with many different kinds of community-based coastal resource management workshops in different parts of the country, as a consultant with the US-AID-funded Coastal Resource Management Project of the DENR, the ADB-funded Fisheries Resource Management Project of the BFAR, and NGO-organized workshops.

economic benefits from the project. Afterwards, the EIA consultant explained the role of WCI and the process of EIA, emphasizing the need for participation of the public.²⁰⁴³ In the afternoon, the participants were organized into several workshop groups to each raise, discuss, and integrate any impacts, problems, issues, or concerns that they perceived to arise from the project, and any alternatives or solutions that could be offered, using a prepared table of results/outcomes provided to standardize the group discussions and document their output.²⁰⁴⁴ The results of these workshop groups were then presented at a plenary session for integration.²⁰⁴⁵

A total of 274 people participated in the six Scoping sessions, an average of about 45 people each.²⁰⁴⁶ The WCI documented a voluminous amount of inputs, but all of which were in vague, general, sometimes speculative terms such as “might cause cultural disturbance to the indigenous people,” “livelihood will be affected,” “consequent effect of project on land value,” “will affect income generating activities,” “fish depletion during construction,” “proponent might restrict fishing operations in the area,” and “commercial fishing will be affected.”²⁰⁴⁷ Oddly, an additional Scoping session was held in Lobo, Batangas the following April 1997, or after the validation consultations. In this session, the issue of health effects, impact on tourism, socio-economic benefits, compensation for damage arising from construction were discussed.²⁰⁴⁸ The reason for this additional Scoping session is not explained in the final EIS.

²⁰⁴³ *Scoping Report*, Annex B (copies of the session programs)

²⁰⁴⁴ *Ibid.*

²⁰⁴⁵ *Ibid.* at 9-10.

²⁰⁴⁶ *Ibid.* at 10.

²⁰⁴⁷ *Ibid.*, Attachment 8 (summary of views and concerns raised). This part of the Malampaya EIS was no longer paginated, and appears to be a mere collection or compilation of documents generated by the exercise.

²⁰⁴⁸ *Scoping Report*, Attachment 8, Minutes of the Scoping for Malampaya Gas Project at Lobo, Batangas.

A separate socio-economic survey was also conducted from December 1996 to April 1997 involving 893 respondents to test awareness and favourability of the project.²⁰⁴⁹ Significantly, the Malampaya EIS reported a 68% awareness rating in Northern Palawan, but only 49% in Oriental Mindoro, indicating a wide divergence in the proponents' information campaign.²⁰⁵⁰

Finally, there were focus group discussions with 120 *barangay*-level stakeholders and 14 leaders of local government units on the expected positive and negative impacts.²⁰⁵¹ WCI reported ambivalent views about the project, differing noticeably per province. In Palawan, the project was generally viewed to be beneficial to the province as well as the country; in Oriental Mindoro there was apprehension about the negative impacts of the pipeline; and in Batangas there were mixed reactions.²⁰⁵² With the final inputs on hand, the results of the Scoping were then submitted to the EMB on 27 December 1996, and accepted to form the basis of the environmental assessment.²⁰⁵³

7.3.4.3 Scientific Survey Work

Concurrently with the Scoping, Shell commissioned several scientific surveys over the next several months, extending into April 1997 to establish baseline information on the potential impact area. These included:²⁰⁵⁴

1. an onshore environmental survey of possible impact zones of the gas plant and possible over-land routes of the pipeline;
2. a coastal and offshore marine ecological survey along the proposed pipeline route and possible landfalls;

²⁰⁴⁹ *Malampaya EIS, supra* Note 2024, Volume 1 at 3-3, and 7-9 to 7-10 . Note that the pagination in all volumes in this reference is designated by chapter and page, such that “3-3” means “Chapter 3, Page 3”.

²⁰⁵⁰ Scoping Report, Appendix C (process documentation).

²⁰⁵¹ *Malampaya EIS*, at 7-6.

²⁰⁵² *Ibid.*

²⁰⁵³ *Ibid.*, at ES-2.

²⁰⁵⁴ *Ibid.*, at 3-1.

3. a socio-economic and cultural survey of the adjacent provinces, and
4. detailed offshore seabed surveys and sampling of the possible location of the platform.

The above field surveys were combined with previous studies, secondary data, literature review, and interviews with key informants, local officials, and local residents.²⁰⁵⁵ In the coastal areas, a considerable amount of data was collected and sampled about the onshore and coastal environment of the municipalities and cities adjacent to the pipeline route, including hydrogeology, hydrology, water quality, air quality, and terrestrial and aquatic ecology.²⁰⁵⁶ In the offshore, the vessel *M/V Sulu Venture* collected data to determine water quality, sediment quality, and marine ecology along the pipeline route.²⁰⁵⁷ Nearshore dive surveys were also undertaken to assess the status of coral, seagrass, seaweed, and reef fish resources in selected areas.²⁰⁵⁸

Data collected from the offshore and dive surveys were combined with other information to produce an Offshore Critical Areas Survey Report,²⁰⁵⁹ which comprised a separate volume in the EIA documentation. Aside from looking into areas already under some form of legal protection such as declared parks and marine reserves, the Report also identified and described biophysical resources such as coral reefs, wildlife, seagrass beds and socio-economically important areas such as tourism zones and fishing grounds. These were used to identify critical areas to avoid,²⁰⁶⁰ and in certain cases “pipeline exclusion zones” were defined to indicate places where the pipeline would definitely not

²⁰⁵⁵ *Ibid.*, at 3-2.

²⁰⁵⁶ *Ibid.* at 3-2 to 3-3.

²⁰⁵⁷ *Ibid.* at 3-3 .

²⁰⁵⁸ *Ibid.* at 3-3.

²⁰⁵⁹ Included in *Malampaya EIS*, Volume 5. [Critical Areas Survey]

²⁰⁶⁰ *Ibid.* at 7, 8, 11, 13-14.

be laid.²⁰⁶¹ These were all considered in recommending the coordinates of the proposed offshore pipeline route.

These surveys formed part of the Impact Assessment phase conducted until May 1997.²⁰⁶² These were combined with environmental modelling and risk assessment analyses in order to come up with the Environmental Management Plan.²⁰⁶³ The EIS was scheduled for submission on 15 June 1997. Prior to this, another round of public consultations was required.

7.3.4.4 Validation Consultations

The Malampaya EIS includes the records of nine additional consultations held between April and May 1997 to validate the results of the Scoping workshop, discuss the findings of the assessment, and to present information on the project's general design and construction. The consultations were held in the same places as those where Scoping sessions were held.²⁰⁶⁴ But comparison of the attendance sheets of the two workshops indicate that a different number of people attended the sessions, and it appears from the attendance records that a significant number of participants did not consistently attend to the entire EIA consultation process.²⁰⁶⁵

The first validation sessions were held in Calapan and Roxas, in Oriental Mindoro, where the participants again reiterated their concerns about safety and environment, though

²⁰⁶¹ *Ibid.* at 8, 10, 11, 15-16.

²⁰⁶² *Malampaya EIS*, Executive Summary at ES-2.

²⁰⁶³ *Ibid.* at ES-2.

²⁰⁶⁴ *Ibid.* at 7-3 to 7-6, 7-8.

²⁰⁶⁵ *Scoping Report*, Attachment 7 (attendance sheets, minutes of consultation meetings). Also noted in Personal interview, Grizelda Mayo-Anda and Katherine Mana-Galido, Environmental Legal Assistance Center, Puerto Princesa City, Palawan (23 March 2007) and Personal interview, Ernesto B. Gutierrez, Municipal Planning and Development Coordinator, Naujan, Oriental Mindoro (22 August 2006).

focused on the land route that was actually emphasized to be the fallback option.²⁰⁶⁶ The consultations that followed in Batangas City revolved primarily around the issue of possible pollution from the gas plant.²⁰⁶⁷

The consultation workshop in Coron turned out to be particularly contentious. A small crisis arose when two distinct groups, pearl farmers and the Tagbanua community, raised objections to the project. The discussions got so heated that some speakers were shouting and it almost resulted in a deadlock.²⁰⁶⁸

7.3.4.4.1 *Tagbanua Concerns for their Ancestral Domain*

One group of stakeholders who raised objections at the validation consultations were the Tagbanua of Coron, an indigenous peoples' community. They raised their concerns that the project would affect the habitat of the *balinsasayaw* birds that produce the *nido* edible bird's nest and their sacred coral reefs. At the time, they were also in the process of applying for their ancestral domain title at the time, and also wished to know whether the pipeline would pass through their proposed areas.²⁰⁶⁹ A separate consultation was held in *Barangay* Banuang Daan on Coron Island subsequently, but there appears to be no available public record of this meeting.²⁰⁷⁰ This actually took place in October 1997, six

²⁰⁶⁶ *Scoping Report*, Attachment 7, Draft Minutes of the Second Public Consultation Meeting held at Calapan, Oriental Mindoro for the proposed Shell/Oxy Malampaya Gas Project, and Draft Minutes of the Second Public Consultation Meeting held at Roxas, Oriental Mindoro for the proposed Shell/Oxy Malampaya Gas Project.

²⁰⁶⁷ *Scoping Report*, Attachment 7, Minutes of the Second Public Consultation Meeting held at Batangas for the Proposed Malampaya Gas Project.

²⁰⁶⁸ Solleza and Barnes, *supra* Note 1995 at 9. Also noted in Personal interview, Pilipinas Shell Foundation worker, (10 May 2007).

²⁰⁶⁹ *Ibid.* For more detailed information on the Tagbanua ancestral waters claim, see Robert Charles G. Capistrano, "Reclaiming the Ancestral Waters of Indigenous Peoples in the Philippines: The Tagbanua Experience With Fishing Rights and Indigenous Rights" (2010) 34 Marine Pol'y 453.

²⁰⁷⁰ Although it is mentioned in the EIS, no minutes or any other record of this particular meeting is included in the otherwise extensive process documentation submitted. (See *Malampaya EIS*, *supra* Note 2024, vol. 3) The Tagbanua likewise have no

months after the validation consultations and long after the EIS was finalized, involving Shell's environmental advisor Carpio and one other person meeting with the Tagbanua in Banuang Daan.²⁰⁷¹ The Tagbanua reiterated their concerns, and showed Carpio the map of their ancestral domain.²⁰⁷² They stressed the need to compare their ancestral domain boundaries with the planned pipeline route, and reportedly requested that a formal Memorandum of Agreement be entered into between Shell and the Tagbanua regarding the access to fishing grounds, alternative livelihood, and the company's environmental accountability in case of accident.²⁰⁷³ Despite assurances that the final map of the pipeline route would be provided, the Tagbanau never received further information, and Shell denies that any Memorandum of Agreement was discussed.²⁰⁷⁴ However, Shell asserts that in response to the concerns, it proposed a pipeline route that would not traverse the coral reef areas in northern Coron and Busuanga.²⁰⁷⁵

7.3.4.4.2 *Skepticism of the Pearl Farmers*

The second vocal group were the representatives of the pearl farmers operating in the Calamian Islands, who were not previously identified as stakeholders. They raised a number of technical and scientific issues pertaining to the effect of the project and its

copy of any written records of what took place and what was said. Personal interview, Rodolfo C. Aguilar, Tagbanua Leader, Coron, Palawan (04 August 2006). But there is evidence that Shell videotaped the proceedings since an excerpt was included in its video documentary of the project. See "The Malampaya Story," *supra* Note 1989.

²⁰⁷¹ Maricel H. Hilario and Robert C. Salazar, *Indigenous Peoples' Participation in the Environmental Impact Statement System: The Tagbanua of Northern Palawan*. Research Brief (Manila: De La Salle University Social Development Research Center, 2000) at 4.

²⁰⁷² "The Malampaya Story," *supra* Note 1989.

²⁰⁷³ Hilario and Salazar, *supra* Note 2071 at 4.

²⁰⁷⁴ *Ibid.*

²⁰⁷⁵ Solleza and Barnes, *supra* Note 1995 at 9; also emphasized in "The Malampaya Story," *supra* Note 1989.

ancillary activities on the water quality in the area.²⁰⁷⁶ They considered their pearl farms to be extremely sensitive to water quality and therefore at risk, especially if the pipeline should leak. In order to move the discussion forward, it was agreed that Shell would arrange to meet with the pearl farmers separately, and they were asked to submit a list of their concerns.²⁰⁷⁷

The separate special consultation meeting for the pearl farmers was held the following May at the Marine Science Institute in the University of the Philippines in Diliman, Quezon City, Metro Manila. In addition to the proponents and the DOE, this was attended by representatives of the pearl farm operators (six corporations), the Bureau of Fisheries and Aquatic Resources, and a marine scientist from UP Visayas.²⁰⁷⁸ The pearl farm operators raised technical questions and asked for the data WCI used to create the model for their risk assessment so that they could do their own modelling. While questions were answered, the request for data was refused by WCI on the ground that Shell's data was confidential.²⁰⁷⁹ The operators then asked for assurances of compensation in case of damage, to which the proponent responded with the Environmental Guarantee Fund as required by the DENR.²⁰⁸⁰

7.3.4.4.3 Completion of Validation Consultations

The Coron consultation was followed by the consultation in Puerto Princesa, where participants questioned Shell in greater detail about the project and its components, the socio-economic benefits to be expected by the local government units, effects on other

²⁰⁷⁶ *Scoping Report*, Attachment 7, Minutes of the Second Public Consultation in the Calamianes Area.

²⁰⁷⁷ *Scoping Report*, Attachment 7, Minutes of the Second Public Consultation in the Calamianes Area, "Concerns of the Pearl Farmers" (included document).

²⁰⁷⁸ *Ibid.*

²⁰⁷⁹ *Ibid.*

²⁰⁸⁰ *Ibid.*

marine resources uses, pollution, and even its financing.²⁰⁸¹ While some representatives of Palawan's vocal NGOs community attended, they admitted to have no technical or scientific expertise to deal with the technical data and technological aspects presented.²⁰⁸²

7.3.4.5 EIS Submission and Approval

In July 1997, WCI filed the EIS with the DENR. It was a lengthy document, composed of several hundred pages bound in five volumes of summaries, impact assessment, risk assesment, data, analysis, process documentation, baseline information, and supporting documents. The EIS covered all phases of the project, from installation to operation and abandonment for each of the components.²⁰⁸³ The onshore and offshore options were presented in parallel because the data gathering and engineering designs were still being undertaken at the time of EIS submission; there was at the time no final decision on the selection of substructures at the platform site, and actual routing of the pipeline.²⁰⁸⁴ The latter was particularly important since it included landfall options, of which there were several. The EIS therefore was subdivided into assessments of the separate components:²⁰⁸⁵

1. A completely offshore pipeline;
2. A pipeline that was partially onshore in Mindoro, with the options of making landfall at several sites;
3. The Shallow-Water Platform site, with the production platform structure, storage and processing options;

²⁰⁸¹ *Scoping Report*, Attachment 7, Minutes of the Second Consultation/Validation for the Province of Palawan.

²⁰⁸² Personal interview, Loreta Cagatulla, Environmentl Legal Assistance Center, Coron, Palawan (04 August 2006); see also Mayo-Anda and Mana-Galido 2007; Bernardino 2007.

²⁰⁸³ *Malampaya EIS*, *supra* Note 2024, vol. 1 at 1-8.

²⁰⁸⁴ *Ibid.*

²⁰⁸⁵ *Malampaya EIS*, *supra* Note 2024, vol. 1 at 1-9.

4. The facilities at Batangas, including the landfall and the Tabangao gas plant; and
5. Drilling and subsea facilities.

The EIS excluded discussions on abandonment of facilities; abandonment was to be subjected to a separate EIA near the end of the field's expected production. Also excluded from consideration were EIAs for major modifications for the facilities, downstream activities of end users of the gas, and a planned Extended Well Test to be conducted as part of another development activity ongoing at the time.²⁰⁸⁶

Mandatory public hearings were conducted by the DENR in Batangas, Mindoro, and Palawan as part of the approval process, although these were observed to have “turned out to be more of a formality” attributed to the consultations previously held.²⁰⁸⁷ It is not clear whether the EIS was actually distributed for inspection by any of the participants in those hearings, but considering the length of the document, it is unlikely. The ECC was issued on 14 January 1998, or only after 118 days, reportedly the first major project to have been certified in such relatively little time.²⁰⁸⁸

The actual ECC is 4 pages long, but lists an interesting variety of 32 conditions with which the proponent must comply.²⁰⁸⁹ Aside from the facilities and process standards, safety conditions, bio-physical impact-mitigation measures, and related procedural steps, it is to be noted for provisions not directly related to management of the biophysical environment but intended to address the concerns of the local communities. They comprise nearly a third of the listed conditions, and include:

²⁰⁸⁶ *Malampaya EIS, supra* Note 2024, vol. 1 at 1-9.

²⁰⁸⁷ Solleza and Barnes, *supra* Note 1995 at 10.

²⁰⁸⁸ *Ibid.*

²⁰⁸⁹ Department of Environment and Natural Resources, *Environmental Compliance Certificate No. 9708-001-207c*. (Quezon City: DENR Environmental Management Bureau, 1998)

2. The proponent shall consider the offshore route of the pipeline to minimize its environmental socio-economic impacts particularly to the province of Mindoro;

...

20. The proponent shall develop a community-based Information, Education, and Communication (IEC) Program to explain publicly to all stakeholders the project's mitigative measures embodied in its EIS as well as the conditions of the ECC and the importance of the marine ecosystem, biodiversity, mangroves, and coral reefs to residents and its vicinities; [sic]

It shall also open opportunities to educate the public, interested academic institutions and other parties on the environmental and human health safety measures of the project. To assure the objectivity of presentation, the IEC activities shall be funded by the proponent by implemented by a joint team of the proponent, the DENR and a highly credible environmental NGO. The proponent shall submit a detailed IEC Program to the EMB and the DENR Regional Units;

21. The proponent shall implement a Social Development Program in cooperation with Philippines [sic] Shell Foundation, which shall include a comprehensive human resource development program focused on upgrading, industrial skills related to offshore drilling, oil and gas production and other related industries;

22. Appropriate gender-responsive livelihood projects, technical, vocational and entrepreneurial skills training programs and alternative sustainable livelihood projects shall be developed by the proponent through the Pilipinas Shell Foundation in coordination with the Department of Social Welfare and Development (DSWD) and Technical Education Skills Development Authority (TESDA);

...

24. Priority employment opportunities shall be given to qualified Filipino nationals especially to residents of communities most likely to be affected by the project;

...

26. The proponent shall set up an Environmental Guarantee Fund (EGF) to cover expenses for environmental monitoring and the establishment of a readily available and replenishable fund to compensate for whatever damage may be caused by the project, for the rehabilitation and/or restoration of affected areas, the future abandonment/decommissioning of

project facilities, and other activities related to the prevention of possible negative impacts.

The amount and mechanics of the EGF shall be determined by the DENR and the proponent taking into consideration the concerns of the affected stakeholders and formalized through a MOA which shall be submitted within ninety (90) days prior to project implementation. The absence of the EGF shall cause the cancellation of this Certificate.

27. A Multipartite Monitoring Team (MMT) composed of the representatives from the proponent, affected community, local government units (LGUs), concerned NGOs, the affected fisherfolks and pearl farm stakeholders, the Philippine Coast Guard, DENR, and other pertinent government agencies shall be created prior to project implementation. The MMT shall ensure the proponent's compliance with the ECC conditions and the implementation of the Environmental Monitoring Program (EMP);

...

29. In cases where pipe laying activities will adversely affect existing fishing grounds, the proponent in coordination with the Bureau of Fisheries and Aquatic Resources (BFAR) shall identify alternative fishing grounds and negotiate with affected fisherfolks the reasonable compensation to be paid;

30. The proponent shall secure prior to project implementation a Certification from the National Museum regarding the existence or non-existence of Tagbanuan pottery along the pipeline route adjacent to the coastline of Eastern Mindoro as well as an agreement on the reporting of possible discovery of archaeological artifacts in the course of project implementation.²⁰⁹⁰

The issuance of the ECC paved the way for the project's full implementation. The communities' attention to the project receded and Shell turned to negotiation of the Gas Purchase and Sales Agreements, the first of which were signed in December 1997. Finalization of the design of the project's components also took place for most of 1998,

²⁰⁹⁰ Department of Environment and Natural Resources, *Environmental Compliance Certificate No. 9708-001-207c*. (Quezon City: DENR Environmental Management Bureau, 1998).

until November when preparations for construction of the CGS began in Zambales ten months later.

7.3.5 Construction Commences

The project achieved its first major milestone for construction in November 1998 when excavation of the construction site for the CGS commenced in Agusuhin village inside the former US naval base in Subic Bay, Zambales. Fabrication of the topside platform in Singapore followed in May 1999.²⁰⁹¹

In November 1999, Chevron Texaco Philippines Inc. acquired a 45% stake in SC 38, as part of its strategy to pursue “projects that provide for long-term growth, strong near-term earnings, and cash-flow performance.”²⁰⁹² Two months later in January 2000, the PNOC farmed-in for the remaining 10%.²⁰⁹³ Under a Joint Operating Agreement, Shell remained the operator of the project on behalf of its consortium partners.²⁰⁹⁴ It was clear that the farm-in of the two consortium partners affected only the project’s financing and equity, not the design and execution already been laid out by Shell.

7.3.6 The First Palawan Controversy

After the formal announcement that implementation of the Malampaya had begun, the NGO community in Palawan, a remarkably active group under the umbrella of the Palawan NGO Network, Inc. (PNNI) then chaired by the Environmental Legal Assistance Center (ELAC), raised concerns through the media about the possible environmental impacts of the project should it go ahead without a proper EIS.²⁰⁹⁵ In particular, they

²⁰⁹¹ Roco and Agabin, *supra* Note 1956 at 142-143.

²⁰⁹² John J. O’Connor, Senior Vice President and President for Worldwide Exploration and Production, Chevron Texaco, quoted in Roco and Agabin, *supra* Note 1956, vol. 1 at 57.

²⁰⁹³ Roco and Agabin, *supra* Note 1956, at 57.

²⁰⁹⁴ *Ibid.* at 58.

²⁰⁹⁵ "Maaring Makasira Ng Karagatan Ang Pipeline [The Pipeline May Damage the Sea]" *Bandillo ng Palawan* (12 June 1999) at 1.

questioned whether the project would respect the province's Environmental Critical Areas Network (ECAN) zones,²⁰⁹⁶ the habitats of several threatened and endangered marine species, and the Tagbanua ancestral domains.²⁰⁹⁷ They called attention to the experiences of Nigeria, Peru, and Colombia where Shell was accused of complicity in pollution and human rights violations.²⁰⁹⁸

The alarm raised by ELAC, which was also the NGO representative to the PCSD, eventually also brought the project to the attention of the Palawan Council for Sustainable Development (PCSD). Apparently, Shell had never previously made a formal presentation to the PCSD *en banc*. This was finally delivered by Mr. David Greer, Managing Director of SPEX, on 20 August 1999 to the PCSD meeting convened at the Speaker's Conference Room in the House of Representatives in Quezon City.²⁰⁹⁹ Aside from providing technical information about the project components and updates on the progress of implementation, Greer emphasized their strict compliance with DAO 96-37 prior to issuance of the ECC, installation of safety and monitoring systems, close consideration of the hazards in the area, and that the final decision on the project's design was based on environmental, not cost, considerations.²¹⁰⁰

The first meeting with the PCSD reportedly did not go very well. Central to the controversy was the issuance of the ECC without the clearance of the PCSD, which was a

²⁰⁹⁶ The ECAN zones formed the backbone of the Strategic Environmental Plan of Palawan administered by the PCSD.

²⁰⁹⁷ "Shell Ipinagtanggol and Kanilang Proyekto ng Pipeline [Shell Defends Their Pipeline Project]" *Bandillo ng Palawan* (09 August 1999) at 1.

²⁰⁹⁸ *Ibid.*; *Bandillo ng Palawan*, "Maaring Makasira Ng Karagatan Ang Pipeline [The Pipeline May Damage the Sea]"; also mentioned by Mayo-Anda and Mana-Galido 2007.

²⁰⁹⁹ Two (2) Members of the House of Representatives, representing the 2 legislative districts of Palawan, are members of the PCSD, and it was not unusual for the PCSD to hold its meetings in either Puerto Princesa or Quezon City.

²¹⁰⁰ Palawan Council for Sustainable Development. "Minutes" (*67th Regular Meeting of the PCSD*, Quezon City, 20 August 1999) at 2-3.

requirement according to a 1994 MOA between the PCSD and the DENR.²¹⁰¹ Mr. Greer stated that to his knowledge SPEX was not required to formally submit anything to the PCSD, to which some council members apparently took offense. One Council member said that the ECC obtained by Shell was “illegal because it was issued in blatant and gross violation of RA 7611,” which Mr. Greer took “very seriously and asked that (the council member) make an apology.”²¹⁰² A heated discussion ensued, prompting the Chair to admonish the participants to not insult anybody and just keep to the Council’s concerns, and requiring suspension of the session.²¹⁰³ Shell was asked to provide the PCSD with a complete copy of the EIS for review. After reading through the document, ELAC prepared a lengthy position paper dated 01 September 1999 detailing its concerns, and formally submitted this to the PCSD, DENR Secretary, EMB, and the local press.²¹⁰⁴ Upon request of the PCSD, SPEX replied point by point to ELAC’s issues on 06 December 1999.²¹⁰⁵

²¹⁰¹ "ECC ng Malampaya Natural Gas Project Tatalakayin sa Meeting ng PCSD (ECC of Malampaya Natural Gas Project to Be Taken Up at PCSD Meeting)" *Bandillo ng Palawan* (23 August 1999), at 5.

²¹⁰² Palawan Council for Sustainable Development, *Minutes (67th Regular Meeting)* at 3.

²¹⁰³ *Ibid.*, at 3-4. Some of those personally interviewed also described this particular meeting. A few PCSD members apparently thought that Greer was very arrogant when he said that Shell was not required to seek PCSD clearance. Greer was said to be livid (“namula siya”) at the accusation that Shell’s ECC was illegal because he felt it reflected on his personal integrity. Bernardino 2007; Pilipinas Shell Foundation worker 2007.

²¹⁰⁴ Scientific Advisory Team of ELAC, *The Malampaya Sound Pipeline: A Position Paper of Environmental and Social Concerns Surrounding the Project*. (Puerto Princesa: Environmental Legal Assistance Center (ELAC), 1999).

²¹⁰⁵ Shell Philippines Exploration, *Comments on the 'Position Paper on Environmental and Social Concerns Surrounding the Project' By the Environmental Legal Assistance Center (ELAC) Submitted to Shell Philippines Exploration BV (SPEX) By the Palawan Council for Sustainable Development* (Muntinlupa City, Philippines: Shell Philippines Exploration BV, 1999).

Afterwards, the project became the center of a full-blown local political imbroglio. The PCSD's relations with the DENR were likewise strained on account of the issue.²¹⁰⁶ However, these did not impede the project's implementation. As it had done since 1995, SPEX continued to engage in various forms of high-profile social development initiatives in Palawan such as contributions to an anti-malaria project called *Kilusang Ligtas Malaria* (KLM) administered by the Provincial Health Office, and upgrading the Palawan Adventist Hospital (one of the Puerto Princesa City's hospitals) in accordance with the ECC conditions.²¹⁰⁷ But the intense attention on the project eventually spilled over into these initiatives as well; they also became local political issues.²¹⁰⁸ It forced PSFI to suspend its involvement with the KLM for a year in order to avoid allegations of supporting local political candidates after it was hailed to Congressional investigations.²¹⁰⁹ The upgrading of the privately-owned Adventist Hospital instead of

²¹⁰⁶ "Sa Kinukuwestiyong ECC ng SPEX, Sinabi ni Cerilles na 'Dapat Igalang ng PCSD ang DENR' (On the Questioned ECC of SPEX, Cerilles Says 'PCSD Should Respect DENR')" *Bandillo ng Palawan* (22 November 1999) at 1.

²¹⁰⁷ The KLM is a malaria-eradication program administered by the Provincial Health Office. The Palawan Adventist Hospital benefited from Shell through the latter's donation of advanced equipment and addition of treatment and operating rooms. The facility was also needed by Shell for safety and health reasons, as in case of an accident on the platform, Puerto Princesa City was the nearest large urban center to which casualties could be airlifted and be given advanced emergency care and treatment. "Shell Ipinagtanggol and Kanilang Proyekto ng Pipeline (Shell Defends Their Pipeline Project)" *Bandillo ng Palawan* (09 August 1999) at 1-5; "SPEX Magbibigay Ng P68M Sa Palawan Adventist Hospital (SPEX to Give P68M to Palawan Adventist Hospital)" *Bandillo ng Palawan* (17 January 2000) at 1-5; "P22M Extension Ng Adventist Hospital Sinimulan Na" *Bandillo ng Palawan* (12 June 2000) at 8.

²¹⁰⁸ "P36M Pondo Para Sa Malaria Nanganganib Bawiin Ng SPEX (P36M Fund for Malaria in Danger of Being Taken Back By SPEX)" *Bandillo ng Palawan* (17 January 2000) at 1-6.

²¹⁰⁹ Although the KLM program had been ongoing for some time, Shell's financial contributions came in a year prior to an election year. The KLM's materials included pictures of some local officials as sponsors, which were seen as a form of premature campaigning. Personal interview, Rolando E. Bonoan Jr., Provincial Information

the publicly-owned and operated Provincial Hospital also came under fire.²¹¹⁰ The issue of the province's expected royalty shares also came to the fore, as various proposals were made as to the proper way to use and manage it.²¹¹¹ The local media's coverage of the project coincided with a discussion of efforts to establish a protected area in the Malampaya Sound, a sensitive and productive bay area on Palawan's western coast, and apparent source of the project's designation.²¹¹²

Office, Puerto Princesa City, Palawan (23 March 2007). Shell's suspension of assistance to the KLM is also mentioned in Carpio, *supra* Note 2031, Annex A at 19-20.

²¹¹⁰ Palawan Council for Sustainable Development. "Minutes." (72nd Regular Meeting of the Palawan Council for Sustainable Development, Quezon City, 28 January 2000), Agenda Item 9.

²¹¹¹ Discussions about the usage of Palawan's expected revenue share had been going ever since the discovery of the gas field. For a time, a political issue arose in the media between Palawan's Governor then and one of its two Congressmen over a planned bond flotation worth 100 Million USD intended to securitize the royalty shares that Palawan expected from Malampaya. Sometime before June 1997, the Palawan provincial government had planned to float bonds in the international capital market using its projected 40% share from the Malampaya royalties. *Palawan Council for Sustainable Development*, Council Res. 1458-97 (1997). Proceeds from the bonds would have been used to finance its various development programs. However, due to the 1997 Asian Currency Crisis, the bond flotation scheme was shelved, awaiting the time when the Philippine Peso recovered from the crisis. Celeste Anna Formoso, "Bond Flotation Plan Shelved," *Bandillo ng Palawan* (01 January 1998). By 2000, the bond flotation proposal was no longer attractive, and ways and means were proposed for the provincial government to directly manage and use the expected fund. "SPEX Magbibigay Ng P68M Sa Palawan Adventist Hospital [SPEX to Give P68M to Palawan Adventist Hospital]", *supra* Note 2102; "Hiwalay na Departamentong Hahawak Sa Kikitain Sa Camago-Malampaya Hiniling [Separate Department to Handle Revenue From Camago-Malampaya Proposed]" *Bandillo ng Palawan* (24 April 2000), at 1.

²¹¹² "May Red Tide pa rin sa Malampaya Sound (There is still Red Tide in Malampaya Sound)." *Bandillo ng Palawan* (01 December 1998) at 8; "Mga Lampasut sa Malampaya Marami Pero Nanganganib [Many Irrawady Dolphins in Malampaya But They Are in Danger]" *Bandillo ng Palawan* (16 February 1999) at 1-3; "Malampaya Sound Gagawing Protected Area [Malampaya Sound to Be Made a Protected Area]" *Bandillo ng Palawan* (13 September 1999) at 8-5.

The matter was not formally taken up until several months later in a 2nd meeting on 28 January 2000. On this occasion, the DENR apologized to the PCSD, admitting that it did not coordinate with the latter on the issuance of the ECC.²¹¹³ The DENR reasoned that it relied on the inclusion of the PCSD in the EIA Review Committee membership, and its participation in the project's Scoping and Consultation meetings;²¹¹⁴ it also referred to an endorsement letter dated 08 July 1997 from then-Governor Salvador Socrates, who was also the PCSD Chairperson at the time, certifying that consultations had been conducted with the local governments of Palawan and other offices including the PCSD.²¹¹⁵ Shell, on the other hand, could only rely upon DENR's action of issuing the ECC even though it was aware that a formal consultation meeting with the PCSD had not taken place.²¹¹⁶

In the end, the PCSD issued a clearance for the project at a third meeting on 16 June 2000, nearly a year later.²¹¹⁷ During this meeting, Greer renewed assurances regarding the safety and integrity of the project, citing its design, safety features, and emergency response plans.²¹¹⁸ The PCSD Clearance lists 11 conditions, including requirements for Shell to submit further documentation of the design of its pipeline automatic shut-off device; studies and data on contingent and operational impacts of the project on the environment and mitigating measures; procedures, production processes, and safety measures on the production platform; specific monitoring tasks; inclusion of the PCSD in the Executive Committee of the Multi-partite Monitoring Team and the Environmental Guarantee Fund, and PCSD Staff in the MMTs; and even the establishment of a training

²¹¹³ Palawan Council for Sustainable Development, *supra* Note 2105.

²¹¹⁴ *Ibid.*

²¹¹⁵ *Ibid.*; see also *Malampaya EIS*, *supra* Note 2024, vol. 3, Appendix F (proofs of social acceptability).

²¹¹⁶ Palawan Council for Sustainable Development, *Minutes (72nd Regular Meeting)*.

²¹¹⁷ "SPEX Aprubado na ng PCSD (SPEX Approved By the PCSD)" *Bandillo ng Palawan* (19 June 2000), at 1-4.

²¹¹⁸ Palawan Council for Sustainable Development. "Minutes." (76th Regular Meeting of the Palawan Council for Sustainable Development, Quezon City, 14 June 2000) at 8.

and scholarship program to address the technical manpower requirement of the project catering principally to bonafide residents of Palawan.²¹¹⁹

7.3.7 Construction Progresses Rapidly

The year 2000 was the busiest year in Malampaya's construction history. Development drilling of the Malampaya field and construction of the onshore gas plant at Tabangao were done in February and March, while the CALM Buoy began fabrication and the CGS was completed and towed out from its dry-dock in May. The CGS was installed in June, after which the pipelaying began. The pipe was laid using the dynamically-positioned pipe-laying ship *Solitaire*, at the time one of only two vessels in the world that used a computerized navigation system linked to a GPS and eight water thrusters and stabilizers that allowed it to keep precise position and direction while floating freely and without the help of anchors.²¹²⁰ *Solitaire* began its pipelaying off the Batangas landfall, and proceeded southward. Upon reaching Oriental Mindoro, another small crisis arose.

7.3.8 Mindoro Fishers Protest

The seabed east of Mindoro island slopes very steeply from its coast, where the waters run very, very deep close to shore. To make up for the lack of coral reef areas, fishers use fish aggregating devices variously called *boya*, *payao*, or *koralrip*, to provide artificial sheltering and feeding areas for pelagic fish. At the time, each *boya* cost anywhere from 4,000 to 8,000 PHP.²¹²¹ These are clusters of bamboo, coconut leaves, and other local materials bound together that float just below water while anchored to the seabed; a buoy marks their location.²¹²² When the time is right, the fishers will take their *bancas* around the *boya* and cast their nets to catch the fish congregating around them.

²¹¹⁹ Palawan Council for Sustainable Development, "PCSD Clearance: Malampaya Gas Project, Offshore Northwest, Palawan," (16 June 2000).

²¹²⁰ Solleza and Barnes, *supra* Note 1995 at 9-10.

²¹²¹ Personal interview, Two municipal officials #1, Pola, Oriental Mindoro (14 August 2006).

²¹²² *Ibid.*

As *Solitaire* worked its way into the waters of Oriental Mindoro, scouting teams sailing in advance of the vessel found that a number of these *boya* lay in the path of the *Solitaire*, and thus removed them without notifying their owners or the LGU.²¹²³ While there is no precise list of fishers publicly available, they certainly included residents of the towns of Naujan and Pola.²¹²⁴ The destruction of the *boya* naturally outraged the fisherfolk, and five coastal municipalities issued resolutions calling for a stop to the pipe-laying.²¹²⁵ Along with some NGO's and militant groups operating in Oriental Mindoro, the fishers quickly announced they would organize a fluvial protest with a fleet of *banca* that would establish a blockade against the vessel.²¹²⁶ The incident received local media attention and was a potential 'show-stopper' crisis for Shell.²¹²⁷ *Solitaire*'s operation cost 400,000 USD per day,²¹²⁸ and since the pipeline was integral to other facilities on each end, any delay in the pipelaying would have had serious financial impacts. Shell intended to ask the law enforcement authorities to prevent the fishers from taking action.²¹²⁹

However, Shell's environmental advisor Carpio believed that the external relations team was at fault, and convinced the management to instead allow him to initiate a belated dialogue with the Mindoro-based groups.²¹³⁰ After some negotiations, the fishers and NGOs agreed not to proceed with the planned protest, in exchange for compensation for

²¹²³ Carpio, *supra* Note 2031 at 48-49.

²¹²⁴ Personal interview, Elma C. Pole, Barangay Chief, San Jose, Naujan, Oriental Mindoro (17 August 2006); Personal interview, Barangay official #2, Naujan, Oriental Mindoro (17 August 2006); Personal interview, Two municipal officials #1, Pola, Oriental Mindoro (14 August 2006).

²¹²⁵ Carpio, *supra* Note 2031 at 48-49.

²¹²⁶ Solleza and Barnes, *supra* Note 1995, at 11; also Personal interview, NGO worker, Calapan, Oriental Mindoro (22 August 2006)..

²¹²⁷ Carpio, *supra* Note 2031 at 24, 29, 31.

²¹²⁸ Solleza and Barnes, *supra* Note 1995, at 11.

²¹²⁹ *Ibid.*

²¹³⁰ *Ibid.*

the *boya* destroyed and the release of livelihood funds.²¹³¹ Shell immediately provided compensation for the damaged property, which eventually amounted to Two Million PHP.²¹³² It also agreed to release a One Million PHP fund for micro-financing and livelihood loans through the PSFI, subject to the submission of project proposals by the interested fishers and groups.²¹³³ The fund was eventually distributed to seven Mindoro-based NGOs that presented project proposals meeting Shell's criteria.²¹³⁴

Although it is not clear from available accounts exactly when these events took place, the pipelaying phase was near the final stage of the project between June and November 2000. By that time, of the major structures, the topside platform needed only to be floated over and erected onto the CGS, and both ends of the pipeline were ready for the connection. It is thought that timely response to the Mindoro fishers' complaints prevented several weeks of delay that could have cost Shell at least 4-6 Million USD from the pipelaying, and an additional 10-30 Million USD from any subsequent delays in gas delivery beyond the agreed-upon start-up date.²¹³⁵

7.3.9 Construction Completed

Solitaire took only about five months to lay the 500 km pipeline, averaging more than three kilometers per day from Tabangao to the CGS, delayed only by a super-typhoon, assistance in search and rescue, and discovery of bomb relics from World War II. The ship completed the task in November,²¹³⁶ enabling the installation of the CALM Buoy the same month.²¹³⁷ By January 2001, all pipelaying and connections were complete, awaiting only the installation of the topside production platform.

²¹³¹ *Ibid.* at 12.

²¹³² Sohn, *supra* Note 1995 at 24.

²¹³³ Solleza and Barnes, *supra* Note 1995 at 12.

²¹³⁴ Sohn, *supra* Note 1995 at 22.

²¹³⁵ *Ibid.* at 25.

²¹³⁶ Roco and Agabin *supra* Note 1956 at 107-09.

²¹³⁷ Roco and Agabin, *supra* Note 1956 at 144-47.

The *Malampaya* topside facility was towed from drydock in Singapore and installed in March. By May 2001, all interconnections between the different components and necessary equipment installation were completed. A safety and exclusion zone of 500m around the platform and on either side of the pipeline was established on 10 July 2001.²¹³⁸ The platform's production start-up is recorded as 11 September 2001, and Malampaya was formally inaugurated, complete with Presidential fanfare, a month later on 16 October 2001.²¹³⁹ Shell proudly notes that the project was implemented ahead of time and under budget, attributing its success to both the technical competence and social communication skills of its people.²¹⁴⁰

7.3.10 The Second Palawan Controversy

The inauguration of Malampaya sparked a new controversy with Palawan. In attendance was newly-installed President Gloria Macapagal-Arroyo, who came to power in January 2001 in the aftermath of a massive urban middle-class protest against President Joseph Estrada. As a matter of executive policy, previous administrations under President Fidel Ramos and Joseph Estrada had granted Palawan a share in the national government's revenues from petroleum exploration that concentrated around Palawan's waters.²¹⁴¹

²¹³⁸ *Malampaya Safety and Exclusion Zones*, Proc. 72 (2001) .

²¹³⁹ Roco and Agabin, *supra* Note 1956 at 147-51.

²¹⁴⁰ Shell Philippines Exploration, *Sustainable Development in the Midst of Industrialization: The Malampaya Story and Fueling Dreams (Video Documentary)*; and Roco and Agabin, *supra* Note 1956.

²¹⁴¹ *Fulfillment of Obligations under Gas Sales and Purchase Agreement with Shell/Oxy*, Preamble 15, para. 2:

WHEREAS, the Government has determined that it can derive the following economic and social benefits from the Natural Gas Project:

...

(2) based on the estimated production level and Natural Gas pricing formula between the Sellers and the Buyers of such Natural Gas, the estimated Government revenues for the 20-year contract period will be around US \$ 8.1 billion; this includes estimated revenues to be generated from the available oil and condensate reserves of the Camago-Malampaya Reservoir; the province of

President Arroyo at first distanced herself from these positions, and then decided that the project being located some 50-80 km from the nearest shore, it was outside Palawan's territory and so the province was not entitled to the 40% revenue/production share under the Local Government Code.²¹⁴² At most, her administration was willing to provide generous "financial assistance" on the basis of a negotiated Memorandum of Agreement between the province and the national government.²¹⁴³ Many Palawan residents and politicians, however, claimed ownership of the Camago-Malampaya gas field itself, and took a hardline position claiming the 40% revenue/production share, resulting in the province's inability to come to an agreement with the Executive.²¹⁴⁴ The negotiations

Palawan is expected to receive about US \$ 2.1 billion from the total Government share of US \$ 8.1 billion; (emphasis added)

²¹⁴² "Bahagi ng Palawan sa Kita mula sa Malampaya Inilalayo na? [Palawan's Share From Malampaya's Profits Being Taken Away?]." *Bandillo ng Palawan* (22 October 2001) at 8; "Pangulong Arroyo Nanindinggang Hindi Sakop Ng Palawan Ang Malampaya [President Arroyo Firm That Malampaya Is Outside Palawan]." *Bandillo ng Palawan* (12 April 2002) at 1.

²¹⁴³ "Kita ng Palawan mula sa Malampaya Muling Tiniyak [Palawan's Share From Malampaya Ascertained Again]." *Bandillo ng Palawan* (24 September 2001), at 4; "Mitra Tiyak sa Bahaging Makukuha ng Palawan mula sa Malampaya [Mitra Sure of Palawan's Share From Malampaya]." *Bandillo ng Palawan* (31 December 2001) at 5; "JTR Humingi ng Tulong sa IBP Ukol sa Malampaya [JTR Seeks Help From IBP Regarding Malampaya]." *Bandillo ng Palawan* (14 January 2002), at 1; "20% Bahagi Ang Para Sa Palawan [20% Share for Palawan]." *Bandillo ng Palawan* (25 March 2002), at 1; "Bagong Negosasyon at MOA para sa Kita ng Malampaya Iminungkahi [New Negotiation and Moa for Malampaya Profits Proposed]." *Bandillo ng Palawan* (01 April 2002), at 1;

²¹⁴⁴ "MOA sa Malampaya Naantala [MOA for Malampaya Delayed]." *Bandillo ng Palawan* (27 May 2002) at 1; "Sa Unang Public Hearing, Bagong MOA Binusisi [At First Public Hearing, New Moa Questioned]." *Bandillo ng Palawan* (10 June 2002) at 1; "Konsultasyon Para Sa MOA Palalawigin Pa - Gob. Reyes [Consultations on Moa to Be Expanded - Gov. Reyes]." *Bandillo ng Palawan* (17 June 2002), at 1; "MOA ng Palawan Aprubado na [Palawan's MOA Approved]." *Bandillo ng Palawan* (07 October 2002) at 1; "MOA Muling Tinutulan [MOA Opposed Again]." *Bandillo ng Palawan* (28 October 2002) at 1; "Tutol at Pabor Sa MOA Nagtuos [Opposed and in Favor of MOA Clash]." *Bandillo ng Palawan* (04 November 2002), at 1; "MOA Isinangguni Kay GMA [MOA Sent to GMA]." *Bandillo ng Palawan* (11 November

failed,²¹⁴⁵ and Palawan filed a petition for declaratory relief with the Regional Trial Court of Puerto Princesa to adjudge Palawan as entitled to the share under the Local Government Code.²¹⁴⁶ On 16 December 2005, the Regional Trial Court upheld Palawan's claim.²¹⁴⁷ This was immediately appealed by the national government to the Supreme Court, where the case was still pending as of June 2010.²¹⁴⁸ In the meantime, an interim agreement has been signed between the national and local government, providing Palawan with a Two Billion PHP "financial assistance" package pending the resolution of the dispute.²¹⁴⁹

2002), at 1; "MOA Baka Isnabin ni GMA [MOA May Be Ignored By GMA]." *Bandillo ng Palawan* (25 November 2002), at 8.

²¹⁴⁵ "MOA Tuluyan Nang Naglaho [MOA Completely Gone]" *Bandillo ng Palawan* (10 March 2003), at 1.

²¹⁴⁶ "Paghahabla ng Palawan sa Gobyernong Nasyunal Umani ng Malawakang Suporta sa Palaweno [Palawan Suit Against National Government Gains Wide Support From Palawenos]" *Bandillo ng Palawan* (12 May 2003) at 1; "KLM Magsasampa Ng Demanda [KLM to File Suit]." *Bandillo ng Palawan* (07 June 2004) at 1; "Petisyon Ng KLM Nasa Korte Na [Petition of KLM Now in Court]." *Bandillo ng Palawan* (21 June 2004), at 1.

²¹⁴⁷ "Palawan Entitled to \$2-B Gas Share, Court Rules." *Manila Bulletin* (19 December 2005), online: <<http://www.mb.com.ph/node/151787>>; Jofelle B. Tesorio, "Palawan Asks Court to Freeze Malampaya Share," *Philippine Daily Inquirer* (09 January 2006), at A16.

²¹⁴⁸ Jesus F. Llanto, "Palace, Palawan Face Off Over Malampaya's \$10 Billion," *Newsbreak* (30 August 2009), online: <http://newsbreak.com.ph/index.php?option=com_content&task=view&id=6675&Itemid=88889066>

²¹⁴⁹ *Further Release of Funds From Net Government Share in SC 38*, E.O. 405 (2005) ; *Use of Fees, Revenues, Receipts From SC 38 for Palawan*, E.O. 683 (2007) ; *Implementing Guidelines, Release of Funds Pursuant to EO 683*, Joint Circular 3 (2008); "Palawan Leaders Agree on Malampaya Sharing." *Philippine Daily Inquirer* (30 November 2007), online: <http://newsinfo.inquirer.net/breakingnews/regions/view/20071130-104107/Palawan_leaders_agree_on_Malampaya_sharing>.

7.3.11 Initial Anxieties

Continuing anxieties on the part of the coastal communities attended the initial years of Malampaya's operation. In the first year after the project's completion, fishers in the municipalities nearest to the pipeline reported a very sharp decline in fish catch.²¹⁵⁰ The Municipality of Bulalacao was particularly sensitive to this issue because they lost revenue from fish landings at the municipal port.²¹⁵¹ Local fishers blame the decline on the pipeline's disturbance of the marine habitat, but the municipalities cannot be sure because there is no scientific evidence with which to press the complaint.²¹⁵² Fishcatches recovered in the years after, although in the Municipalities of Pola and Naujan, fishers say it has never been the same, "*parang malayo na ang isda* [it is as if the fish are far away now]."²¹⁵³

Fishers in both Bulalacao and Pola complained in April 2002 that the pipeline produced a sound that was scaring off their fish, leading to the decline in fishcatch.²¹⁵⁴ The project's Multi-sectoral Monitoring Team dispatched a science team with hydrophones in November 2002 and January 2003 to determine whether the pipeline indeed produced a

²¹⁵⁰ Personal interview, Municipal official #1, Bulalacao, Oriental Mindoro (15 August 2006); Personal interview, Municipal official #2, Bulalacao, Oriental Mindoro (15 August 2006); Personal interview, Municipal official #3, Bulalacao, Oriental Mindoro (15 August 2006); Personal interview, Two municipal officials #1, Pola, Oriental Mindoro (14 August 2006); Personal interview, Two municipal officials #2, Pola, Oriental Mindoro (14 August 2006); Personal interview, Two municipal officials, Linapacan, Palawan (27 March 2007).

²¹⁵¹ Municipal official #2 (Bulalacao) 2006.

²¹⁵² Municipal official #1 (Bulalacao) 2006; Two municipal officials #1 (Pola) 2006; Municipal official #3 (Bulalacao) 2006.

²¹⁵³ Two municipal officials #1 (Pola) 2006; Municipal official #3 (Bulalacao) 2006.

²¹⁵⁴ Municipal official #2 (Bulalacao) 2006.

noise that could affect fish. The findings reported no unusual sounds.²¹⁵⁵ However, the story still persists and seems to be common knowledge in the locality as an actual fact.²¹⁵⁶

Sometime in 2005, there were two unusual algal bloom (red tide) events observed in the waters between Culion and Linapacan, where the pipeline passed.²¹⁵⁷ Fishers immediately identified the project as the possible cause of the red tide. Subsequent investigation however found that it actually swept in from other locations away from the pipeline, much further east off Northern Palawan.²¹⁵⁸

In 2006, an oil spill of unknown origin washed up on the shores of El Nido and had to be cleaned up, while in Bulalacao the residents reported a tar-like substance on its beaches. The MMT had quickly responded to investigate the reported spills and discounted Malampaya as a cause; they were more likely to have originated from passing vessels.

The coastal communities of Oriental Mindoro had learned to live with the project, and provincial officials were actively working with Shell and the DOE on formalizing the province's role in the project's MMT.²¹⁵⁹ Malampaya's MMT was doing a good job of responding to the issues.²¹⁶⁰ In Palawan, meanwhile, the controversy over the 40% revenue/production share was very much in the minds of the people, and there is much

²¹⁵⁵ Seasteams, *Temporal Audio Measurements in Selected Coastal Areas of Oriental Mindoro and Batangas: Final Report*. (Unpublished, 2003) at 18.

²¹⁵⁶ The story that the pipeline produced a sound was repeatedly described by different interviewees in a factual, not conjectural, manner. Municipal official #1 (Bulalacao) 2006; Municipal official #2 (Bulalacao) 2006; Two municipal officials #1 (Pola) 2006; Two municipal officials #2 (Pola) 2006; Two municipal officials (Linapacan) 2007.

²¹⁵⁷ Personal interview, Lorie Cagatulla, Environmental Legal Assistance Center, Coron, Palawan (04 August 2006).

²¹⁵⁸ *Ibid.*

²¹⁵⁹ Mindoro Oriental was initially not part of the Malampaya MMT established under the terms of the ECC, and it had to lobby for the right to participate. See Section 7.5.2.2 below.

²¹⁶⁰ Three provincial government representatives (Mindoro Oriental) 2006; Bernardino 2007.

resentment against the national government for denying what the population view to be their rightful share. The project itself has experienced trouble-free operations since 2001.

7.4 Ecological Social Justice Analysis

Malampaya is indeed a massive undertaking, spanning waters adjacent to 24 municipalities and two cities spread across three different provinces. Geographically, the project cuts across the municipal waters of 18 LGUs, but despite its relatively limited physical structures, for most of the inhabitants it has a significant presence within their territorial spaces. For the purpose of this chapter, data from interviews conducted in six municipalities (and select *barangay* within) and two cities (both provincial capitols), involving people from the LGUs, NGOs, and peoples' organizations are presented.

7.4.1 Participation

Shell cites the numerous scoping and validation consultations, surveys, interviews, and focused group discussions during the EIA process as evidence of extensive stakeholder engagement, and they may be rightly be viewed as a serious attempt to engage public participation and acquire public inputs to decision-making. During the field research, many interviewees recognized that Shell attempted to reach out and exerted a lot of effort to engage the communities, giving them the chance to communicate and express their concerns unlike before.²¹⁶¹ However, the field interviews still reveal issues and shortcomings despite the various activities conducted by Shell.

7.4.1.1. Accessibility of Consultations

Representatives from the NGOs, *barangay*, and municipal officials leveled much criticism against the consultation process. Overall, most argued that in the first place, the consultations were not held with the actual coastal communities who would be directly affected, specifically the *barangay* residing in the coastlines adjacent to the project and

²¹⁶¹ Mayo-Anda and Mana-Galido 2007; Two municipal officials (Linapacan) 2007; Bonoan 2007.

pipeline. In Oriental Mindoro, some municipal officials asserted that the proponents met mainly with the LGU officials in the municipal hall and did not go directly to the people in the coastal areas.²¹⁶² In Palawan, a similar sentiment was expressed by the NGO representatives in Palawan,²¹⁶³ though some the municipal officials opined that consultations did reach at least the *barangay* in El Nido.²¹⁶⁴ There was no announcement of the consultations to the general public; rather, it was made selectively to LGU officials and NGOs by invitation.²¹⁶⁵ The idea of direct consultation with those affected was a particularly strong point asserted by many of those interviewed. A municipal planning and development officer empathically said,

The scoping and consultation should be done in the area where people, the direct beneficiaries, are residing. They must be consulted directly, let their voices be heard. Let their sentiments be aired...let the people know what is happening around them, they are the ones who will be affected, so they are entitled to the information.²¹⁶⁶

Direct consultation with the people affected was mostly preferred over consultation with mere representatives, even elected ones. Although interviewees acknowledged that Shell met with local officials such as the Mayor, members of the *sangguniang bayan* (municipal council), or even *barangay* leaders, they emphasized there was still a need for direct communication between the proponent and the people: local officials should *facilitate*, not *represent*, the people in this process.²¹⁶⁷

²¹⁶² Two municipal officials #1 (Pola) 2007; Gutierrez 2006.

²¹⁶³ Cagatulla 2007; Bernardino 2007.

²¹⁶⁴ Personal interview, Municipal official #4, El Nido, Palawan (26 March 2007).

²¹⁶⁵ Mayo-Anda and Mana-Galido 2007.

²¹⁶⁶ Gutierrez 2006.

²¹⁶⁷ Aguilar 2006; Cagatulla 2007; Gutierrez 2006; Municipal official #1 (Bulalacao) 2006; Personal interview, Arnulfo C. Vicentino, Municipal Planning and Development Coordinator, Coron, Palawan (04 August 2006); Personal interview, Glen N. Lisboa, Member, Sangguniang Bayan, Culion, Palawan (31 July 2006); Personal interview, Alfremo B. Carpio, Tagbanua Leader, Coron, Palawan (04 August 2006).; Personal interview, Municipal official #1, Naujan, Oriental Mindoro

Direct consultations necessarily should have been done at each *barangay*, not only in one or two municipal centers or the provincial capitol as Shell had done.²¹⁶⁸ The issue of venue was important especially to the *barangay* interviewees, because holding the consultations in places other than their home communities effectively prevented their participation. Merely opening the session to the public and sending invitations to people was not enough. One municipal official in Oriental Mindoro explained,

They should really talk to the people who are interested and affected, not just here in the municipal government office. But how will you get them to attend, when they don't have money? These people who did the scoping, they should have tried their best to go there. Instead they wanted to save money, invited people to Calapan City, first the ABC Hall, then the Session Hall, then the restaurant. The people were basically not consulted, they only invited a few of us. What if someone failed to go there? Of the 11 coastal barangays, maybe 2 or 3 people would show up, that's all. They didn't have transportation fare to come, although sometimes they gave that and food, and anyone who wanted to could come. You have to spend first; but most people could not do that.²¹⁶⁹

The issue that interviewees raised is the affected communities' own direct access to the consultation process that is undertaken. They view the public consultation sessions organized by Shell in the municipal or provincial capitols to be inadequate because they simply assumed that interested people would come to participate. But the poor were not likely to have the time or resources to attend a meeting away from their homes. Even if they did, though, since there was no public announcement of the consultations they could not have come anyway.

The failure to conduct direct consultations is likely to have directly contributed to the potential crisis in which Mindoro fishers threatened to blockade the pipelaying vessel with a fleet of *banca*. The Malampaya EIS notably does not contain any information at all

(17 August 2006); Personal interview, Barangay official #2, Naujan, Oriental Mindoro (17 August 2006).

²¹⁶⁸ Personal interview, Antonio M. Mendez, Municipal Agriculturist, Coron, Palawan (04 August 2006)..

²¹⁶⁹ Gutierrez 2006.

concerning the fishing practices of the coastal communities adjacent to the pipeline route, other than a brief reference to possible commercial fishing in the platform site area. Had the consultations actually been held in the coastal villages, then the residents' practice of mooring their *boya* in the municipal waters would probably have surfaced. Shell did not anticipate the existing usage of the municipal waters through which they routed the pipeline due to the absence of adequate information on the ways in which the coastal communities of Mindoro used their waters, information that could have been acquired had adequate and direct consultations been conducted.

7.4.1.2 Control of Information

Another prominent issue referred to the possession of information needed to engage meaningfully and effectively in the consultation process. Many interviewees implied that the proponent had the upper hand over the participants in the consultations by virtue of their being more knowledgeable about the subject. They acknowledged that they knew little or nothing about offshore petroleum development or the technologies involved, and could not effectively engage with the proponent despite the openness of the consultations. Very little information was provided by the proponent,²¹⁷⁰ and a few indicated the need for expertise to be able to properly deal with the technical and technological aspects.²¹⁷¹ As noted by an NGO representative,

As for the technical aspects, even in ELAC we did not have enough information to be able to determine whether the platform is really a good area, or even about their special equipment and procedures. We can only rely on their word. Ideally, if a government agency like the PCSD or the DENR, or some key organization like UP-MSI or the Geologic Society, could have studies or information saying that certain areas are protected for some reason. That would help the communities. That would benefit the

²¹⁷⁰ Indeed, at the Scoping consultations, the program of activities provided for only a brief ten minute presentation about the project and the pipeline route. *Malampaya EIS, supra* Note 2024 , vol. 3: Appendix F (proofs of social acceptability).

²¹⁷¹ Personal interview, Christopher C. Lim, Member, *Sangguniang Bayan*, Coron, Palawan (04 August 2006).; Lisboa 2006; Mayo-Anda and Mana-Galido 2007; Bernardino 2007.

fishers, indigenous peoples, and civil society groups to evaluate and give their comments. But this was not the case; even the government did not link these things.²¹⁷²

As a result, some interviewees characterized the consultation sessions as merely informing the people of the project, rather than actually seeking their input for decisions about it.²¹⁷³ Although Shell asserts that the consultation process was instrumental in their decision to route the pipeline completely offshore instead of pursuing an onshore route through bio-diversity Mindoro,²¹⁷⁴ the information materials that it provided during the Scoping and Validation workshop indicate that this was not the case. Shell presented the project to the people mainly as an offshore pipeline project from the start, and the onshore route was mentioned only as a possible option.²¹⁷⁵

One important issue that relates to the control of information is the absence of available records of the consultations, particularly for those who participated in the EIA process. None of the LGUs or NGOs possessed any record of any of the consultations that they participated in. Although the documentation was appended to the Malampaya EIS

²¹⁷² Mayo-Anda and Mana-Galido 2007.

²¹⁷³ Municipal official #1 (Bulalacao) 2006; Municipal official #1 (Naujan) 2006; Two municipal officials \$1 (Pola) 2006.

²¹⁷⁴ “The Malampaya Story.”

²¹⁷⁵ Shell Philippines Exploration and Occidental Petroleum Philippines, *Malampaya Gas Project: Isang Prayer* (Muntinlupa City, Philippines: Shell Philippines Exploration BV, 1996) at 6. This was a primer in Filipino distributed at the Scoping consultations, containing expected frequently asked questions and answers. According to the primer, in answer to the question of where the project would be located:

Ang pangunahing balak ay padaanin ang buong daluyang-tubo sa dagat mula sa Malampaya patawid patawid [sic] sa Linapacan Strait at paikot sa silangan ng Mindoro. Pinag-aaralan din ang posibilidad na padaanin ang mga tubo sa Mindoro Oriental...kung saka-sakaling magkakaroon ng malaking teknikal na problema kung idadaan ang tubo sa dagat. (The first option is to route the pipeline in the sea from Malampaya to cross the Linapacan Strait and around the south of Mindoro. The possibility of routing the pipeline through Mindoro Oriental is also being studied...just in case there is a big technical problem with routing the pipe through the sea.)[translated by author].

submitted to the EMB, the voluminous document remained with the EMB and its contents were not disseminated to the affected parties. The PCSD acquired a copy only after it was requested from Shell, after the issuance of an ECC without PCSD Clearance was questioned. The NGOs in turn were only able to peruse the document by borrowing it from the PCSD. The lack of information about the Malampaya EIS, which was the supposed to be the outcome of the consultations, seriously hinders the ability of the stakeholders to determine whether their inputs had been seriously considered.

7.4.1.3 Withheld or Insufficient Consent

Although Malampaya has been portrayed as a proof of the need for free, prior and informed consent on the part of affected communities in cases of large-scale development projects,²¹⁷⁶ it is not widely known that the project was implemented without the consent of the municipalities of Oriental Mindoro, in whose waters the pipeline rests. While the proponent sought endorsements from all the LGUs for purposes of proving social acceptability, they were not granted by all of the 12 concerned municipalities of Oriental Mindoro. The municipalities of Naujan and Bulalacao deliberately withheld consent by not issuing any endorsements of the project, while the rest of the municipalities issued only certifications that they had been consulted, undertood the nature of the project enough to decide on a “mode of action... as [they] plan for the future of (the) municipalities,” and understood that the document was needed in the review of the EIS prior to approval or disapproval of issuance of the ECC.²¹⁷⁷ From the phraseology used, it

²¹⁷⁶ Sohn, *supra* Note 1995.

²¹⁷⁷ Non-endorsement by Naujan and Bulalacao were verified during the field interviews; the municipal councils of the said municipalities did not issue any formal resolutions about the project. Certifications for only the municipalities of Socorro, Calapan, Pinamalayan, Roxas, Pola, Bansud, Bongabong, and Mansalay are included in the EIS. Of these, only the first five are signed by more than one member of the *sangguniang bayan*. Of the three provinces, only that issued by the Provincial Governor of Palawan expressly and categorically stated that they were endorsing the approval of the ECC. Those issued by the Governor of Batangas Province and the Mayor of Batangas City only certified that consultations were conducted. The

could not be said that these documents could legally be interpreted as consent to the project's implementation. They contradict Shell's representation and published case studies' conclusions regarding stakeholders' consent to the project.

7.4.1.4 Timebound Targets

Shell is proud of the fact that the ECC was issued in a record time of 118 days.²¹⁷⁸ While this may look very good from the standpoint of managerial efficiency, it raises questions as to the sincerity and purpose of the consultations in the EIA process. The NGO representatives pointed out that the consultations were hurried, and they were caught by surprise that the ECC was issued so quickly; they had expected that such a massive and complex project would take a long time to be evaluated.²¹⁷⁹ Viewing the EIA process in the context of the other activities surrounding the project at the time (e.g., negotiation of the gas sales and purchase agreements, subcontracts for project components, construction of the power plants), it is clear that the consultation process and outcome were likewise bound to a specific timeframe. Failure to secure the ECC, which was needed to commence construction of the project, by a certain date would have resulted in a domino-effect on the other activities, which could have caused a massive cascade of financial problems for Shell. Shell and the national government were committed under their contract to deliver Malampaya gas on 02 January 2002,²¹⁸⁰ and this target date could not be missed.

Provincial Government of Oriental Mindoro does not appear to have issued any endorsement or certification. Malampaya EIS, vol. 3: Appendix F (endorsements and certifications).

²¹⁷⁸ Solleza and Barnes, *supra* Note 1995 at 10.

²¹⁷⁹ Mayo-Anda and Mana-Galido 2007; Cagatulla 2007; Bernardino 2007.

²¹⁸⁰ *Fulfillment of Obligations under Gas Sales and Purchase Agreement with Shell/Oxy*, Preamble 9.

7.5.2 Recognition

The field research found issues of recognition concerning certain gaps in the law regarding the extent of rights of coastal communities to their adjacent waters. These gaps pertained to indigenous peoples' rights and LGU jurisdictions affected by the Malampaya pipeline.

7.5.2.1 Intrusion into Tagbanua Ancestral Waters

The appearance and objections of the Tagbanua at the Coron validation consultations represents a major and ongoing issue of recognition for Malampaya. Shell asserts in its published material that it re-routed the pipeline to avoid the sacred coral reefs of the Tagbanua ancestral domain.²¹⁸¹ This is one of the main reasons why Malampaya won the Sustainable Development Partnerships award in 2002. However, the field research revealed a slightly different story.

It is a fact that the Tagbanua of Coron were the first, and thus far are the only, indigenous peoples' community in the Philippines to secure a Certificate of Ancestral Domain Title that covers both terrestrial and marine areas, encompassing not only their island but their sacred coral reefs.²¹⁸² This title encloses Coron Island, the sacred locus of the Tagbanua in the area, and the location of *barangay* Cabugao.²¹⁸³ Shell executives took the time to meet with the Tagbanua community in Cabugao in response to the concerns they raised during the validation consultations held in the Coron Multi-purpose Hall at the center of the Municipality. It is also a fact that the Malampaya pipeline does not traverse any part of the ancestral domain on Coron Island; a GIS application reveals that at its closest point, the pipeline is approximately 14 km from the nearest ancestral domain boundary.

²¹⁸¹ "The Malampaya Story"; also Roco and Agabin, *supra* Note 1956, vol. 1 at 104.

²¹⁸² For full details of this thus far legally unique situation, see Capistrano 2010. Indigenous peoples' claims to ancestral domains and ancestral lands are processed pursuant to the provisions of the Indigenous Peoples' Rights Act.

²¹⁸³ Cabugao was the beneficiary of the small water-works project that was financed by PSFI, discussed elsewhere in this Chapter.

(See Figure 18). However, it is not correct to state that Shell actually avoided the Tagbanua coral reefs and ancestral domain. As explained by one of the Tagbanua leaders:

[T]hey did not say where the pipe passed, and we are not sure either. Before they laid the pipe, they showed a map of where it would pass. We found out that it passed the center of the ancestral domain in *Barangay* Bulalacao, not Coron Island which was some distance away. Nothing changed in their plans, they just continued it.”²¹⁸⁴

Herein lies the first issue of recognition: the Tagbanua are not just one small community in only one location; there are several Tagbanua communities in different places in the Calamianes, each claiming a specific ancestral domain territory.²¹⁸⁵ There are 11 community cooperatives of Tagbanua, each from a different *barangay* in the Municipalities of Coron, Culion, and Busuanga, all of whom are members of a single Tagbanua federation, the *Saragpunta*. One of these communities, *barangay* Bulalacao, lies at the south of Culion Island, adjacent to the marine area where the pipeline comes as close as 1.3km to the shore. In fact, in this area there is a marked deviation from the proposed pipeline route, one that brought the pipeline even closer to the shore. The problem that arises, however, is that up until the time of the field research, the claim of the Bulalacao Tagbanua to their ancestral domain was still pending.²¹⁸⁶

²¹⁸⁴ Aguilar 2006. Note: the *barangay* Bulalacao referred to is the southernmost *barangay* of Culion, and is not to be confused with the Municipality of Bulalacao in Oriental Mindoro.

²¹⁸⁵ *Ibid.*

²¹⁸⁶ *Ibid.*

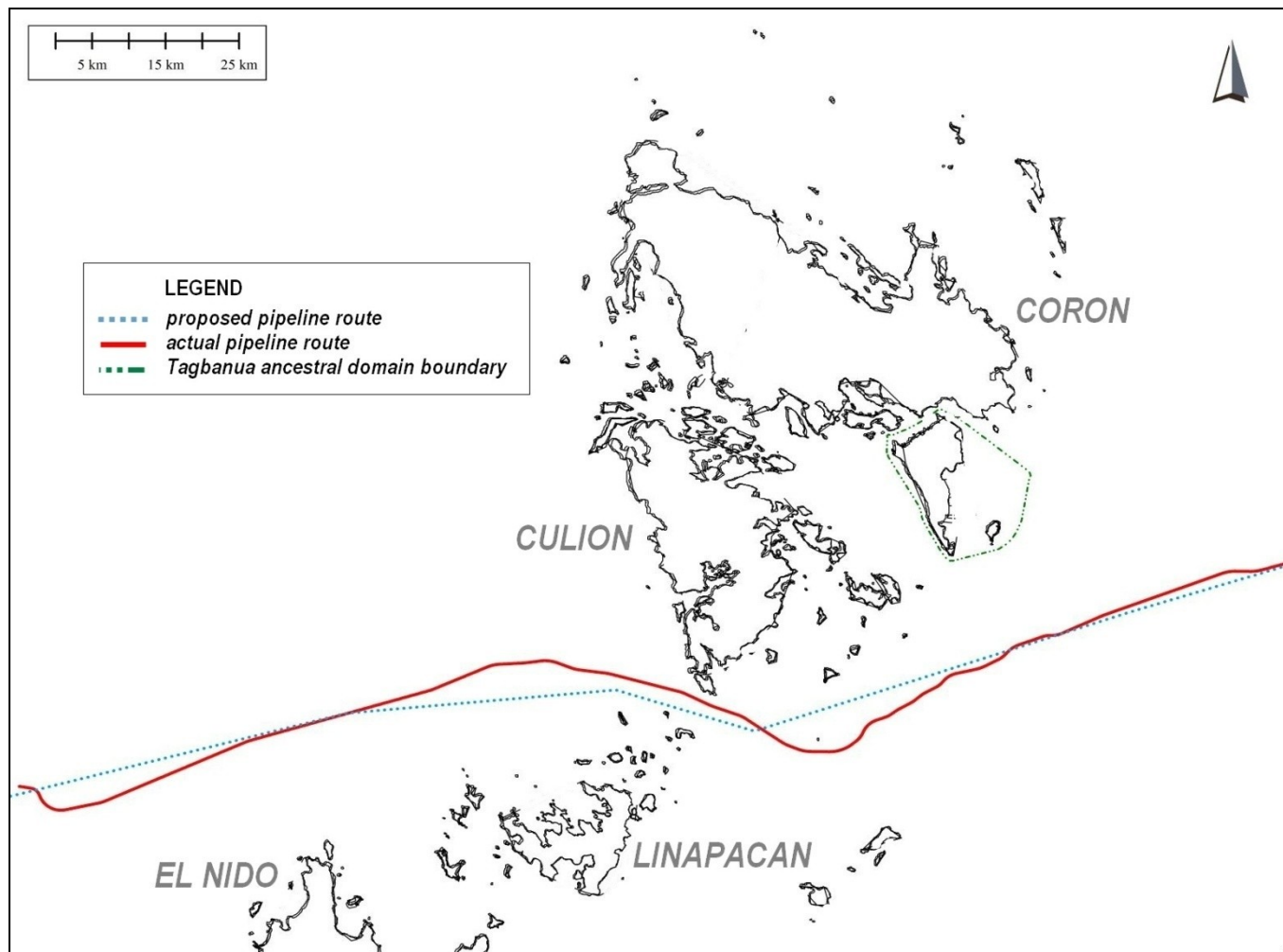


Figure 18. Map of the proposed and actual Malampaya pipeline route through the Linapacan Strait and near Coron Island. The ancestral domain boundaries of the Coron Tagbanua are also indicated. Sources: World Vector Shoreline, Malampaya EIS, NAMRIA, geo-referenced photograph of Tagbanua ancestral domain boundaries.

Using GIS to also compare the pipeline route as originally proposed by Shell and as actually laid shows that with respect to Coron Island there is practically no difference between the proposed and actual pipeline paths. (See Figure 18). Examination of the bathymetry of the area also reveals that in both cases, the waters are relatively deep (more than 50m) and do not contain markedly shallow areas that might be coral reefs. On the other hand, in the area south of Culion, the actual pipeline route actually came closer to the shore than originally proposed. Thus, it cannot be said that Shell actually did anything significant in response to the Tagbanua concerns. Thus, the Tagbanua of Bulalacao are justified in regarding the presence of the pipeline within their claimed waters as an imposition on their ancestral domain, even though they have not yet been granted a Certificate of Ancestral Domain Title like the Tagbanua of Coron.

This has generated resentment on the part of the Tagbanua, who feel that they have been ignored completely by Shell. When asked what they would do if another project is proposed:

Hindi na namin padaanin at siguro ay tulad sa ngayon ay doon sa mga ancestral domain siyempre ipaliwanag din naming sa kanila yung IPRA law at consultation. EPAC pagkatapos kung ano ang mapag-kasunduan yun ang...hindi puro basta-basta na hindi na puwede na pag-usap-usap lang, consultation lang...hindi dadaan sa amin ng ganoon. [We would not allow them to pass through, and for our ancestral domain, we will explain to them the IPRA law and consultation (are needed)...not only a lot of haphazard talks and consultation...they will not pass through our place like that.]²¹⁸⁷

The reason for the Tagbanua's bitterness is understandable, and springs from the second issue of recognition in relation to them. When the Tagbanua participated in the consultation, raised their concerns, and sought benefits from the project, the issue was not a matter of compensation and payment for them (as the Tagbanua did not request for

²¹⁸⁷ *Ibid.*

specific things or money) but more of an issue of seeking certainty and of being treated with dignity and compassion. According to their leader,

*(K)ami naman ay sinisiguro namin na talagang hindi sana mangyari ... na masira ang kanilang proyekto, at kung masira naman ito ah...inaalam sana namin kung ano ang kanilang responsibilidad sa aming mga nasirang mga kabuhayan. [On our part, we wanted to be really assured that no disaster would befall their project, but even if it does...we wanted to know what would be their responsibility for our lost livelihood.]*²¹⁸⁸

The Tagbanua sought assistance in the form of very simple basic services like a schoolbuilding, waterworks, and electricity for their isolated communities, revealing the depth of their poverty and the continuing inability of even the local government to address their needs. They naturally saw the project, with all its announced benefits, as a possible contributor or source of relief. Unfortunately, their experience with the consultation only left them with the disappointment of broken promises. As far as the Tagbanua are concerned, “*inaasahan namin ang kanilang tulong pero siguro nalimot na nila ito* [we are still hoping for their assistance, but they have probably forgotten all of this].”²¹⁸⁹

7.5.2.2 Imposition on Municipal Waters

The presence of the pipeline within the municipal waters of the LGUs is a latent source of unfairness from the point of view of the LGUs. For them, the pipeline exposes their communities to unknown risks, and they are not comfortable with the fact that this imposes a burden upon them. They feel that this should be reason enough for them be entitled to benefits from the project. Yet this perspective is not shared by the proponents. Oriental Mindoro was originally not considered a project site by Shell, which would have entitled it to be represented in the environmental monitoring and share in the benefits that were promised. Oriental Mindoro was originally excluded from the environmental monitoring team structure because as far as Shell was concerned, there were no physical

²¹⁸⁸ *Ibid.*

²¹⁸⁹ *Ibid.*

structures in the province itself and the pipeline emitted no pollution. But provincial officials argued persuasively that on account of the destruction of the *boya*, the reports of noise, and decline of fish catch, they were in fact also a project site. According to them,

At first we seemed to have a hard time justifying our position, because for them, the project was only comprised of the shallow water platform in Palawan and the production plant in Batangas; it was as if the pipeline was not part of the project, but we considered them all to be one and same. For them, the pipeline only passed by Mindoro.²¹⁹⁰

Oriental Mindoro gained the right to officially participate in the environmental monitoring and social development oversight conducted by the Multi-sectoral Monitoring Team only in 2004. But this did not address all of the LGUs' concerns, because the pipeline's presence within municipal waters itself also attracted attention. The pipeline passes through almost all of the municipal waters in Oriental Mindoro. Some provincial officers thought:

The fact that the pipeline is in our municipal waters should be a basis for claiming a certain benefit or share. The 40% share in revenue should be divided between Batangas, Mindoro, and Palawan. If Palawan is entitled to a share, then we should also be entitled to a lodge a claim; all the provinces should be entitled to the share. We should have a better claim since we are much closer than Palawan.²¹⁹¹

Some municipal officials likewise ask why the municipality should not be compensated or allowed to charge some kind of rental for hosting the pipeline.²¹⁹² For example, approximately 70 km of the pipeline traverses Linapacan's municipal waters. The Municipal Planning and Development Officer asserts that if the municipality would receive even only a nominal amount of 1 PHP per meter per year, it is still 70,000 PHP annually that would directly accrue to their limited coffers. Given Linapacan's isolation and the paucity of sufficient government support and services, even this small amount would be a significant boost to the municipality's revenues.

²¹⁹⁰ Three provincial government representatives (Mindoro Oriental) 2006.

²¹⁹¹ *Ibid.*

²¹⁹² Two municipal officials (Linapacan) 2007; Two municipal officials #1 (Pola) 2006.

7.4.3 Distribution

As noted at the conclusion of Chapter Six previously, Philippine petroleum law has almost nothing to say about the distribution of benefits from petroleum exploration and development. Apart from the general rules on the 40% resource revenue share and 00.01/kWh PHP, Philippine petroleum law is primarily concerned with establishing the terms and conditions of the contract that governs the relationship between a petroleum company and the Philippine government, and does not deal with affected local communities at all. Although a new EIA process existed at that time which provided numerous opportunities for public participation through consultations that could have provided a basis for addressing local social impacts, it only served to stress the need for a more serious and thorough consideration of what exactly are to be distributed and how, in petroleum exploration and development. A fair number of these distribution issues were raised by the local communities with respect to Malampaya. While not all such issues can be raised within the limited space of this chapter, the most significant are:

- the conjoined nature of risks and benefits for local communities;
- anticipation of the actual short- and long-term social impacts of the offshore marine structures;
- continuity of initial benefits for local communities;
- the question of resource royalties; and
- the process of distribution itself.

These issues point toward a complex range of questions and demands that coastal communities have with respect to how the resources of the ocean, including energy resources, should be shared under equitable terms.

7.4.3.1 The Conjoined Nature of Risks and Benefits

When asked the key question of what they thought were the biggest issues or concerns about Malampaya, all interviewees were practically unanimous in giving a conjoined response: the risk it posed to their livelihoods, and the benefits (in the form of livelihood assistance) that it should provide to their communities. All interviews of the community

sites show that from the time the scoping began, the main concerns expressed by the people clearly revolved around the risks posed by the implementation and operation of the Project to their livelihoods (e.g., “*ano ba talaga ang mangyayari kapag may leak?* [what will really happen if there is a leak?]”, “*baka masira ang aming coral reef* [our coral reef might be damaged]”, and similar such statements). These were immediately followed by benefits that the community would directly receive (e.g., “*ano ang matutulung ng proyekto sa amin* [what kind of help will the project give us]”, “*anong benepisyo ang ibibigay nito sa aming lugar* [what benefits will this give to our place]”).

The underlying basis for community demands clearly were local perceptions of its potential to create adverse impact. For the coastal communities, mere risk was a sufficient basis for entitlement to a range of possible benefits from short-term livelihood assistance to shares in production revenue. Since the risks continued for as long as the project itself continued, so did the entitlement to benefits. The entitlement existed even if they could not figure out precisely and collectively what form those benefits should take. One provincial officer summed it up very simply:

Most of our coastal communities are living below the poverty threshold. So if there's a project that takes any of the resources of the province and makes a lot of money for the proponent, the first thing that the people think of is how can that project help me improve my quality of life? Especially if you are asked if you are in favor of the project. Maybe if the communities were affluent that issue would not arise; they would think of it in macro terms like whether the LGU can earn something or if it will help build infrastructure, or environmental concerns. But for the poor it is different, what they want to know is what it will do to reduce their hunger: “how will it directly affect my life?” There is a fear there, that that it might deprive them of their livelihood if it explodes, so that is their main concern. Then, even if it doesn't explode, will it increase their catch or harvest? Will it help their trade so that their lives improve? Those are the kinds of concerns.²¹⁹³

This frames the issue as one of compensation for exposure to environmental risks *and* redistribution of resource benefits produced by the project, which coastal communities

²¹⁹³ Bonoan 2007.

perceived to be both huge. The issue arises because the communities see the project as within their space. On one hand, there is the fear that the project could potentially impair or destroy livelihoods, and on the other, there is the knowledge that the extraction of natural gas brings huge profits to someone not part of the community. The duality in the interviewees' responses appear significant: it is very difficult to separate clearly the discussion of risks from the discussion of benefits, as they are like two sides of the same coin for the interviewees. Exposure to risks justified the expectation of benefits, while the grant of benefits seemed to authorize the assumption of risks.

One important assumption that appears to underlie this conjoined view of risks/benefits is that as far as the communities are concerned, the risk is inevitable no matter what the proponent says or does. However, it was clear from the EIA that the coastal communities had very little idea of the precise nature of the risks involved; it was limited to the vivid image of a leaking pipeline and exploding gas. Beyond this, however, there is no indication in the records of the EIA that any one attempted to contribute serious scientific input. Coastal communities were concerned about unknown adverse biophysical impacts to their sensitive marine resources, which was the foundation of local livelihoods, but could not articulate what these impacts could be and how they could be created, other than to ask the general question of what would happen if the pipeline leaks.

Shell attempted to allay such fears by explaining that even if there were a gas leak, “*bubula lang naman iyon* [it would only bubble up]” to be absorbed by the surrounding water or go to the surface.²¹⁹⁴ It also described the state-of-the-art offshore petroleum technology they were using to minimize any damage to the marine environment. It emphasized the prior investigations conducted for planning and designing the project components like the platform and the pipeline, the depth of the water where it would be located, and the safety systems to be installed, such as an automatic shut-off in case of a

²¹⁹⁴ “The Malampaya Story.”

drop in gas pressure due to a leak in the pipeline or accident in the platform.²¹⁹⁵ Shell's representatives also emphasized that safety was their primary concern as well, because they were investing such a huge sum of money in the project, and it was logical for them to ensure that no accidents would damage or destroy their investment.²¹⁹⁶

While this kind of reasoning apparently persuaded some people, it never completely erased all doubts. The NGO interviewees explained,

(W)e did not have enough information to be able to determine whether the platform is really in a good area, or even about their special equipment and procedures. We can only rely on their word.²¹⁹⁷

Indeed, even the response to the concerns about a gas leak, that it would only 'bubble up' appear too simplistic and dismissive. There should have been a more careful consideration of how methane and the other components of Malampaya natural gas interact with water at higher pressures and lower temperatures on the seafloor, considering the effects of temperature and salinity. Relevant to the concerns of the coastal communities would be the issue of whether the mixture of methane and water could somehow displace oxygen or generate more carbon dioxide in the water, which represent dangers to all types of demersal and pelagic marine life. Despite the project's safety record and the responses to the incidents above, there was a continuing suspicion over the risks Malampaya's posed even up to the time of the field research in 2007. A municipal councilor summed the reason for this very pragmatically:

Even though the proponents' experts explained their measures to prevent (accidents), the doubt will always linger in the minds of the people. There

²¹⁹⁵ *Malampaya EIS*, vol. 3: Appendix F, Minutes of the Scoping Activity for the Northern Palawan Municipalities, 19 November 1996, at 2; also in the Minutes of the Scoping Activity for Malampaya Gas Project at Lobo, Batangas, 25 April 1997, at 1-2.

²¹⁹⁶ "The Malampaya Story."

²¹⁹⁷ Mayo-Anda and Mana-Galido 2007.

can really be no completely leak-proof pipeline and accidents can always happen.²¹⁹⁸

7.4.3.2 Actual Short-term and Long-term Impacts

During the consultations of the EIA process, much attention focused on the contingent, rather than the actual, effects of the platform and pipeline. However, the contingent risks were so prominent that all parties failed to anticipate the actual effects of Malampaya's initial implementation and subsequent normal operations. These took the form of the displacement of fishers from fishing grounds, apparent disturbance of the fish catch and habitat, and imposition of burdens on coastal communities.

7.4.3.2.1 *Displacement of Fishers*

Fishers were displaced during the platform construction and pipe-laying phase, when for safety reasons fishers had to keep their distance from the area of the CGS and the *Solitaire's* voyage. But the destruction without notice of the fishers' *boya* in Naujan and Pola rightly caused consternation. The purpose of the *boya* was to attract fish to stay in a certain place so that the municipal fishing boats could encircle them with their nets. Without the *boya*, the fishers could not catch the fish because they would be dispersed too widely in the deep waters off Mindoro; the limited range of the small boats would not allow them to chase after the fish. Apparently, neither the EIA nor the public relations campaign of the proponent anticipated this impact, and had not adequately warned the communities. In the words of the NGO representative from Mindoro Oriental, "*nagulat na lang talaga kami, naglalatatag na ng pipe* [we were really surprised, they were already laying the pipe]."²¹⁹⁹

Mindoro's experience contrasted with temporary displacement of fishers in the two closest municipalities, Linapacan and Culion. Linapacan officials noted that some of their people, a little more than 100 families in 4 outlying barangay in the area close to Culion,

²¹⁹⁸ Lisboa 2006.

²¹⁹⁹ NGO worker 2006.

could not fish while the pipeline was laid. For this, Shell provided food and temporary employment by sponsoring the construction of a basketball court.²²⁰⁰ Some of Culion's residents who were similarly affected received food and subsidies.²²⁰¹ However, Shell's food and employment assistance was limited to the few days during which the *Solitaire* passed through the LGUs fishing grounds. It did not encompass the apparent subsequent impact of the pipeline itself, which lasted at least a year.

7.4.3.2.2 *Short-term Decline of Fishcatch*

Different interviewees from different municipalities consistently mentioned that fishers reported a huge decline in their catch for a certain period after the pipeline was laid.²²⁰² Fishers in Maasin Point in Bulalacao Bay, which the pipeline traversed, reported that they could not catch any fish in the immediate period after the pipeline was laid in 2001.²²⁰³ During the investigation into the reported noise coming from the pipeline in Mindoro in late 2002 and early 2003, the monitoring team also recorded that fishers in Bulalacao reported a 70% drop in fish catch, while those in Pola recounted a 50%-75% reduction, in both cases occurring right after the pipeline was laid.²²⁰⁴ These initial data obviously appeared close enough in volume and time to be not coincidental, so much so that the scientific monitoring team actually recommended research into the decline.²²⁰⁵

²²⁰⁰ Two municipal officials (Linapacan) 2007.

²²⁰¹ Lisboa 2006.

²²⁰² Two municipal officials (Linapacan) 2007; Two municipal officials #1 (Pola) 2006; Two municipal officials #2 (Pola) 2006; Municipal official #1 (Bulalacao) 2006; Municipal official #2 (Bulalacao) 2006; Personal interview, Lucille S. Castro, Municipal Planning and Development Coordinator (former), Culion, Palawan (31 July 2006).

²²⁰³ Personal interview, Municipal official #3, Bulalacao, Oriental Mindoro (15 August 2006).

²²⁰⁴ *Seasteams Temporal Audio Measurements in Selected Coastal Areas of Oriental Mindoro and Batangas: Final Report*. Unpublished, 2003) at 16-17.

²²⁰⁵ *Ibid.* at 18-19.

Despite this, though, no connection has been acknowledged between the project and the decline in fishcatch. No investigation was conducted into whether indeed there was a connection, much less was any compensation ever offered for the loss in income that the fishers endured in the project's aftermath. The MMT activities do not include effects on the fisheries, and focuses only on the pipeline's integrity.²²⁰⁶ There was no way to establish a good statistical correlation in any case since data was not gathered on fish catches in the area before and after the pipelaying.²²⁰⁷

7.4.3.2.3 Pipeline Impacts on Coral Reefs and Seabed

One important question raised as early as the Scoping consultations was whether and how the project platform and pipeline would affect Palawan's coral reefs. Municipal and commercial fishing forms a significant portion of Palawan's local economy, most of the species fished are reef-based species. The pipeline traversed northern Palawan and the Calamianes Islands, both known to be major coral reef areas. However, no one could really tell where the coral reefs were. Shell could only give assurances that it would avoid any coral reefs when it laid the pipeline; but as the NGO representatives point out, there was really no way to know whether they kept their word.²²⁰⁸

It is indeed extremely difficult to determine coral reef locations with certainty, however it is possible to identify areas in which there are higher risks that any platform construction, drilling, or pipe-laying activity might affect coral reefs. Corals thrive at depths between 0

²²⁰⁶ Three provincial government representatives (Mindoro Oriental) 2006.

²²⁰⁷ It may, however, be possible to establish at least a rudimentary analysis using data from "auxiliary invoices" collected by the municipalities under the Fisheries Code, s. 15. The auxiliary invoices are charges imposed by the municipalities' on fish prior to their being transported from the municipal port; as such they also act as records of fish landings. A municipal official of Bulalacao pointed to the loss of revenue from the auxiliary invoices in her statements about the sharp loss in fishcatch. Although it was acknowledged that such catch data might be understated in value, a time series of auxiliary invoice receipts exhibiting a consistent drop in revenue across all the municipalities of Oriental Mindoro might provide some evidence of a correlation.

²²⁰⁸ Mayo-Anda and Mana-Galido 2007.

to 150 m, with areas between 0-20 m and 20-50 m being most likely to host reef structures (corals at other depths not being reef-builders).²²⁰⁹ Using a GIS program and data from nautical charts or satellite-derived bathymetry, this research produced a map of the undersea topography that identifies areas of suitable depth for coral reef formations, and then overlay the pipeline route thereon. (See Figures 19 and 20)

²²⁰⁹ Thurman, *supra* Note 139 at 444.

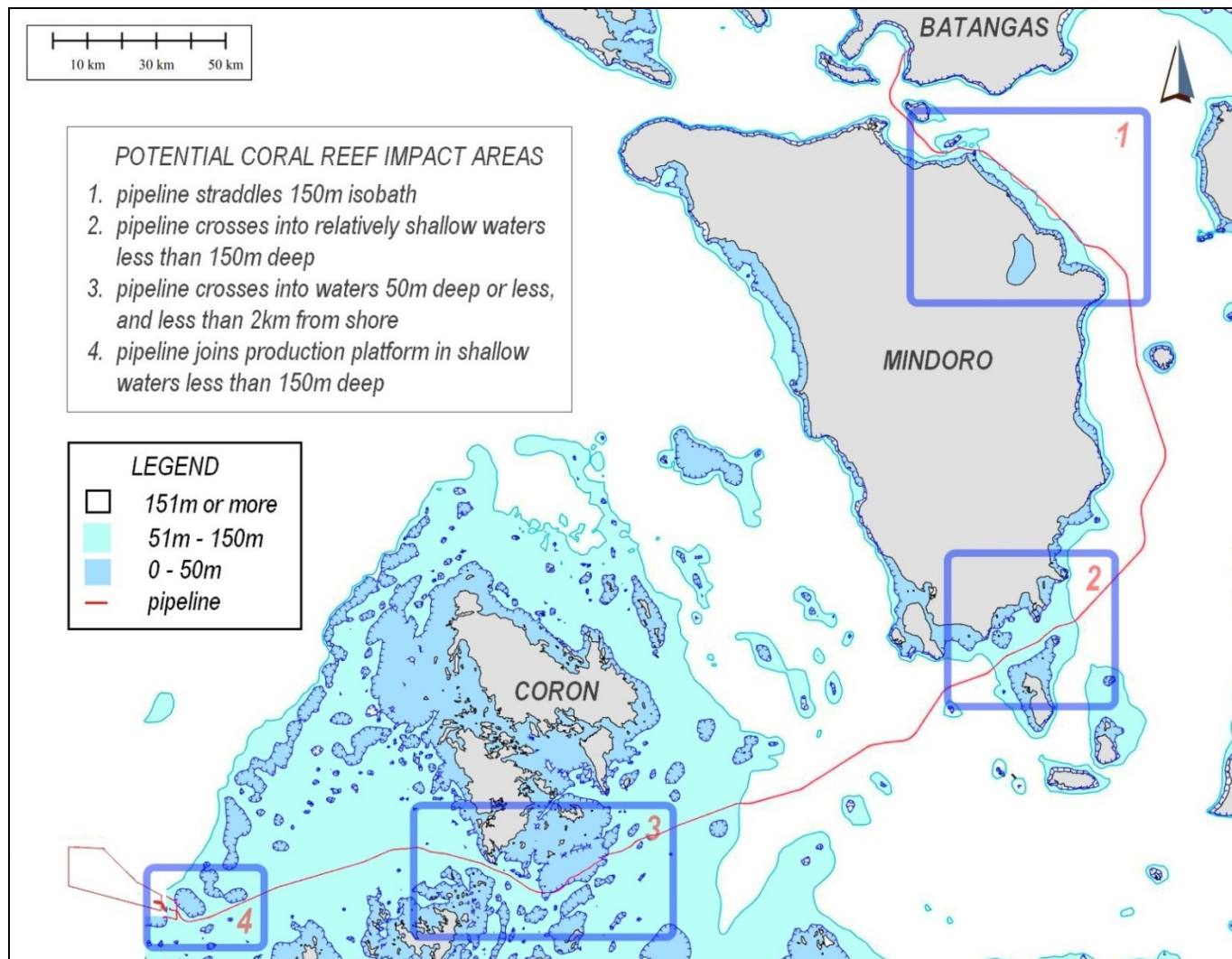


Figure 19. Areas with highest risk of coral reef impacts from the Malampaya pipeline, using bathymetric data from NAMRIA and the public domain to generate depth contours for coral reef habitats.

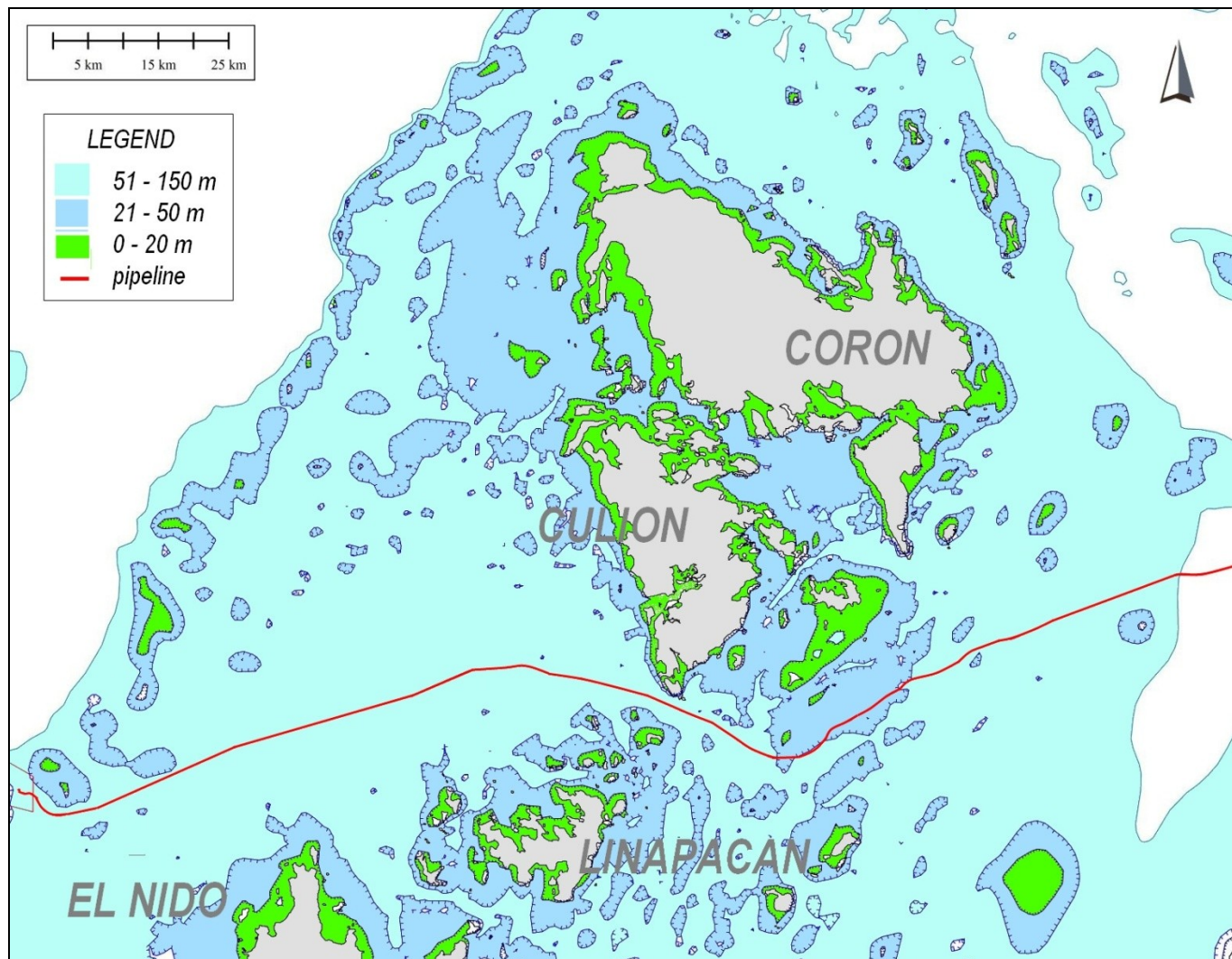


Figure 20. Close-up of the Malampaya pipeline route at the Linapacan Strait.

Ideally, this information could have at least provided some focus to discussions by pinpointing high-risk areas along the pipeline's path for pre-impact and post-impact monitoring.²²¹⁰ As it turned out, the potential impact of the pipeline was understated during the EIA process. In responding to concerns about possible damage to the coral reef, Shell did not offer specific information on the actual pipelaying procedure, and even the final EIS glosses over this matter.²²¹¹ Discussions made it appear that the pipeline was

²²¹⁰ For this research, two techniques were used to determine the bathymetry upon guidance of Ms. Jennifer Strang of the GIS Centre, Dalhousie University. The first was to import digital images of the relevant nautical charts into ArcGIS, and geo-reference them into the digital world map. Geo-referencing aligned the graphic image (and its features) to the World Vector Shoreline digital map downloaded from the US National Geospatial Intelligence Agency website. The depth points in the nautical chart were converted into a point data layer using an ArcGIS tool. Afterwards, depths between the points were interpolated using the IDW algorithm in ArcGIS. The second technique was to download the relevant portion of the 3-arc second chart of the digital General Bathymetric Chart of the Ocean (GEBCO) from the UK Hydrographic Office website, and join this data layer with the World Vector Shoreline. These produced a continuous bathymetric model of the seafloor and permitted the generation of the relevant depth contours of 20, 50, and 150 m. The data on the Malampaya pipeline's route (provided by the Philippines's National Mapping and Resource Information Authority or NAMRIA) were then added as another layer, enabling the identification of areas of the seabed in the pipeline's path that are capable of supporting coral reefs. Both techniques pointed to the same probable high-risk areas despite differences (up to 1 km distance) in the location of the interpolated isobath.

During the field visit to the PCSD offices, this author noted that the PCSD had access to GIS technology as a result of their ECAN zoning projects that were funded by aid from the EU and Japan. However, the ECAN is focused on the land, thus PCSD had very little information on their marine areas. Mayo-Anda and Mana-Galido 2007.

²²¹¹ According to the EIS:

The activities of pipeline laying will cause a minor impact on the benthic community along the footprint of the pipeline route. This impact will result from the pipeline laying itself, stabilization of the seabed along the route, possible use of fill material, clearance of obstruction, and the anchoring of vessels. The impact will be short term, with the pipeline becoming substrate for the development of

simply laid onto the seabed, much like how one would lay a garden hose on the ground. But in reality, the pipe could not simply lay on the surface, and in places had to be reinforced by a cover of rocks, or supported by a foundation or rock bed where the slope of the seabed was too steep or irregular, to support the pipeline and keep it in place.²²¹² The “rock support” necessarily would bury any coral reef or any other marine habitat within the pipeline’s immediate area. No information is available on the extent to which this reinforcement was done, or where. But even assuming that such a cover or foundation would take up a minimal total space of 2 m width covering both sides of the 504 km pipeline, this amounts to a potential impact area of 1,008 km², which is not insignificant.

Published material indicates that the prior to laying the pipeline, Shell built rock support at 69 locations requiring 37,000 MT of material on the planned route.²²¹³ After the pipeline was laid, additional rock supports were installed at an 665 more locations using 110,000 MT of rock.²²¹⁴ Where all these points are, the total area affected, and the source of the material used have never been publicly reported. It would not be unreasonable to suspect that this aspect of the pipelaying may have had something to do with the recorded

new biological community [sic] and the disturbed area floor recolonizing with local organisms.

The socio-economic effects (fishing, vessel navigation) will be limited to the construction phase and are considered negligible due to the remoteness of most of the offshore pipeline route and the movement of the pipeline spread at 3 to 5 km/day. The exclusion zone will temporarily restrict third party vessel maneuvers and fishing activity within a 5 km radius of the pipeline spread. Where it is necessary to remove permanent fishing structures in the path of the pipeline at shore approaches, compensation would be available. There is unlikely to be any impact on endangered species, such as turtles and dugongs. *Malampaya EIS*, *supra* Note 2024, Executive Summary at 4-3.

²²¹² J.C. Macara. "Malampaya Deep Water Gas Pipeline and Flowlines: Technical and Engineering Challenged faced in the Execution of the Malampaya Pipeline Scope" (Presented at the *2002 Offshore Technology Conference*, 06-09 May 2002) at 4-5.

²²¹³ *Ibid.* at 5.

²²¹⁴ *Ibid.*

decline of the fisheries and fish catch of the municipalities adjacent to the pipeline in the year immediately after the pipe was laid.

7.4.3.2.4 Platform and Pipeline Exclusion Zones

The second time fishers were displaced was after the establishment of the safety and exclusion zones around the project, an irregularly-shaped area covering approximately 435 km² around the Malampaya production platform, and 500m on either side of the 504 km long pipeline. The exclusion of fishers became permanent with respect to the area of the platform, as well as the one kilometre swath along the pipeline's path, although the latter does not appear to be strictly and consistently enforced.

The actual impact of the exclusion zone on the fishing activities in the area has not been well-publicized outside the community; it appears to be assumed that small fishers do not reach the platform site. Municipal officials in El Nido, Culion, and Linapacan believe that only the larger commercial fishing vessels (weighing at least seven gross tons) from Manila and Batangas used to venture into the area, which is more than 15 km from shore.²²¹⁵ But a *barangay* chief points out there was at least one instance when a fisherman was arrested for fishing under the platform itself,²²¹⁶ and El Nido officials spoke of several times when fishers were shooed away or apprehended by the Philippine Navy after intruding into the exclusion zone.²²¹⁷ The fishers were never actually charged with any offense, and only given warnings and admonitions after being brought to the municipal hall or the *barangay* hall.²²¹⁸

²²¹⁵ Two municipal officials (Linapacan) 2007; Castro 2006.

²²¹⁶ Personal interview, Jonathan D. Ayopila, Barangay Chief, Bucana, El Nido, Palawan (26 March 2007).

²²¹⁷ Personal interview, Municipal official #3, El Nido, Palawan (26 March 2007); Personal interview, Municipal official #4, El Nido, Palawan (26 March 2007).

²²¹⁸ Ayopila 2007; Personal interview, Municipal official #4, El Nido, Palawan (26 March 2007).

The impact of the exclusion zone on *Barangay* Bucana is most significant: their draft Five-Year Barangay Development Plan for 2006-2010 very clearly identifies it as a major problem. A reading of the Development Plan, and questions about the issue, however, indicates that the impact is not limited to the area of the actual exclusion zone itself. An excerpt from the document states,

According to the fishers sector, the issue of social equity is greater than the issue of national security, based on the *pairwise* ranking of priority needs. They are asking the government for help in resolving the prohibition against fishing near the Malampaya Gas Platform. If the 9-miles policy of the Armed Forces of the Philippines is enforced, then from the Malampaya Gas Platform up to Lalutaya Island, fishing is prohibited, even though the government has not shown any technical description. This is a big issue for the fishers sector because the Malampaya Platform area used to be called the Malampaya fishing ground, a traditional fishery before the platform was constructed. The “thumbs-up sign” rule that the Malampaya Management is asking to implement is not believed by the fishers. According to them, there should be a large buoy for the 9-miles policy in order for them to fish. It also seems that the Malampaya Platform is a fish aggregating device because it is fish aggregating device at night, where large fish can be caught. The AFP has arrested some fishers for fishing in the area covered by the Malampaya Platform, but the issue has not been resolved.²²¹⁹

The exclusion from the platform area is a very serious matter for small fisheries of the *barangay*. The *barangay* chief explained that their fishermen sometimes really approach the platform because it is their fishing ground. He said it takes only 6-8 liters of gas to get to the platform, and that they had been doing that for a long time, ever since he was small. When the pipeline to Batangas was built, a buoy indicated the boundary of where they could fish. He asserted that the fish they catch are really from that area of the platform, from where they have now been prohibited.²²²⁰

²²¹⁹ "Barangay Bucana Five-Year Development Plan, Year 2006-2020." (Bucana, El Nido, Palawan: Unpublished, 2007) at 40.

²²²⁰ Ayopila 2007.

7.4.3.2.5 Uncompensated Losses

There can be little doubt that small fishers, despite their small boats, can reach the platform approximately 40 km away; the voyage from El Nido to Linapacan in a *banca* that was undertaken for the field research crossed nearly twice that distance across the Linapacan Strait, the currents of which are rougher than the open sea on a calm day.²²²¹ The denial of access to the platform's surroundings had a significant impact on the fishers' income; the *barangay* chief estimated:

Sa kita ko, talagang siguro mga eighty percent ang mga na-apektuhan sila... Kasi yung....ganitong season eh doon talaga sila kumukuha ng ano nila....ang kanilang, talagang pamumuhay kasi, doon sila nang-aano eh, yung mga malalaking isda nandoon eh ... start ng May, June, July, August ...hanggang October. Doon yan sila naglala-laot. Pagka December to March naman, dito naman sila sa ano, sa tabi....Pusit, pusit yung ina-ano nila. [In my view, really around 80% are affected...because this season, that's where they really catch their fish...their real livelihood is there, there are big fish there...from the start of May, June, July, August...up to October. That's where they fish. From December to March, they are just nearby, they catch squid].²²²²

Linapacan officials believe that some of their fishers may have been affected by this exclusion as well, though they think it is probably minimal since their fishing grounds are very big. But it is certain that the impact "cannot be zero, since there is an area that they can no longer fish."²²²³ This is also reflected in the sentiments of officials in El Nido:

The most important issue for the people was that the fishers would be prohibited from going near the project. The fishers based here have their areas, so they had to have a meeting where they were told 'this is allowed, this is not.' So the fishing area of these fishers were reduced. There was no compensation or anything for this, so this is a problem. There was no response to this.²²²⁴

²²²¹ This information is based on a conversation of the author with the boatman who took him to Linapacan.

²²²² Ayopila 2007.

²²²³ Two municipal officials (Linapacan) 2007.

²²²⁴ Personal interview, Municipal official #1, El Nido, Palawan (26 March 2007).

The lack of compensation for the exposure to contingent and actual risks provides basis for the communities to see the project as a burden. For municipal officials of El Nido, the project is an even more concrete burden because not only does it sit on their horizon without contributing to their income, but also because the El Nido is hosting project support facilities and equipment to which they have no access, and for which they receive no direct compensation from either the national government or the proponent. When asked how the municipality regarded the Project, one said that it was “a liability” rather than an asset, explaining:

[O]ne kilometer radius from the drilling well, our local fishermen are not allowed to fish in that area. So what other contribution does it give? Nothing. Also, the JTFM (Joint Task Force Malampaya): there we have the Air Force, the Marines, and South Special Action Force based at the airport. The local government provided them with the lot where they established their headquarters. But we don’t get anything, we don’t get payment out of that, no give and take.²²²⁵

The official further indicated that expectations previously raised that the project could contribute to some of the municipality’s needs were simply not met:

There is no project office here. There is a facility on the beach that’s part of the Task Force. At first we really thought that the DOE had given it to El Nido, so that we could use it for patrolling here. But we have not been using that. What I know is that the agreement between the Mayor and the DOE was that they were for the use of the local government. So again, we don’t get anything out of it.²²²⁶

7.4.3.6 Discontinuity of Local Project Benefits

It appears that for the most part, local communities’ dissatisfaction from Malampaya actually spring from a sense of not receiving a continuing and commensurate amount of benefits, rather than not receiving any benefit at all. It cannot be denied that some benefits have actually accrued to the communities on account of the project. From the Malampaya consortium’s perspective, communities in Palawan and Oriental Mindoro

²²²⁵ Personal interview, Municipal official #2, El Nido, Palawan (26 March 2007).

²²²⁶ *Ibid.*

annually receive substantial benefits, and a sense of achievement is projected in its official accounts. Table 4 lists various projects that were funded by PSFI as of 2005-2006, indicating a significant number of programs and activities that could reasonably be perceived as at least partly funded by Malampaya proceeds. One could reasonably assume that such programs would have a visible impact on the local population.

Table 4. Major projects and programs funded by the Malampaya Project through the Pilipinas Shell Foundation as of 2006. Data consolidated from Shell HSE Report 2006, and Roco and Agabin 2005.

	PROJECT	BENEFICIARIES (as of 2006)	REMARKS
ORIENTAL MINDORO			
Sanayan sa Kakayahang Industriyal (SKIL) Programme	Nationwide vocational skills training and employment placement programme, in partnership with private sector and academic	43 individuals/actual beneficiaries	Ongoing
Sanayan sa Kakayahang Agrikultura (SAKA)	Nationwide agricultural skills training programme	40 individual/actual beneficiaries	Ongoing
Specialized English Enhancement Course for High School and Elementary Teachers Project	Project in partnership with Provincial Government	1 LGU	
Mindoro Biodiversity Conservation Programme	Funding assistance to the Programme, in partnership with Fauna and Flora International and the University of the Philippines in Los Baños	1 NGO and 1 academic institution	Completed in 2000.
Oriental Mindoro Sustainable Development Programme	Livelihood support and training programme in partnership with Provincial Government	2,782 individual/actual beneficiaries	Suspended after internal review. No longer listed as of 2006.
Agri-fishery Programme on Livelihood Alternatives for Youth and Adults (APLAYA)	Livelihood training programme	160 individual/actual beneficiaries	
PALAWAN			
Sanayan sa Kakayahang Agrikultura (SAKA)	Nationwide agricultural skills training programme	(data not available)	Ongoing
Kilusan Ligas Malaria (KLM)	Malaria eradication program in partnership with Provincial Government	Reported 64% reduction in reported malaria cases, 56% decrease in malaria-	Success of the project led to a grant from the

	PROJECT	BENEFICIARIES (as of 2006)	REMARKS
		related deaths as of 2005	WHO, Global Fund to Fight AIDS, Tuberculosis, and Malaria in 2003.
Palawan Adventist Hospital Charity Programme	Counterpart fund in partnership with the Palawan Adventist Hospital, focusing on maternal care, infectious diseases, and trauma response	60 individuals 1 private hospital	Included upgrading of the hospital's operating theater and equipment.
Irrawaddy Dolphin Conservation Programme	Part of the Malampaya Sound Ecological Study Programme, in partnership with World Wildlife Fund Philippines	1 NGO	Programme ended in 2007.
Rural Electrification Programme	Solar electrification of households through distribution of solar panels and inverters	(data not available)	Programme ended in 2007
Northern Palawan Sustainable Livelihood Programme	Financial aid and livelihood loan assistance for agriculture, fishing, eco-tourism sectors	1,707 individuals/actual beneficiaries 1 LGU beneficiary	
Lingap Kalusugan (Lingap)	<i>Barangay</i> -based alternative health care delivery system (e.g., use of traditional medicine) in partnership with the Office of the Congressman, 2 nd district of Palawan, Southern Palawan Provincial Council, and LGUs	19,000 target beneficiaries	Ongoing
Impok Pangkalusugan (IpK)	Community health insurance program	1,000 target beneficiaries	Ongoing
Tanglaw Kalusugan	Solar electrification of <i>barangay</i> health/microscopy centers	481 individuals/actual beneficiaries 424 <i>barangay</i> health stations and 24 rural health units actual beneficiaries	Ongoing
Unlad Kabuhayan	Financial aid program for fishers, farmers, micro-entrepreneurs	320 individuals/actual beneficiaries	

However, a different picture emerges from the interviews conducted on the ground. Although local communities recognize that they have received benefits from the Project, there different perceptions as to what they are though a common sense of dissatisfaction. There also appears to be an inverse correlation between the level of interviewee in the local government hierarchy and negative perceptions, i.e., the lower the level of the unit involved, the higher the dissatisfaction expressed. This suggests that whatever the benefits that may have been approved for release, they are not filtering down to the communities to which they matter most.

At the provincial level, one official described Palawan's relationship with the Project as being "productive" due to the projects that they were able to fund in partnership with the PSFI and later the Malampaya Foundation, such as the KLM anti-malaria program, the *Tanglaw Kalusugan* project which provided solar-powered lights to barangay health centers, and the *Lingap Kalusugan* community health system.²²²⁷ Without Malampaya, the province would not have been able to implement those projects, which are seen to respond to the needs of the people in the province, or alleviate their difficult situations in the poverty-stricken areas.²²²⁸ The province hopes that their other livelihood-related projects could also be supported by their partnerships.²²²⁹

In the municipalities, the responses were much less optimistic. Comparing the information from among the municipalities, those that were more easily accessible to urban centers (Coron and Culion) appear to have received more benefits than the more isolated ones (Linapacan and El Nido), although all of them agree that whatever each received was "not enough." And within each municipality, the more marginalized communities similarly were much less positive about the receipt of benefits from the Project (e.g. the Tagbanua community in Coron, and outlying *barangay* of El Nido). The

²²²⁷ Bonoan 2007.

²²²⁸ *Ibid.*

²²²⁹ *Ibid.*

communities' proximity to either the production platform or the pipeline seems to heighten the dissatisfaction in relation to whatever benefits have been received.

Perceptions at the municipal level were definitely skewed toward the negative, even though people acknowledged that certain Project-related benefits were received. For example, of the four in Palawan, three municipalities (Coron, Culion, and Linapacan) received each funds for two livelihood projects for goat-raising and seaweed farming ranging from 200,000 to 500,000 PHP for each component. Coron received the highest amount at a total of 1,000,000 PHP, while Linapacan received 400,000 PHP. It was pointed out that these were not considered as attempts by the project to buy local support; rather they were appropriate responses to the issues raised by people who asked what they would do if they cannot fish or if their livelihoods were affected by the Project.

Unfortunately, even if the proponent's response was appropriate, the receipt of livelihood projects did not guarantee that the benefits went to the people who were directly relevant to them: the *coastal* communities. As narrated by one municipal officer from Coron, which received the largest allocation:

Although, maraming livelihood na-inoffer yung Shell katulad nung sa seaweeds at saka yung goat-rearing.. ang naging beneficiaries kasi ay hindi iyung nandoon sa area na kung saan dumaan yung pipeline... Tapos yung sa goat-rearing naman yung naka-avail ay hindi rin naman doon sa coastal barangay kundi iyong mga farmers... wala silang idea doon sa pangyayari na dapat sa kanila maibigay iyong livelihood na iyon... Kasi noong pumunta dito iyong taga-Shell, mayroon silang mga requirements. So, ang tinitingnan kasi namin yung project na pina-available sa kanila kumbaga. Halimbawa e seaweeds production. Ang nakikita lang naming na area na suitable for seaweeds ay ang Mazilla, so siyempre para maging feasible yung project kailangan doon sa area (napunta)... At saka yung isa pa iyong damu-damong bukid, although hindi siya nadaanan ng pipeline, iyon yung area na suitable for goat-rearing... kailangan (din) siguro may experience yung beneficiary, kaya kailangan mayroon silang mga existing na mga goat.... Iyon ang mga kinonsider na, although hindi talaga sila yung dapat nakatanggap. [Although Shell offered a lot of livelihood projects like seaweeds (farming) and goat-rearing, the beneficiaries of these projects were not those people who were in the areas near where the pipeline passed... with the goat-rearing, the ones who availed were not from the coastal barangay but farmers... They did not

know what was happening and that they should receive the livelihood assistance. This was because when the representative of Shell arrived, they had requirements. So we had to see what projects were available to the people. For example, in seaweeds production, the only place it was suitable was (*barangay*) Mansilla, so we had to put the project there so it would be feasible. Another needed was grasslands suitable for goat-rearing, even though the pipeline never passed through any. Also, the beneficiary should have some experience, which meant they had to already have their own goats. These are what we had to consider, even though the beneficiaries were not really the ones who should have received them.²²³⁰

Additionally, all the municipalities' seaweed projects were hit by either a typhoon or disease (locally called "ice-ice") which devastated the initial expected crop. There were no follow-up disbursements to help the municipalities' beneficiaries recover from these disasters.²²³¹ The non-continuity of these livelihood projects is a common source of lament from the municipalities. It is clear that the initial effort was appreciated and acknowledged, because "it still helps, and we are thankful that at least something was given... Life here is hard, and [people] accept even the temporary assistance."²²³² But the fact that it was not sustained, especially after disaster struck, detracted greatly from its value particularly since the people knew that Malampaya continued to benefit other entities immensely:

*(S)a livelihood, four hundred, sana malaking signal para madi-distribute sa mga ibat-ibang tao...yun nga lang, matutuwa na kami. Pero, tingin ko kulang pa ...20 years yan at malaking bagay pera ang (kikitain) niyan ...multi-billion yan eh... [(T)he livelihood (assistance), 400,000 PHP, could have been a big signal to distribute to different people...even just that, we would be happy. But in my view, it's still not enough... (that project is for) 20 years and will make a lot of money, it's multi-billions...*²²³³

²²³⁰ Vicentino 2006.

²²³¹ Mendez 2006.

²²³² Two municipal officials (Linapacan) 2007.

²²³³ *Ibid.*

By far the most optimistic view was provided by Culion, which in addition to the two livelihood projects also received training scholarships, food rations at the time of pipe-laying, a day-care center, and various donations of books and assistance under the Malampaya-supported provincial health programs (KLM and Tanglaw Kalusugan).²²³⁴ Culion officials also acknowledged that the Project also had indirect or unintended benefits, such as deterrence to dynamite fishing because of the regular patrolling and monitoring undertaken for the pipeline, the pipeline itself becoming a kind of artificial reef, and the Project's exclusion zone effectively doubling as a marine sanctuary.²²³⁵

This contrasts with the view from Culion's neighbor to the south, Linapacan. The lament from the island-municipality of Linapacan is amplified by the apparent gravity of its needs in light of its poverty and isolation, which is juxtaposed with the perception that it is the most-at-risk from the pipeline. Due to its isolation and small size, Linapacan receives very little attention from the national government, and has to seek assistance from the congressional pork-barrel for funding even basic services; even the province is described as not having provided any significant public infrastructure of late.²²³⁶ The heightened expectations of its inhabitants about appropriate benefits are thus understandable and quite reasonable in light of its circumstances:

Linapacan yung pinaka-malapit dyan sa pipeline na dinaanan, at tsaka yung second dito sa El Nido, kung saan pinaka-malapit yung site ng platform. Mabuti siguro kung mabibigyan kami ng pagkakataon na matulungan din. ..kahit school building, kasi yung mga bata namin dito, kung umuulan halos di na makakapasok sa eskwelahan dahil sira-sira na yung atip dahil ang ano ng dagat. Yung sa health siguro...baka nga magkaroon nga ng leak...o kaya magkaroon ng kalawang...o kaya hindi na kumain ng isda dahil ay yung pipeline may kemikal...kaya siguro, protection sa environment, at tsaka edukasyon ng (mga bata) dahil hindi makapag-aral. Saan kukuha ng mga pagkain o pang-suporta ng pag-aaral kung wala nang makukuhang (isda sa dagat)... [Linapacan is the nearest

²²³⁴ Personal interview, Emiliano P. Marasigan, Municipal Mayor, Culion, Palawan (31 July 2006)..

²²³⁵ Castro 2006.

²²³⁶ Personal interview, Municipal official #1, Linapacan, Palawan (27 March 2007).

to the pipeline, next to El Nido which is nearest to the platform. It would be good if we would have the opportunity for some assistance also... Even for a school building, because here our children cannot go to school anymore when it rains because the roof is damaged from exposure to the sea. Perhaps they can help with the community's health...because the pipe might leak... or get rusty... or have some chemical that keeps the fish from eating. So maybe, the protection of the environment and the education of our people, because we need a source of food and support for education, if we cannot get it from the sea...].²²³⁷

It is clear that Linapacan would like to have the Project compensate for whatever shortcomings the national or provincial governments may have in supporting local public services. The areas in which they prefer support are strategic needs over the long-term, such as basic education, water, roadworks, medical transportation, and even securing their marine resources.²²³⁸ Based on one LGU official's explanation, it appears that the problem is not that they have not received any benefits from the Project, but rather that whatever they received did not last long.²²³⁹

That the benefits did not last appears to be a common observation among the interviewees regarding the projects made known to be a benefit of Malampaya. For example, the seaweed farming and goat-raising projects and the distribution of solar-powered lights were uniformly characterized as having been available only once, after which there were no follow-ups. Typhoons and disease devastated the seaweed farms, the goats were distributed to a limited number of people, and the solar-powered lights were provided at a discount for only a limited period. In El Nido, a municipal official downplayed PSFI's and Malampaya's contributions to local activities, such as organizing events and giving contest prizes for the town fiesta, providing assistance to environmental and clean-up activities, and the like, colorfully stating "...*namimigay sila,*

²²³⁷ *Ibid.*

²²³⁸ *Ibid.*

²²³⁹ *Ibid.*

*pero alanganin tawagin na ipa ng kwan yan [...they contribute, but it's difficult to even call that contribution a discarded rice husk]*²²⁴⁰

However, this needs to be considered in light of certain projects that El Nido had received, or was in fact receiving at the time of the field research. The most prominent is the airport road leading from the town center to the El Nido Airport. Stretching 10 km, it cost 40 Million PHP to build, and even has a prominent billboard announcing that it was funded by the proceeds of the Malampaya Project. Apparently, this is the only tangible benefit of the Project that is commonly known by El Nido residents; local government officials could not identify any other when asked. Yet El Nido was in fact receiving another important benefit, through the newly-established Malampaya Foundation that was supporting the Lingap Kalusugan Program. This is an innovative community-based *barangay* health system which includes preventive and remedial components, the making and use of traditional medicine, and a local health insurance system. The Project is worth 200 Million PHP, although this is not funded exclusively by Malampayam but rather in partnership with other funding institutions and the congressional district office.²²⁴¹

The initiation of the Lingap Kalusugan Program, with its focus on the *barangay*, is most timely. Dissatisfaction seems to be highest in at least two of the three *barangay* closest to the Project. One *barangay* councilor said,

*Hanggang ngayon di namin napi-feel yung kanyang sinasabing pag-yaman at yung kanyang pag-angat. Yun pa, kwan pa rin kami, parang nag-aantay pa rin kami ng wala. [Up to now, we do not feel the enrichment and upliftment that they talk about. Even more, we feel like we are waiting for nothing].*²²⁴²

The *punong barangay* (village chief) of the other *barangay* echoed this sentiment, stating that his *barangay* had not yet received anything from the Project, and he was hopeful that

²²⁴⁰ Personal interview, Municipal official #2, El Nido, Palawan (26 March 2007).

²²⁴¹ Personal interview, Malampaya Foundation worker, El Nido, Palawan (26 March 2007).

²²⁴² Ayopila 2007.

the community health plan would be it.²²⁴³ This was in 2007, more than six years after the project's inauguration and a decade after the benefits were promised.

At the time of the field research, Lingap Kalusugan was still in its organizational stages, with the Malampaya Foundation conducting *barangay* training and information, education and communication about the program.²²⁴⁴ Though it may address one of their most pressing basic needs, it will probably take a long time before it is actually appreciated. The diminutive amount and nature of benefits received, as well as the passage of time, makes many interviewees rather cynical with respect to Malampaya project benefits to date. Some see them as mere palliatives against dissent; this view is most pronounced with the community that feels most marginalized, the Tagbanua of Coron. While PSFI implemented a small community waterworks system for the Tagbanua, the *barangay* chairman commented that as far as he knew, it only benefitted a few people:

Ang lahat naming hiningi sa kanila na tulong ay hindi nila naibigay. Bale may naibigay man sila doon na konting ano...tulad sa nabanggit kong tubig dito sa sitio ng Kabugaw ay kung gaano lang, hindi naman nakinabang doon yung buong komyunidad kaya parang hindi nila tinugunan ang aming hiningi. [They gave us none of the assistance we asked for. They only gave a little... like the waterworks in the sitio (hamlet) of Cabugao, but it wasn't much, it did not benefit the whole community, so it's as if they did not respond to what we requested].²²⁴⁵

This cynicism about the benefits received to date is shared by both NGOs and the PCSD. On one hand, NGO interviewees declared that they believe that the local communities did not benefit at all from the Project. For them, the only real beneficiaries of the Project are the big companies. PCSD officers, on the other hand, observe that benefits to the

²²⁴³ *Ibid.*

²²⁴⁴ Malampaya Foundation worker 2007.

²²⁴⁵ Aguilar 2006.

community are neither pronounced nor felt by the people.²²⁴⁶ This thought is shared by municipal officials, one of whom thought that whatever benefits have been received were only to placate people so that the proponent would not be caught in a bind and be unable to continue the project's operations.²²⁴⁷

7.4.3.4 The Benefit Distribution Process

Just as there is a variation in opinions about whether or not Malampaya has created local benefits, there is also a variation in the opinions about the process by which benefits should be channeled from the project and to the beneficiaries. In the absence of a legally prescribed royalty, there is no official mechanism by which LGUs can officially receive benefits from the project. Instead, benefits are channeled by the project through private foundations established by the proponents, namely the Pilipinas Shell Foundation (PSFI) and the specially-organized Malampaya Foundation (MFI). Both are non-stock, non-profit foundations set up for the purpose of community engagement and providing support for communities affected by the project.

The foundations either directly finance some projects or activities, or leverage funds against other funds from other institutions in order to finance projects and activities proposed by others for the area. There is no obligation on the part of the Malampaya consortium partners to set aside a distinct amount for projects or programs for such communities; how these are to be funded and from where such funds are to be sourced are an internal company matter. In the PSFI, for example, each provincial coordinator has to make an annual budget proposal for projects and programs in his/her area and make a pitch before a Sustainable Development Council for funding.²²⁴⁸ The sums are very modest and by no means fixed and certain every year. The PSFI representative explained that while Shell provides the foundation with a revolving fund, they are allowed to use

²²⁴⁶ Personal interview, PCSD Staff officer #2, Palawan Council for Sustainable Development, Puerto Princesa City, Palawan (10 April 2007).

²²⁴⁷ Lim 2006.

²²⁴⁸ Personal interview, Pilipinas Shell Foundation worker, 2007.

only the interest earned from the fund, not the principal amount. Each year the various area representatives (there are officers assigned to Palawan, Mindoro, and Batangas) must make and defend budget proposals for their areas before Shell's upper management. There is no formal agreement between the LGUs and either the PSFI or MFI regarding the distribution of benefits from the project, whatever their actual form. The initiative lies mainly with the LGUs to submit proposals to the PSFI or MFI.²²⁴⁹ PSFI is highly selective about the kinds of projects that it approves for funding:

I think whatever you do, it has to be a strategic investment. We're not really philanthropic. There are organizations that can do philanthropy. There is a level of philanthropy, and our social investment are mostly strategic. First, it should have an impact on the community, and the community must feel the impact. Second, it should be something that is not going to hurt the environment. And third, it should be a way for us to maintain some presence in the area, so that community relations are established.²²⁵⁰

At the time of the field research, MFI was less than a year old and still working with PSFI on how to divide and turn over the community engagement work previously undertaken by PSFI exclusively. PSFI's prior engagement with the communities affected by Malampaya will likely serve as the model that MFI will follow; MFI's few personnel were previously PSFI employees.²²⁵¹

7.4.3.4.1 Livelihood Project Proposal Process

With respect to the transfer of benefits from the project to the coastal communities, PSFI sees itself as a catalyst and facilitator, not a dole-out agency. Prospective beneficiaries must submit project proposals to the foundation for support. Private persons or cooperatives may submit proposals, but an endorsement by the LGU is required. These are reviewed according to the PSFI's own standards, and the foundation may

²²⁴⁹ Pilipinas Shell Foundation worker 2007.

²²⁵⁰ *Ibid.*

²²⁵¹ Malampaya Foundation worker 2007.

conduct field visits to determine the veracity of the proposal and the sincerity of the proponent.²²⁵²

But while this process appears to be eminently reasonable, it is actually a huge barrier for the majority of residents of the coastal communities who are poor. They do not know how to write project proposals, nor do they even know where to go. One barangay official in Oriental Mindoro observed that the main proponent is “far” from the communities:

[G]usto na nga namin lapitan pero hindi naman namin alam kung saan ang opisina nila... wala silang opisina dito sa Mindoro, doon lang sa Batangas...isang beses na lang nga nakakain, kung pupunta pa sila doon ay malaking sakit sa kanila iyon [we want to go to them but we don't even know where their office is...they don't have an office here in Mindoro, only there in Batangas...some eat only once (a day) and if they have to go there, it would be a great suffering for them].²²⁵³

What is remarkable about the above comment is the way in which the interviewee described distance not only geographically, but more importantly in terms of transportation costs measured in food and in time for working for food. These measurements also applied with respect even to the act of sending communications such as letters and project proposals. This places the poverty of the coastal communities and the requirements of the PSFI in an entirely different light.

The gap created by the ‘logistical’ distance between PSFI and the coastal communities only increased with the passage of time. At the time of the field research, it was already a decade since the initial Scoping consultations, and seven years since the availability of livelihood assistance was announced. But some interviewees complained that even though they tried to ask for the livelihood assistance that Shell promised, “*walang response sa aming mga parating* [there was no response to what we sent],” and “*wala*

²²⁵² Pilipinas Shell Foundation worker 2007.

²²⁵³ Personal interview, Barangay official #2, Naujan, Oriental Mindoro (17 August 2006).

ho'ng sagot [there was no answer].”²²⁵⁴ This further discouraged the communities from seeking out the proponent.

Another factor that puts the process in a bad light for the communities is the absence of a clear, direct, visible, and continuing relationship (*pakikipag-ugnayan*) between the PSFI and the coastal communities. Those in communities located far outside the provincial capitols lamented that after the initial consultations were held, no further contact was made whether to follow-up on the outcomes of the workshops or to implement the expected social development projects.²²⁵⁵ Rather negative comments were received from a quite a few LGU personnel in Oriental Mindoro. Here some believed that the sessions merely informed the communities and did not really consult them;²²⁵⁶ that the consultations were held only after the pipe-laying commenced;²²⁵⁷ or that once the pipeline was laid they never heard from the proponent again.²²⁵⁸ “*Hanggang ngayo'y wala pang pumunta rito na taga-Malampaya* [up to now no one from Malampaya has come here],” according to one *barangay* leader.²²⁵⁹

This sharply contrasted with the opinions of other interviewees located in the provincial capitols that described their communities’ relationship with the Malampaya Project in a favourable light.²²⁶⁰ Given the large number of coastal communities involved and their disparate locations, it could be expected that the project’s social development program could not immediately reach all concerned communities with the same degree of

²²⁵⁴ Aguilar 2006; Barangay official #2 (Naujan) 2006.

²²⁵⁵ Castro 2006; Mayo-Anda and Mana-Galido 2007; Bonoan 2007.

²²⁵⁶ Municipal official #1 (Bulalacao) 2006; Barangay official #2 (Naujan) 2006; Two municipal officials #2 (Pola) 2006; Pole 2006.

²²⁵⁷ NGO worker 2007; Two municipal officials #2 (Pola) 2006.

²²⁵⁸ Personal interview, Josito M. Remotin, BFARMC Chair, Bulalacao, Oriental Mindoro (15 August 2006); Municipal official #1 (Bulalacao) 2006; Municipal official #2 (Bulalacao) 2006; Aguilar 2006; Carpio 2006; Mendez 2006.

²²⁵⁹ Barangay official #2 (Naujan) 2006.

²²⁶⁰ Bonoan 2007; Three provincial government representatives (Mindoro Oriental) 2006.

visibility and effectiveness. But the wide gulf between points of view call to question the effectiveness and thoroughness of the consultation process employed.

7.4.3.4.2 *Ad Hoc Benefit Channels*

The field research revealed that the benefits to the LGUs are dispensed not under a standard process, but in an *ad hoc* manner, leading to a wide difference of views as to what should be the appropriate process. Although the PSFI was generally open to receiving independent project proposals from individuals, cooperatives, or LGUs, the extent to which it actively engaged in assisting local communities varied. One reason for the difference appears to be PSFI's operational practices, in which a specific liaison and coordinating officer, who is in charge of a distinct budget and project portfolio, is assigned to each province.

While there is no legal impediment to coursing the funds directly to the LGUs, Shell's unfortunate experience in Palawan with the politics over the KLM Program, gave it reason to keep its distance and be selective.²²⁶¹ After that controversy, the PSFI chose to work with the LGUs mainly by contributing to projects listed in the LGU's existing development plans or programs.²²⁶² It would not take action without a corresponding commitment or counterpart from the LGU, and a "local champion" in the area.²²⁶³ The PSFI is also very careful not to be seen to be actively intervening in the community:

We will not intervene in their lives, we will just try to facilitate so they can better at making their own solutions. The good thing is that we have some more funds so everytime there is a big problem, maybe we can help. But they have to assess their problem on their own, and find their solutions on their own. We are just there to hold hands so that they will not be left to fend for themselves.²²⁶⁴

²²⁶¹ Pilipinas Shell Foundation worker 2007.

²²⁶² *Ibid.*

²²⁶³ *Ibid.*

²²⁶⁴ *Ibid.*

However, up to 2007, partnership between the PSFI and LGU had taken place only in Palawan and Mindoro with projects of the respective provinces, or down to the congressional district (the Lingap Tanglaw Kalusugan),²²⁶⁵ it did not extend to the municipalities. In Oriental Mindoro, the PSFI largely bypassed the LGUs and only funded NGOs and cooperatives directly.²²⁶⁶ The municipality's role was limited to only proposing projects and/or identifying the persons or cooperatives who might qualify for approved projects. This was a source of dissatisfaction for some of those in the coastal communities on the ground. It was the PSFI, not the municipality, which finally approved proposals and selected qualified persons or cooperatives. This left the LGUs with no influence over what benefits were granted and who received them.

Although the PSFI was also open to directly providing livelihood assistance to individuals, those in the coastal communities found such assistance to be unattractive because they were in the form of loans that they were afraid of not being able to pay back.²²⁶⁷ Receiving the livelihood assistance actually imposed an additional burden upon them:

(P)arang nahhirapan tumanggap ng project itong mga tao dahil nape-pressure sila doon sa babayaran, parang loan... paano ibalik yan (kung) na-damage ng bagyo, ng typhoon? Kaya parang nahhirapan... Gaya ko, ...eh akong pumipirma doon sa pag-release ng pondo, baka ako pa ang maging liable sa ano...kasi ibibigay natin sa cooperative, sa association, para mag-tanim sila...dinatnan ng bagyo, na-damage ngayon...baka yung munisipyo maging liable pa doon... [It seems our people find it difficult to receive projects because they are pressured by the repayment of the livelihood loans... How can it be repaid if it is damaged by a typhoon? That is why they find it difficult... Even me, ...I am the one signing for the release of the funds, I might become liable for the repayment...even if we give it to a cooperative or association, I might still be liable for it...if a

²²⁶⁵ Bonoan 2007.

²²⁶⁶ NGO worker 2006.

²²⁶⁷ Pole 2006.

typhoon comes and damages it, the municipality might be liable to pay it back...]²²⁶⁸

However, there was no consistency in opinions about what should have been an appropriate alternative mechanism. At the municipal and *barangay* level, instead of having benefits administered by a private foundation, most preferred that the funds be released directly to the municipality and not even through the province,²²⁶⁹ though one thought that it was mainly the province's responsibility to secure the benefits on behalf of the municipalities.²²⁷⁰ Most acknowledged that any mechanism involving only elected government officials could be subject to the whims of internal politics. However, those in the professional civil service seem to resent that the LGU should have to submit project proposals to a private foundation.²²⁷¹ It did not help that up to the time of field interview, most LGU proposals previously submitted had been rejected or not acted upon at all by the PSFI.

Interviewees from the NGOs and the PCSD likewise were not convinced of the wisdom of using private foundations as conduits for the Project's potential benefits. As described by the NGO interviewees:

Using a private charitable foundation to channel benefits is inadequate; we propose a multi-stakeholder mechanism to manage the funds as a trustee for every project, something that is depoliticized. It should be involved from the start in selecting projects, not just reviewing them, and monitoring and feedback. Even benefits should be under multi-stakeholder control, and under conditions of transparency and accountability.²²⁷²

²²⁶⁸ Municipal official #1 (Linapacan) 2007.

²²⁶⁹ Municipal official #1 (Bulalacao) 2006; Marasigan 2006; Lisboa 2006; Gutierrez 2006; Two municipal officials (Pola) 2006; Municipal official #1 (Linapacan) 2007; Two municipal officials (Linapacan) 2007.

²²⁷⁰ Municipal official #1 (El Nido) 2007.

²²⁷¹ Municipal official #1 (Bulalacao) 2006; Remotin 2006; Municipal official #2 (Bulalacao) 2006; Vicentino 2006; Two municipal officials (Linapacan) 2007.

²²⁷² Mayo-Anda and Mana-Galido 2007.

The issue actually raised was the lack of transparency in the flow of benefits. Not even the municipalities, who certified or endorsed the beneficiaries, could tell exactly how much went to the beneficiaries in their jurisdiction because funds were released directly to the cooperatives, which were not monitored by the LGUs.²²⁷³ It was clear that no one at the local community level could tell precisely what their community received from the Project, if any. Thus, interviewees from the local governments, NGOs, and PCSD believed that leaving the benefits process completely under the proponent's control and discretion militated against its transparency and impliedly the accountability of the proponent. They also thought that any benefits that were released could not be maximized if it continued in an *ad hoc* manner. This was especially important for ensuring that the benefits had tangible and maximum social impacts. The NGOs, who had extensive experience in community development, explained it thus:

It would be good if the usage of the livelihood funds can be monitored, so that the money does not go to waste. Even the LGU's were raising this as a need. We in CBCRM (community-based coastal resource management) have projects that failed, but that doesn't mean we will no longer fund them; we assess if the peoples' organization gained some capacity along the way. Otherwise it is only a dole-out, and it is not empowering. The way the livelihood projects are undertaken is disempowering, because it is a dole-out thing and the capacity-building and assessment is not clear. It is also not strategic; we could focus on some really strategic items like health, and basic needs like water and healthy food. This would complement, not replace, government functions. What needs to be done is for the multi-stakeholder body, or even the Foundation, to take a look at the provincial or municipal development plans and then see where they are needed. Usually these are the same items, like health, day-care, roads, feeder ports, post-harvest facilities, boats, lights, all basic services. And they should prioritize the poorest municipalities...²²⁷⁴ (emphasis added)

²²⁷³ Two municipal officials (Linapacan) 2007; Municipal official (Linapacan) 2007; Mendez 2006; Vicentino 2006; Municipal official #1 (Bulalacao) 2006; Municipal official #2 (Bulalacao) 2006.

²²⁷⁴ Bernardino 2007.

The priority accorded to the poor is a constant and common element in all of the interviewees' comments, whether on the side of the national government, energy company, or local community. As aptly stated by one municipal officer:

The poor should be the ones to get more benefits from the projects, depending on their needs, and they have to be apprised that these benefits are available for them.²²⁷⁵

Direct involvement of the affected stakeholders, especially the poor, is a common ideal that interviewees mention, though there are clearly differences in opinion as to the extent to which this is to take place. In practice, stakeholders' participation has not been consistent, and for the most part has been limited to the distribution stage. But a number of interviewees in both the government and NGOs expressed a preference for a longer time for consultations, beginning at the earliest possible stage of needs-assessment. They also said that public participation should be consistently present all throughout the implementation and operation of the Project including planning, identification of benefits, prioritization of beneficiaries, decision-making, allocation of projects and activities, distribution of financial or other resources, and monitoring of effects.

7.5 Clean and Green Technologies of Exclusion

7.5.1 A Sense of the Inevitable

Despite Malampaya's portrayal as a showcase for community relations and stakeholder consent and participation in business circles, closer consideration of the context and actual process of public participation reveals that in fact, the communities had very little choice in the matter. The truth is that by the time that the EIA process began, the decision to go ahead and implement the decision had already been made and was irrevocable. Indeed, many of the interviewees recognized the inevitability of the project from the very

²²⁷⁵ Vicentino 2006.

start,²²⁷⁶ and had no illusions about being able to prevent the proponent from pushing ahead. The fact that the Malampaya was a strategic and vital foundation for an entire industry, imbued with national interest, weighed heavily on the coastal communities. The ineffectiveness of denying consent was demonstrated by the EIA with respect to the municipalities of Oriental Mindoro. The coastal communities accepted that there was practically nothing they could do to stop Malampaya, and that they had to live with it.

In this light, the stakeholder engagement for Malampaya did not revolve around the issue of securing consent, but rather defining the terms of compromise. Coastal communities were asked essentially for the terms and conditions by which the project could proceed without interference. It is for this reason that the EIA process took on the character of a social bargaining process,²²⁷⁷ by which the coastal communities proposed all manner of direct socio-economic benefits such as livelihood assistance, infrastructure, basic services, and community support as part of the package of goods that the proponent said it would provide. It is therefore unfortunate that Shell chose not to directly address these ‘demands’ for socio-economic benefits and instead pursue its own ideas of “strategic social investments” of much more limited scope. Such a position rejects the compromise that the coastal communities proposed and essentially leaves them purely at the mercy of the proponent’s impositions.

7.5.2 A Relation of Domination

One of these impositions is the procedural requirement of requiring written project proposals and exclusive determination by PSFI of who are entitled to what types of

²²⁷⁶ Mayo-Anda and Mana-Galido 2007; Bernardino 2007; Municipal official #1 (Bulalacao) 2006; Three provincial government representatives (Mindoro Oriental) 2006; Municipal official #1 (Naujan) 2006; Two municipal officials #1 (Pola) 2006; Municipal official #1 (El Nido) 2007.

²²⁷⁷ Jay L. Batongbacal, "EIA As the Start of a Social Bargaining Process: The Malampaya Deepwater Gas to Power Project." In *Governance for Sustainability - Issues, Challenges and Successes*, ed. K. Bosselman, R. Engel, and P. Taylor (Bonn: IUCN - The World Conservation Union, 2008).

benefits, relegating the LGU to only a minor role of endorsing candidates. On the part of the people, the kind and system of benefits offered by PSFI indeed become more burdensome than they were worth, especially to people for whom time is measured in meals. It is unrealistic to expect a poor fisher who may not have even reached high school to spend time and effort preparing a detailed written proposal that would pass the scrutiny of college-educated accountants and business managers. Though the whole idea of a project proposal process might be very ordinary and reasonable to the urban corporate denizen,²²⁷⁸ it is totally insensitive to the reality of people living on the margins.

For the broader community represented by the LGUs, such a process for seeking benefits manifests a reduction in the stature and dignity of the community as a whole vis-à-vis the Contractor. The system implies a superior-subordinate relationship that is quite consciously resented by the LGUs, who naturally believe themselves to be in a better position to decide what is right for their constituents. The LGUs, through their regular officials, have a far better understanding of the urgent and ‘strategic’ needs that should be addressed, since they are part of the community, are in direct contact with their people most of whom are poor, and seek to address their needs with limited resources on a daily basis. The priorities and perspectives of the LGUs in the frontlines would certainly be totally unlike those of the proponent, whose decision-makers rarely even visit and often stay away in places of comfort and convenience.

Yet the system in place inherently assumes that the Contractor through the PSFI “knows better” than the LGUs. By ignoring the LGUs specific claims to specific types of assistance, and imposing its own ideas of what assistance should be available and to whom, the PSFI actually contributes more to denigrating the LGUs capacities and status and does nothing to address any relevant shortcomings of the latter in that regard. While it may be true that there is a risk that the LGUs, particularly their elected officials, might use the project and its benefits for their own political agendas, the presence of such

²²⁷⁸ One could probably imagine this as a form of “corporate technology.”

“political risk” is unavoidable and can still be mitigated by appropriate safeguards and transparency. The opportunity exists for the Contractor to actually play an active role and contribute to the coastal communities’ development; it seems to have found a suitable mechanism in the *Kilusan Ligtas Malaria* and *Lingap Tanglaw Kalusugan* program, for example. There seems no reason why such a mechanism (contributing to an existing LGU project/program) could not be similarly done with respect with coastal communities at the municipal level.

7.5.3 Disparity in the Public Participation Arena

It is in the nature of offshore petroleum technologies to be highly impervious to public scrutiny. Apart from the fact that what goes on beneath the ocean cannot be seen easily, highly specialized knowledge in a variety of disciplines and uncommon technical resources are required to fully appreciate the nature, scope, and effects of offshore petroleum operations. The disparity in knowledge prevents a fair and well-reasoned public discourse about the technologies, exhibited starkly in the EIA consultations for Malampaya. But even though both the proponents and the coastal communities must have appreciated that knowledge and understanding of the subject skewed heavily in favor of only the project proponent, and this created barriers to public engagement, no action to effectively reduce such barriers was taken.

None of the coastal communities around Malampaya had good independent access to information about offshore petroleum technologies; essentially, they learned about them for the first time at the Scoping and Validation workshops at which they were supposed to share their views and raise their concerns about the technologies they did not know. The only resource persons available to them were the representatives of the very company intending to build them. Lacking the capacity to find the relevant information or even ask the right questions which to doubt the other’s claims, they had no choice but to distrustfully accept the assurances and professed expertise of the proponent’s scientists and engineers.

Without technical knowledge and support, arguments and concerns raised during the relatively extensive consultation process could not be the basis of effective engagement, much less reasonable resistance. The most that the communities could do was to delay specific project tasks, such as what the Mindoro fishers thought of attempting with the pipelaying, which would have incurred financial costs for the proponent. In this, the fishers had stumbled onto Shell's sole vulnerability, the threat of cascading financial losses from problems at a key point in the project's implementation. It was clearly enough of a threat for Shell to consider asking the national government to forcibly prevent interference in the pipelaying, though relatively easy resolve with the promise of compensation and livelihood assistance.

The inability of the coastal communities, even with NGO support, to fully anticipate probable coral reef locations, actual pipeline impacts, and fishers' displacements, all signify an inequitable arena of discourse from the very beginning. The process of consultation, in which the participants were given a brief description and overview of the project's intended components and then left mostly on their own to discuss for themselves what they thought to be the project's possible impacts and issues (the technical experts would only be available at the open forum at plenary), would have resulted in only a very superficial perception of the project and its possible effects, no matter how long and numerous the opportunities. Each event therefore arose as unnecessarily alarming and surprising, due to inadequate social preparation arising from a lack of appreciation of the proponent's activities and potential impacts.

7.5.5 Non-recognition of Injuries Past and Present

To date, the operators of Malampaya have not recognized that the project may have had a far greater adverse impact on the surrounding ocean and social environment than what has been assumed. The passage of years has obscured its accountability further, and is likely to further diminish the basis for requiring some kind of recompense for economic injuries that were inflicted. The decline in fishcatch, the pipeline's occupation of municipal marine real estate, and the reduction of accessible fishing grounds, are all

actual losses as far as the coastal communities are concerned, but too easily ignored on the grounds of the lack of scientific information.

A lot of technical and scientific information form the main basis for the extensive EIS, yet the document has proved of little use to the coastal communities whom the outcome of the EIS should be addressed to. In the first place the EIS was physically inaccessible – a copy had to be requested by the communities from the proponent, despite the fact that it was a public document that directly concerned specific groups of residents in Palawan. Second, the Malampaya EIS was devoted to the pre-implementation stages only, in anticipation of contingent future events and mishaps, rather than *in-* or *post-* implementation issues. No provision was made for addressing deviations from expectations generated by the plans included in the EIS. Thus there are at least 5 areas of deviation between the originally proposed pipeline route and the actual one, yet these are not explained or justified. The actual impacts of pipelaying were not brought to light to the public, particularly the amount of rocks and other material needed to properly support the pipeline on the seafloor. Neither is there a consideration of the adverse impact of the pipeline exclusion zone on the fishers excluded from the zonal boundaries.

7.5.5 Corporate Projections and Community Realities

When one considers the actions, positions, and policies of the proponent *vis-à-vis* its relations with the coastal communities, one cannot help but see the former's expectation of the latter to comply with what can best be described as an urban corporate culture. For example, the idea that sending out invitations to a meeting in the provincial capitol is a sufficient means of organizing a public consultation assumes that everyone has their time, resources, and priorities in a particular order such that they should be expected to go to the meeting to participate. The idea that holding meetings about the project with the LGU executives or legislative councils would produce outcomes or understandings that the local community will abide by seems to be based on the assumption that LGUs operate like stock corporations and LGU leaders like a board of directors. And requiring the poor to submit project proposals for consideration by the proponent's social arm reflects

corporate practices of employees submitting detailed budget proposals for consideration in the corporation's operations.

These and other practices of the proponent, about which the coastal communities complain, evince a fundamental clash in their respective cultures. But the proponent, despite having more in terms of resources, mobility, and capacity, does not recognize how this has affected, and continues to influence, their relations. Instead, it is clear that the proponent expects the coastal communities to uncompromisingly conform to its culture and practices. The way in which it has related with the LGUs regarding the livelihood assistance benefits is evidence of this position. Although it is true that the proponent may have its own valid interests in requiring particular conduct (e.g. to prevent or minimize corruption and political influence), the coastal communities also have their own valid interests and claims in how certain things should be done. Ignoring those interests and claims only adds to their marginalization.

7.5.6 The Inequity of a Failed Bargain

For the coastal communities, despite its glamour and awards, Malampaya is a silent symbol of inequitable distribution arising out of a failed bargain. While the communities have learned to live with the perceived risk arising from hosting the project, they do not receive commensurate benefits. The anxieties with the project, shown in the way it is always immediately blamed for any new adverse change in the conditions of the seas around it, show that the inhabitants of the coastal communities close to Malampaya regard it with suspicion and concern. The few direct benefits that the project generates are seen as mere palliatives, especially when compared with the amount of profits the project operators and clients make out of the natural gas.

The biggest prize benefit that everyone hopes for is the 40% revenue/production share. Unfortunately, Palawan is very likely to lose the proposition, for the simple reason that the LGU's territorial jurisdiction stops at the low water mark, and the most that the

national government is willing to concede as an acceptable basis for any LGU entitlement is the municipal waters.²²⁷⁹ If Mindoro were to attempt to claim a revenue share, it would probably be able to claim more than Palawan on account of the pipeline's actual presence within the municipal waters in Oriental Mindoro. But this requires the national government to accept that the share is justified by the presence of an actual risk. This is obviously a matter of contention, one that can be resolved only by science as far as the proponent is concerned, but the capacity for which exists only in the same proponent.

If ever there is a system for sharing benefits of whatever nature, however, there should also be rules for prioritizing allocations. Each coastal community has different available resources and capacities and needs, and must necessarily be treated differently. Even though all adjacent municipalities may be equally entitled, for example if the basis were exposure to risk to the pipeline, they need not be benefitting equally in the same form as all others. Some municipalities may indeed benefit more from individual scholarship support or livelihood assistance programs, while others may have more community-oriented needs such as infrastructure and basic services. In this regard, the Municipality of Linapacan, as the most isolated and most disadvantaged of all the communities along the project's expanse, should receive higher priority and more focused attention. If the Rawlsian Difference Principle, and its Philippine counterpart "those who have less in life should have more in law," are to be followed and realized, then the Linapacan especially deserves all the possible benefits it may receive. It is indeed odd to find from the interviews that the communities geographically closest to the projects physical components also seem to have received proportionally the least of whatever benefits have been released.

²²⁷⁹ Personal interview, Department official, Department of Energy, Manila (13 August 2006).

7.6 Clean and Green Disempowerment

*“Dapat sila ang bumaba [It is they who should come down].”*²²⁸⁰ This is a statement by a *barangay* leader commenting on how the proponents and managers of Malampaya and similar projects should behave. It conveys a powerful and constant societal image implied in many of the interviews: affected coastal communities in a hierarchy with the big corporations, national government, urban dwellers and other elite sectors occupying the higher strata, and poverty-stricken communities at the very bottom. The persistence of this social stratification despite Shell’s extensive consultation process and public engagement strategies shows that for all its apparent merits, Malampaya did not affect (and may have even reinforced) the underlying and habitual hierarchies of power that permeate Philippine society.

For all its widely-publicized portrayals to the contrary, the overall social impact Malampaya has had on the coastal communities of Palawan and Mindoro appears to be one of disempowerment. Despite its safety record and continuing problem-free operations, and its recession from the public eye as a source of any major environmental issues, Malampaya has perpetuated the underlying sense of powerlessness against massive national projects. The environmental-friendly aspects of the project have given added shine to its armor against coastal community claims to some form of compensation for past injuries or benefits for present exposure to perceived risks. Law contributes to this disempowerment by not addressing gaps that would definitively settle certain claims and positions, such as the issues of benefit-sharing, liability, and their legal basis. Science (or more precisely the absence of it) provides a shield because of inaccessible means of proof and correlation between perceived disadvantages and the project’s components or activities. This was demonstrated by the coastal communities’ inability to call an investigation into the decline in fishcatch in the early years of the project and call proper

²²⁸⁰ Barangay official #2 (Naujan) 2006.

attention to the apparent reduction of fishing grounds and income. The non-recognition of the coastal communities' greater right to determine the nature and form of benefits due to their constituencies evinces an inequitable relationship of domination by the project and its owners/operators.

To recall, Franklin asks the three key questions that must guide reflection about how a new technology relates to the three issues of participation, recognition, and distribution: What does the technology prevent? Who benefits? Who bears the costs? It is clear from the above that the technology has essentially prevented the coastal communities of Palawan and Oriental Mindoro from effective participation in a major decision that could have potentially contributed to their betterment; instead of being able to access a possible addition source of benefits from the ocean, they have been excluded from even a reasonable trickle. The large-scale and complex nature of the technology precluded their participation from the very moment that the reserve was found; once the commercial viability of the resource was determined, it set in motion an inexorable chain of activities and events that could not have resulted in any other outcome. Both the rudimentary framework for offshore petroleum exploration and development and the gaps in that framework regarding the place and role of coastal communities vis-à-vis such developments resulted in the rapid construction and operation of Malampaya. Despite the presence of laws intended to promote greater participation, distribution and recognition, the technical complexity and strategic priority of the project sidestepped the logical requirements of such laws.

The overall result has been to channel the benefits of Malampaya away from the coastal communities and directly to the more affluent and industrialized regions that make use of the electricity generated from the resource (south-central Luzon and Metro Manila), as well as the projects main proponents, the national government and the SC operators. The diagram of the Malampaya project and its pipeline leading all the way from the platform exclusion zone on one end and the Batangas coast on the other is more than a technical representation of geographic data, it is also a metaphor for how extensive resources on one hand are being siphoned off and transferred to more affluent consumers and

beneficiaries on the other, unmindful of the poverty and disadvantage in the pipeline's wake. (Figure 21) It is also a symbol of the burden that is imposed upon and borne by the less fortunate communities of Palawan and Oriental Mindoro in order to support the energy requirements of the more economically endowed regions of south-central Luzon and Metro Manila. It is an emblem of social inequity created despite sound environmental objectives.

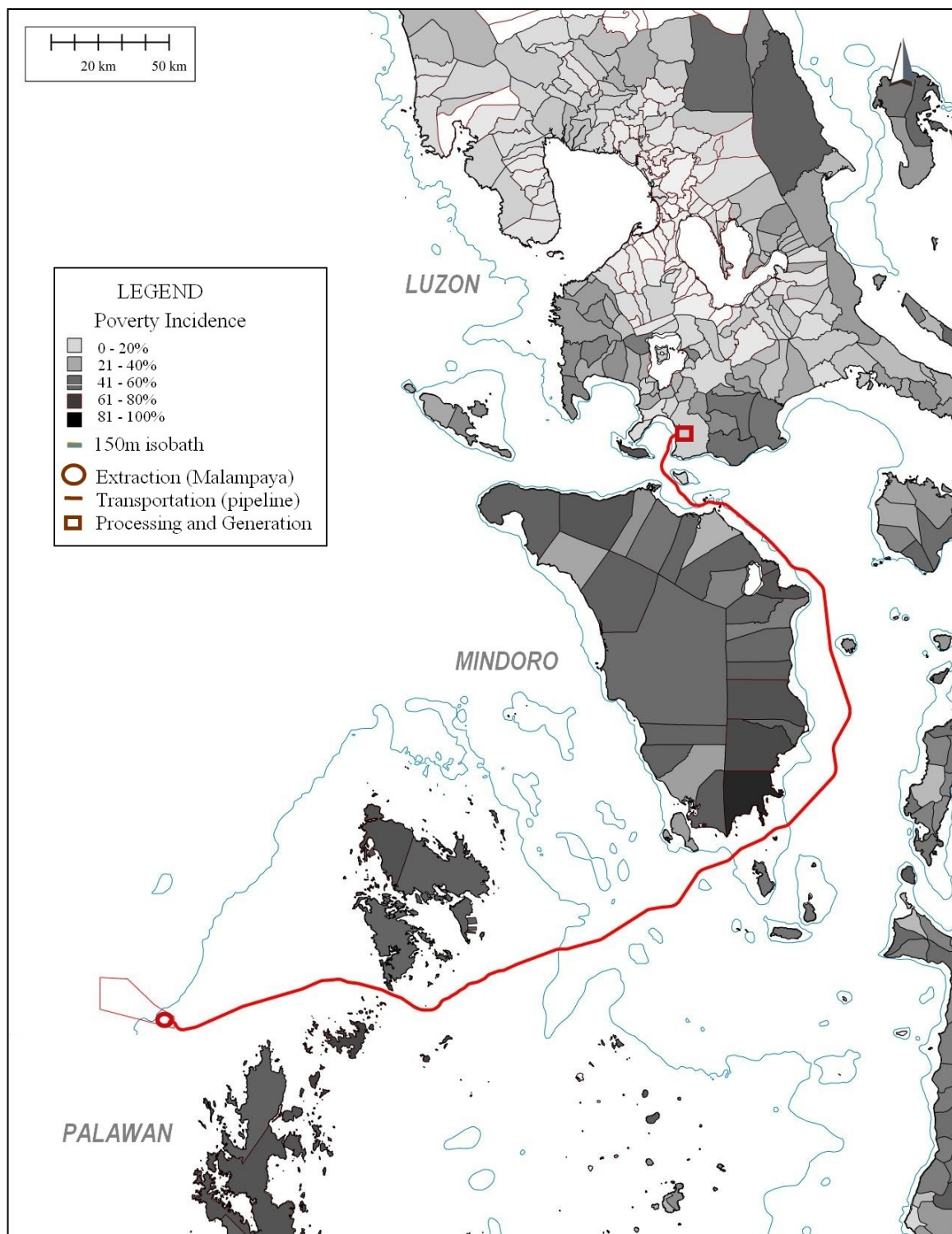


Figure 21. The Malampaya Project and the economic situation around it. Shading represents the poverty incidence per municipality; the darker the shade, the higher the poverty. Source: NSO..

CHAPTER 8

BLOWING IN THE WIND: THE NORTHWIND BANGUI BAY WIND-POWER PROJECT

8.1 The Northwind Bangui Bay Project

The Northwind Bangui Bay Project, inaugurated in 2005, is the Philippines' first fully operational commercial wind-power generating facility. It began with 15 Vestas wind turbines mounted on conical steel towers 70 m high.²²⁸¹ Each turbine uses three blades 41 meters long (for a diameter of 82 m) to produce 1.65MW from winds sweeping from the South China Sea at speeds up to 15 m/sec. to the north and northeast of the site.²²⁸² The project encompasses an area 9 km long by 100 m wide, facing the sea from a wide foreshore area in the Municipality of Bangui in the Province of Ilocos Norte.²²⁸³ The absence of windbreaks or other rough terrain maximizes the wind generating potential of the wind-farm.²²⁸⁴ The foreshore is considered public domain and is covered by a Foreshore Lease Agreement between the national government and the Northwind Power

²²⁸¹ Northwind Power Development Corporation, *Northwind Bangui Bay Project (brochure)* (Pasig: Northwind Power Development Corporation, 2005) at 3. [Northwind Brochure]

²²⁸² *Ibid.*; Northwind Power Development Corporation, *Bangui Bay 60MW Wind Power Project Ilocos Norte Initial Environmental Examination Checklist, November 2000*. (Pasig City: Unpublished, 2000) at 3. [Northwind IEE Checklist 1]

²²⁸³ *Northwind IEE Checklist 1*, Attachment 1 (foreshore lease application); Department of Environment and Natural Resources, *Lease Contract* (San Fernando La Union: Department of Environment and Natural Resources Region 1, 2003); Clean Development Mechanism. "Project Design Document: Northwind Bangui Bay Project (Project 0543)." CDM online: UN FCCC <<http://cdm.unfccc.int/UserManagement/FileStorage/XKG2H3VVI59T07P953BBUDNBE7AJGR>> (Date accessed: 08 May 2010) at 3.

²²⁸⁴ *Northwind Brochure*, at 2.

Development Corporation (Northwind), the owner and operator of the wind-farm.²²⁸⁵ As of 2007, there were only a few permanent structures on the land around the site, with the nearest being a residence about 200m away from the closest tower.²²⁸⁶

The first 15 towers occupy about half of the leased area, leaving room for expansion of the wind-farm in two more phases.²²⁸⁷ The company was expected to build additional towers to expand the total generating capacity from 24.75MW to 33MW.²²⁸⁸ Future expansion could increase the wind-farm's generating capacity to at least 60MW through additional towers or upgraded wind turbines.²²⁸⁹ Future improvements in turbine design and efficiency could increase the power output even more.

The power generated by each turbine feeds through an underground power line connecting all the towers to a small 30MVA substation built on land that Northwind purchased for the purpose in Barangay Baruyen.²²⁹⁰ A 60KV transmission line connects the substation to Laoag City, the capitol of Ilocos Norte, located 57 kilometers away.²²⁹¹ The line runs along the existing main highway that services the coastal provinces of northern Luzon. Electricity from the wind power plant is sold and transmitted to the

²²⁸⁵ Department of Environment and Natural Resources, *Lease Contract*.

²²⁸⁶ World Bank, *Project Information Document No. 31488* (Washington DC: World Bank, 2005) at 3.

²²⁸⁷ Flores, Alena May S. "Ilocos windfarm readies expansion" *Manila Standard Today* (20 June 2005); Paul Anthony A. Isla, "Northwind to Expand Its Wind Farm," *The Manila Times* (20 June 2005).

²²⁸⁸ Asociacion Espanola de Normalizacion y Certicacion, *Northwind Bangui Bay Project Initial Verification Report*. (Washington DC: World Bank, 2006), Annex 1 at 1. Also available online: UN FCCC
<<http://cdm.unfccc.int/UserManagement/FileStorage/V7LR9SGEVVNGXHL5B3C2MTHFDTSPNQ>> (Date accessed: 07 July 2010)

²²⁸⁹ Cristina Arzadon, "Ilocos taps wind power to solve power woes," *Philippine Daily Inquirer* (31 July 2002) .

²²⁹⁰ Northwind Power Development Corporation, *Northwind Bangui Bay Project Phase I Initial Environmental Examination Checklist, February 2004*. (Pasig City: Unpublished, 2004) at 4-5. [Northwind IEE Checklist 2]

²²⁹¹ *Ibid.* at 4.

Ilocos Norte Electric Cooperative (INEC), and complements the electricity supplied from elsewhere in Luzon by the National Transmission Corporation.²²⁹² INEC holds the sole electrical distribution franchise for the 23 municipalities of Ilocos Norte, including Laoag City.²²⁹³

The Northwind Project cost 50 Million USD, of which 29.35 Million USD came from the Danish Development Agency (DANIDA), 10.5 Million USD from other grants, and the remainder provided by corporate and individual shareholders.²²⁹⁴ Northwind's major stockholders include Moorland Philippines, Phildane Resources Corporation, and Fabmik Construction & Equipment.²²⁹⁵ The project is completely privately funded and without any public investment by the Philippine government. Northwind presently supplies 40% of the electricity needs of the Ilocos region at a 7% discount compared to electricity supplied by conventional power plants.²²⁹⁶

8.1.1 Northwind and the Renewable Energy Sector

The Philippines has always considered wind power as one of its indigenous energy options. Expectations generated in the 1980s by initial small-scale studies were confirmed in 2001 when a wind energy mapping project conducted by the US National Renewable Energy Laboratory in 2001 estimated the wind energy potential of the entire country at around 76,600MW.²²⁹⁷ The Philippines had the most progressive wind power

²²⁹² Cristina Arzadon, "Southeast Asia's First Wind Power Plant is in Ilocos Norte," *The Ilocos Times* (26 February 2007) at 3.

²²⁹³ *Northwind Brochure* at 5.

²²⁹⁴ Isla, *supra* note 2287.

²²⁹⁵ *Northwind Brochure* at 1; *Northwind IEE Checklist 1*, Attachment 4 (corporate by-laws and SEC registration).

²²⁹⁶ Cristina Arzadon, "Wind Blows Ilocos Norte Onto Power Map," *Ilocos Times* (20 June 2005) at 11.

²²⁹⁷ D. Elliot, M. Schwartz, R. George, S. Haymes, D. Heimiller, and G. Scott, *Wind Energy Resource Atlas of the Philippines*. (Golden CO: National Renewable Energy Laboratory, 2001). These estimates, however, did not yet consider any project feasibility factors such as the absence or presence of access roads, usable power, and

development policies among the ASEAN countries, having provided fiscal incentives and encouraged private investments in the sector as early as 1997 and 2000.²²⁹⁸ The country aspires to be the leading wind energy producer in the Southeast Asian region, targetting at least 417MW of electricity to be supplied by wind energy by 2013.²²⁹⁹

Northwind was the first and largest commercial wind-farm to operate in Southeast Asia.²³⁰⁰ It was the first to hurdle the three known barriers against wind power in the country: low investment returns for renewable energy generation, lack of technology and personnel, and climate uncertainty.²³⁰¹ The DOE notes that Northwind's success is a major milestone in the government's national policy of pursuing the development of new, indigenous, and renewable energy projects.²³⁰² It is part of the DOE's plan to accelerate rural electrification by promoting private investments in the energy sector while maintaining its commitment to preserve the environment.²³⁰³

vegetative cover. Mario Marasigan, Director for Energy Utilization, DOE, quoted in Donnabelle L. Gatdula, "Wind Power Projects Seen to Secure \$1-B Investment," *The Philippine Star* (05 May 2008), online: <<http://www.philstar.com/archives.php?&aid=200805047&type=2&>>.

²²⁹⁸ EC-ASEAN Green Independent Power Producers Network, "Wind Energy Development in ASEAN," *Green IPP Network* online: <http://www.ec-asean-greenippnetwork.net/dsp_page.cfm?view=page&select=207> Last updated: 26 July 2005 (Date accessed: 21 July 2008).

²²⁹⁹ Raphael P.M. Lotilla, "Energy Programs and Policies, May 2006," *Department of Energy* online: Department of Energy Portal <<http://www.doe.gov.ph/seccorner/DOEPnPMay2006.pdf>>.

²³⁰⁰ Arzadon *supra* Note 2296.

²³⁰¹ Det Norske Veritas, *Validation Report, Northwind Bangui Bay Project (Report No. 2005-1530)*. (Hovik Norway: Det Norske Veritas, 2005) at 8. Also available online: UN FCCC <<http://cdm.unfccc.int/UserManagement/FileStorage/FTKZX0YX4ZPGNU4ZFIISYLGJ3UMMS5>> (Date accessed: 07 July 2010).

²³⁰² Arzadon *supra* note 2289. The development of indigenous and renewable energy resources forms the second paragraph of the DOE's official Vision Statement. Department of Energy, "Philippine Energy Plan 2004-2013," *Department of Energy* online: <<http://www.doe.gov.ph/PEP/Previous%20PEP.htm>>.

²³⁰³ *Northwind Brochure* at 7.

Northwind trailblazed the promotion and adoption of wind farm technology for commercial energy production in the Philippines. In a report dated 10 January 2005, the World Bank noted

(A)s the first wind farm project in the Philippines, the Project will have a significant demonstration effect in accelerating the commercialization of wind power, thereby contributing to (the Philippines') goal for reducing the country's dependence on imported energy and broadening its resource base with an indigenous, inexhaustible and environmentally desirable option.²³⁰⁴

While construction was ongoing, the DOE launched a Wind Power Investment Kit and organized a Wind Power Summit in 2004, and held the first Wind Energy Contracting Round in March 2005.²³⁰⁵ The government offered 16 other potential wind sites, with a total generating capacity of 345MW, for private sector participation.²³⁰⁶ The contracting round attracted significant attention from potential investors, and the DOE initially issued pre-commercial development contracts to develop five sites with a initial capacity of 85MW.²³⁰⁷ By March 2009, the Philippines had signed 44 wind power development contracts for sites all over the country, for a total generating capacity of 921MW.²³⁰⁸

²³⁰⁴ World Bank, *Integrated Safeguards Data Sheet, Report No. 31489*. (Washington DC: The World Bank, 2005).

²³⁰⁵ EC-ASEAN Green Independent Power Producers Network, "Wind Energy Development in ASEAN," *Green IPP Network* online: <http://www.ec-asean-greenippnetwork.net/dsp_page.cfm?view=page&select=207> Last updated: 26 July 2005 (Date accessed: 21 July 2008).

²³⁰⁶ *Ibid.*

²³⁰⁷ *Ibid.*

²³⁰⁸ "Energy Dept. Approves EDC's Wind Farm Projects." *GMA News.TV* (06 June 2010), online: <<http://www.gmanews.tv/story/192785/energy-dept-approves-edcs-wind-farm-projects>>; Paul Anthony A. Isla, "EDC Can Pursue Wind-Power Projects in Mindanao -DOE," *BusinessMirror* (07 June 2010), online: <http://www.businessmirror.com.ph/index.php?option=com_content&view=article&id=26157:edc-can-pursue-wind-power-projects-in-mindanaodoe&catid=45:regions&Itemid=71>.

Included are areas around Bangui itself, where other wind-farms are also eyed.²³⁰⁹ The government allocated 8 Billion PHP to help develop a 46MW wind-farm in the neighboring town of Burgos, to be set up and operated by the state-run Philippine National Oil Company.²³¹⁰ Northwind and another private company were also evaluating the potential for additional wind-farms in areas further inland.²³¹¹

8.1.2 Northwind and the Environment

As a wind farm, Northwind has naturally been extolled as a contribution to Sustainable Development. Its operators emphasize that it responds to the government's call for clean and green electricity.²³¹² Over the first seven years of operations, it is expected to result in the annual displacement of emissions of up to 56,700 tons of CO₂.²³¹³ On this basis, Northwind has been earning carbon credits; it was the first project in the Philippines to be subject of an Emission Reduction Purchase Agreement under the Kyoto Protocol's Clean Development Mechanism. The agreement was signed on 09 December 2004 between Northwind and the World Bank under the latter's Prototype Carbon Fund.²³¹⁴ The incentive provided by the CDM was important to the decision to implement the project,

²³⁰⁹ In 2006, another company, the Northern Luzon UPC Asia Corporation, embarked on wind assessment studies in 2 other barangay of the municipality. Municipality of Bangui, Ilocos Norte, *Muni. Res. 6-32-06* (2006) and Municipality of Bangui, Ilocos Norte, *Muni. Res. 6-33-06* (2006).

²³¹⁰ Arzadon, *supra* Note 2296.

²³¹¹ The municipalities to the south and north of Bangui are the focii of several plans. The PNOC is planning a 140MW facility for Burgos and Pagudpud; UPC Asia is studying a 100MW facility likewise in Pagudpud; and Energy Logics Philippines, another company is also studying a 40-60MW plant in Pasuquin. "More Wind Energy Projects Planned in Ilocos Norte." *Businessworld* (04 May 2008), online: GMA Network <<http://www.gmanews.tv/story/93262/More-wind-energy-projects-planned-in-Ilocos-Norte>>; Gatdula; Donnabelle L. Gatdula, "ADB to Fund Study on Wind Power Project in Ilocos Norte," *Philippine Star* (13 July 2008), online: PhilStar <<http://www.philstar.com/archives.php?&aid=2008071217&type=2&>>.

²³¹² *Northwind Brochure* at 1-2.

²³¹³ Clean Development Mechanism. *Project Design Document: Northwind Bangui Bay Project (Project 0543)* at 5.

²³¹⁴ *Northwind Brochure* at 5.

because without the Certificate of Emissions Reductions, it would not have been an attractive investment.²³¹⁵

The project has gained much recognition regionally among governments and NGOs. It placed the 1st runner-up in the on-grid category for renewable energy projects at the ASEAN Energy Awards in 2006, a regional competition spearheaded by the ASEAN Energy Efficiency and Conservation Sub-sector Network under the ASEAN Plan of Action for Energy.²³¹⁶ Prominent environmental NGOs have also embraced Northwind as an environmental success story. Greenpeace promotes it as an example to follow in its renewable energy campaign in Southeast Asia.²³¹⁷ WWF-Philippines endorsed the project enthusiastically and made it the cornerstone of its renewable energy awareness-raising campaigns.²³¹⁸

At the local levels, the wind-farm's corporate performance and contribution to the local economy have also been recognized. The Provincial Governor acknowledged Northwind's contribution to the economic development of the province by awarding the company with a "Model Corporate Citizen" award for producing environment-friendly

²³¹⁵ Det Norske Veritas, *supra* Note 2301 at 7-8.

²³¹⁶ Department of Energy, "MSE Building, Wind Power Project get ASEAN Energy Awards, DOE Announced," Press release (20 August 2006) online: Department of Energy Portal <<http://www.doe.gov.ph/press/2006-08-20-mse%20building.html>> Last updated: 20 August 2006.

²³¹⁷ Greenpeace, "Philippine wind power potential highest in Southeast Asia," online: Greenpeace Southeast Asia <<http://www.greenpeace.org/seasia/en/news/philippine-wind-power-potentia>> Last updated: 21 September 2006 (Date accessed: 22 July 2008).; Greenpeace, "Energy [R]evolution: A Sustainable World Energy Outlook," online: Greenpeace Southeast Asia <<http://www.greenpeace.org/seasia/en/news/energy-r-evolution>> Last updated: 25 January 2007 (Date accessed: 22 July 2008).

²³¹⁸ World Wildlife Fund Philippines, "Wendy the windmill save by WWF Philippines," online: World Wildlife Fund <http://www.panda.org/about_wwf/where_we_work/asia_pacific/where/philippines/news/index.cfm?uNewsID=58600> Last updated: 07 February 2006 (Date accessed: 22 July 2008).

and cheaper electricity, while being the single largest corporate investor and the highest real estate property taxpayer in the Province of Ilocos Norte.²³¹⁹

8.2 Profile of Coastal Communities

8.2.1 The Province of Ilocos Norte

Northwind is located in Bangui Bay, which lies within the Province of Ilocos Norte. The province is composed of 2 component cities and 21 municipalities, divided into 557 barangay occupying 3,399 square kilometers of northern Luzon. (Figure 22) In 2007, its population stood at 514,241, with a population density of 151 persons per square kilometer.²³²⁰ The national government previously reported that Ilocos Norte had the lowest and slowest-growing population among the provinces of the Ilocos Region. Half of its people were below 25 years of age, with the gender almost evenly distributed, but there were 6 dependents for every 10 economically active persons.²³²¹

Families residing in Ilocos Norte are very likely to have relatives who work elsewhere in the Philippines or abroad and who remit money for support. High population density in settlement areas and a poor rural resource base have historically encouraged out-

²³¹⁹ Leilanie G. Adriano, "Bangui Wind Farm Pays P3.9M in Real Estate Tax," *The Ilocos Times* (09 October 2006), at 1-3.

²³²⁰ National Statistical Coordination Board, "2007 Census of Population," online: National Statistical Coordination Board
<<http://www.census.gov.ph/data/census2007/index.html>> Last updated: 01 April 2008 (Date accessed: 22 July 2008).

²³²¹ National Statistical Coordination Board, "Ilocos Norte: Least populated province in Ilocos Region," Press release (01 March 2002), online: National Statistical Coordination Board
<<http://www.census.gov.ph/data/pressrelease/2002/pr0219tx.html>> Last updated: 01 March 2002 (Date accessed: 22 July 2008).

migration by the residents.²³²² Most of the migrants tend to be better educated, younger, and more often single, in contrast to those who remain.²³²³

Ilocos Norte's economy is agricultural, producing crops such as rice, corn, garlic, vegetables, tobacco, fruits, and livestock like swine and cattle; there is a relatively small fishery sector as well. Manufacturing activities are limited to small and medium-scale cottage industries such as processed meat, fish paste, vinegar, local sausages, bamboo and rattan handicraft, weaving, leathercraft, furniture, pottery and ceramics, and small iron works.²³²⁴ There are no heavy industries.

²³²² Raul Pertierra, ed., *Remittances and Returnees: The Cultural Economy of Migration in Ilocos* (Quezon City: New Day Publishers, 1992) at 1.

²³²³ *Ibid.* at 29-33.

²³²⁴ Ilocos Norte Tourism Trade & Investment Council, "Ilocos Norte: Dominant Industries," online: Ilocos Norte Tourism, Trade & Investment Council <<http://www.inttic.com/investment/investments.htm>> (Date accessed: 22 July 2008).

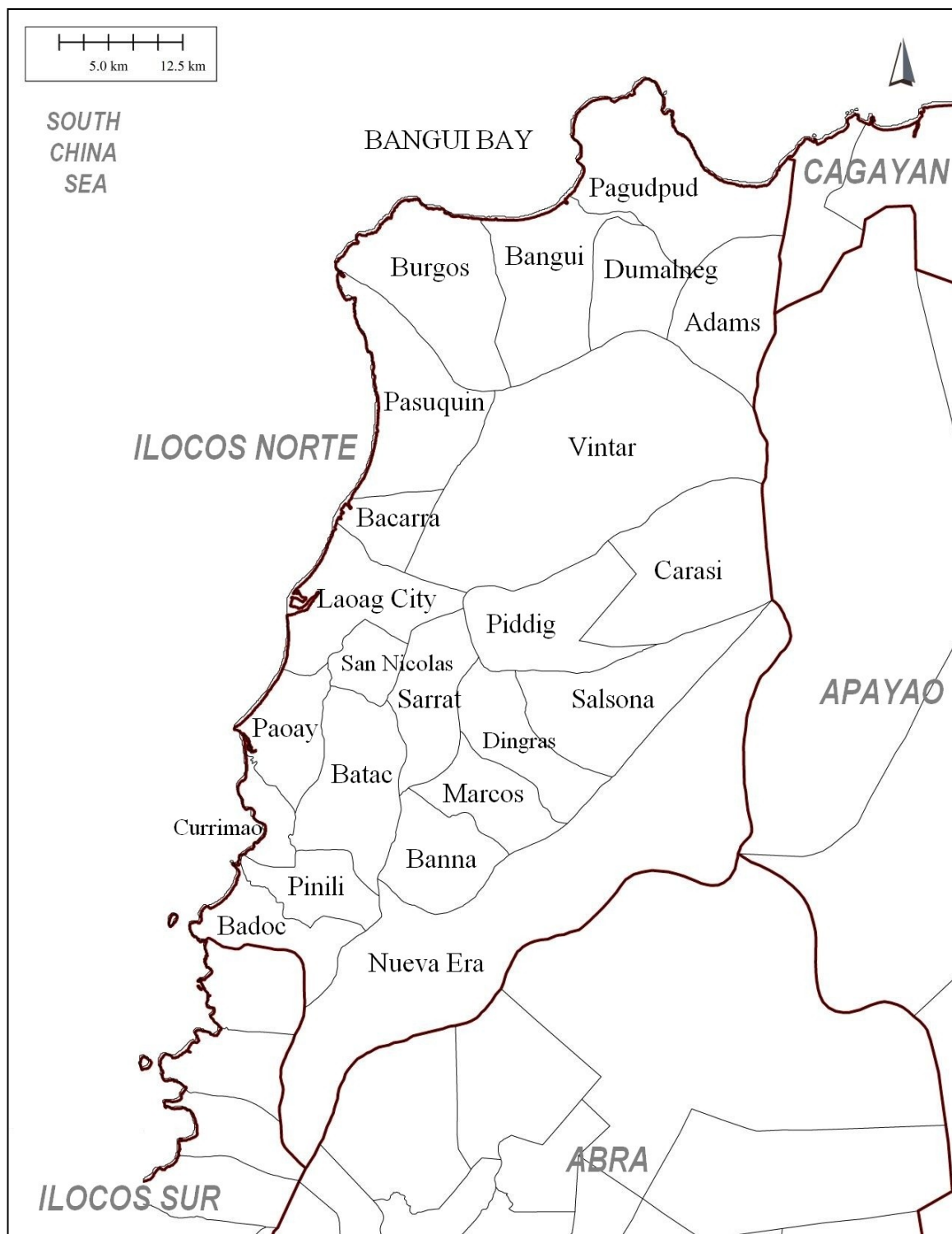


Figure 22. Map of Province of Ilocos Norte. Bangui Bay and the Municipality of Bangui lie on the northwestern-most tip of Luzon.

8.2.2 The Municipality of Bangui

Northwind primarily affects the Municipality of Bangui, located some 435 kilometers north of Manila, on the southwestern tip of Luzon. It is presently classified as a partially urbanized 4th class municipality, with a population of about 14,634 living in 15 component barangay spread over 163 square kilometers.²³²⁵ Housing is composed of concrete and light materials such as wood and galvanized iron sheeting in the small town center, while a greater proportion of traditional materials like wood and nipa are more commonly used in the village areas beyond it. Five of these, the *barangay* of Taguiporo, Baruyen, Manayon, Masikil, and Abaca are considered the windfarm's host LGUs because the foreshore lease area on which it stands traverses their beach fronts, even though the law considers the foreshore as public domain pertaining to the State. The combined population of these 5 barangay amount to 5,045, or 34.4% of the town's.²³²⁶ The first three host the first phase of the project with 15 turbines, while the last two host the latter phases.

Bangui is an agricultural town; there are no industries within its territorial boundaries, and the town's small public market is the only indicator of minimal merchant activity. Prior to Northwind's establishment, Bangui was little more than the last stop before the next town of Pagudpud to the north (when travelling from Manila or Laoag), a growing domestic tourist area well-known for its white sand beaches. When travelling to Bangui from Laoag, entry into the town's territory is signalled by a palpable and pleasant change in wind, temperature, and humidity as one crosses the mountain crest at its border with the slightly more arid Pasuquin municipality. The town center, where much of the population is concentrated, is easily accessible because it straddles the main national highway that traverses the western side of Northern Luzon, but outlying villages are connected to the center mostly through rough, unpaved roads. The majority of the

²³²⁵ National Statistical Coordination Board, *2007 Census of Population*, *supra* Note 2320.

²³²⁶ *Ibid.*

population rely on farming for income, though a small proportion engage in seasonal fishing in Bangui Bay. It is also likely that remittances from family members working elsewhere in the country or abroad incomes supplemented local incomes. There is no peoples' organization or NGO working in Bangui on any prominent development, environmental, or any other social issue.²³²⁷

8.3 Project History

8.3.1 Finding a Suitable Project Partner and Site

Sometime in early 2000, at an industry conference on electrification, Neils Jacobsen, a Danish expatriate and entrepreneur, met Francisco Dumlao, a lawyer and resident of Ilocos Norte, an agricultural coastal province located in the northwestern tip of Luzon. Jacobsen at the time was promoting the development of wind power, and Dumlao, who was also a close ally of the provincial governor, saw that the project could solve Ilocos Norte's perennial power reliability problems. Ilocos Norte is located so far at the northern periphery of the Luzon power grid that it had to make do with less voltage than the national standard,²³²⁸ and endure expensive but unreliable and intermittent electricity.²³²⁹ There were no power plants in the province because the provincial government did not welcome conventional plants that caused pollution,²³³⁰ even though at that time a natural

²³²⁷ Personal interview, Giovanni Manrique, Provincial Liaison Officer, Ilocos Norte, Philippines (06 March 2007).

²³²⁸ The standard voltage is 220V, but Ilocos Norte's electricity averaged only about 180V. Personal interview, Jose Ildebrando Ambrosio, Corporate Secretary and Vice President (Legal), Northwind Power Development Corporation (15 March 2007).

²³²⁹ World Bank, *Project Information Document No. 31488* at 1.

²³³⁰ Personal interview, Pedro S. Agcaoili, Provincial Planning and Development Officer, Ilocos Norte, Philippines (07 March 2007). This is corroborated by Jose Ildebrando Ambrosio, who revealed that some years before, the energy company he worked for previously, the East Asia Power Company, offered to establish a conventional power plant in Ilocos Norte but was refused. Ambrosio 2007.

gas plant was considered a more financially safe and sound investment than a wind-farm.²³³¹

Jacobsen made his first official visit to Bangui Bay in May 2000. After locating a suitable site on its shores, the group conducted a 1-year wind assessment program to verify the site's specific power-generation potential.²³³²

8.3.2 Conduct of First EIA

An Initial Environmental Examination (IEE) Checklist for the construction of the towers and installation of the turbines was submitted to the Community Environment and Natural Resources Office (CENRO) of the DENR on 05 December 2000. The document could fairly be described as a simple questionnaire entailing only a cursory examination of a project's immediate and obvious impacts on its surrounding areas. Northwind's first IEE Checklist for the wind-farm itself was only 22 pages long. It contains only a very general description of the specifications, design and layout of the proposed facility, a superficial description of the surrounding environment (largely simplified tables and checkboxes) in which it was to be built, and very brief enumerations in tabular form of the expected negative impacts and mitigation measures to be used. The presence of vegetation, birds and wildlife, fishery resources, watersheds and forest areas, and forest resources are simply checked off and remarked upon in one page. Information on the socio-cultural and economic environment is likewise minimal, dealing mainly with the housing characteristics, enumeration of the sources of livelihood, brief statistics on the

²³³¹ Financial sensitivity analysis showed that it would have been much more efficient, economical, and profitable to operate conventional power generation facilities rather than a windfarm, whose power generation would be relatively low and intermittent when compared to any conventional fossil fuel powerplant. Det Norske Veritas, *supra* Note 2301 at 8.

²³³² Northwind Power Development Corporation. "Milestones," online: Northwind Power Development Corporation
<http://northwindspower.com/index.php?option=com_content&task=view&id=33&Itemid=52> Last updated: 26 May 2008 (Date accessed: 24 July 2008).

educational levels of the population, and enumeration of existing social infrastructure like schools, roads, and hospitals.²³³³

The IEE Checklist's section on impact assessment and mitigation is similarly superficial, with simplified tables indicating simple questions (e.g. Will there be land clearing? Will there be stockpiling of soil, sand, and gravel materials in the project area? Etc.) and equally brief answers (e.g., "Minimal impact due to temporary excavation works"). Some questions could be considered as *pro forma* and essentially prejudging the outcome of the EIA exercise (e.g. Will the project encroach into precious ecological areas? Will clearing activities affect any rare, threatened, or endangered plant and animal species?). However, the simplified nature of the IEE Checklist must be considered in light of the specific activities to which the requirement applies, which are relatively small-scale or common projects apparently assumed to have minimal adverse environmental effects in areas not considered environmentally critical or sensitive.²³³⁴

In spite of the simplicity of the IEE Checklist, it is evidence of commitment to minimize its impact on the surrounding area. In the construction phase of the project, Northwind declared that it would avoid the operation of heavy equipment at night, minimize dust by sprinkling water, coordinate waste disposal with the LGU, use the existing access road to the shore instead of building a new one, and use barges to transport heavy equipment and machinery by sea. The latter two commitments prevented any further disturbance to the

²³³³ *Northwind IEE Checklist 1* at 1-12.

²³³⁴ These include roads and bridges, community-based forestry and resource utilization projects, private land timber utilization, inland-based fishery projects of less than 300 sq. m., buildings with 4-10 stories, bus and jeep terminals, cellular telephone sites and relay stations, fastfood and restaurants, gas stations, mini-hydro power plants of less than 10MW capacity, municipal public markets with less than 2,000 sq. m. floor space, poultry farms with 5,000-40,000 birds and piggery farms with 50-500 heads of livestock, plastic recycling plants, unmechanized rice and corn mills, slaughterhouses, among others. See *IEE Checklist for Selected Projects*, DENR MC 00-01 (2000); *Additional IEE Checklist for Selected Projects*, DENR MC 02-03 (2002); *IEE Checklist for Economic Zone Enterprises*, DENR MC 04-04 (2004); *IEE Checklist for Wind Energy Projects*, DENR MC 06-03 (2006).

area between the foreshore and inner areas of Bangui than what already existed, which could have been major considering the size and scale of the equipment used and structures assembled. It is also notable that despite the construction activities, the public's access through the foreshore area was assured, thus minimizing any interference with their economic and day-to-day activities, and the company further promised to prioritize local hiring of labor and local purchase of necessary goods and services such as food.²³³⁵

Two negative impacts were directly acknowledged by Northwind. It stated that when the wind-farm becomes operational, night-time noise levels “theoretically may reach up to 45dBA at a distance of 200 meters from the row of turbines due to rotation of blades and mechanical noise of the turbines.”²³³⁶ However, it averred that modern turbines with low sound emissions would be used, and the placement of the turbines close to the sea would allow the background noise of the surf to mask any turbine noise.²³³⁷ Bird strikes were also seen as a possibility, but it was pointed out that the Ilocos region is not a significant migratory path for any wildlife and in any case the blades would be painted white for visibility to birdlife.²³³⁸ Appended to the IEE Checklist was a copy of a Spanish study of wind-farms in Europe located in the migratory paths of birds, which concluded that the wind-farms did not represent a significant threat to the latter.²³³⁹ As of 2006, no bird strikes had been reported in the area, though there is a record of one bat that collided with the blades once in 2005.²³⁴⁰

Aside from biophysical impacts, there was consideration of impacts on other infrastructure or economic activities, such as electromagnetic interference with cellular telephone sites, land values, and weather. Northwind appears confident in the design of

²³³⁵ *Northwind IEE Checklist 1* at 13-14.

²³³⁶ *Northwind IEE Checklist 1* at 15.

²³³⁷ *Ibid.*

²³³⁸ *Ibid.*

²³³⁹ *Ibid.*, and Attachment No. 3 (bird impact study).

²³⁴⁰ Asociacion Espanola de Normalizacion y Certificacion, *supra* Note 2288 at 3.

its towers, which are said to be capable of withstanding magnitude 10 earthquakes and typhoon winds (the blades automatically stop rotation when wind speeds reach 30 meters per second).²³⁴¹

The ECC was issued two weeks later on 18 December 2000. Since Northwind was located on the foreshore, a separate foreshore lease agreement was also negotiated with the CENRO supported by an endorsement of the Municipality. The Environmental Compliance Certificate (ECC) was a condition for issuance of the foreshore lease agreement.²³⁴²

8.3.3 Acquisition of Power Supply Commitment and Funding

The project was endorsed by the Department of Energy on 14 December 2001 to the Royal Danish Ministry of Foreign Affairs for financing, which allowed Northwind to negotiate for funding assistance from DANIDA. The Board of Investments also granted the project pioneer tax incentives in the form of a 0% VAT and 1% import duty.²³⁴³

On 19 July 2002, an Electricity Sales Agreement was signed between Northwind and INEC.²³⁴⁴ Under the agreement, Northwind committed to deliver at least 52,560 megawatt-hours to INEC every year for a period of 20 years.²³⁴⁵ Northwind had to build the transmission line itself, and thus also required to submit a separate Initial Environmental Examination Report for the substation and transmission line to connect the facility to the INEC in Laoag City.²³⁴⁶

²³⁴¹ *Northwind IEE Checklist 1* at 16.

²³⁴² Personal interview, Alberto B. Baguio, Community Environment and Natural Resources Officer, DENR (06 March 2007).

²³⁴³ Det Norske Veritas, *supra* Note 2301 at 8.

²³⁴⁴ Northwind Power Development Corporation, *Milestones*.

²³⁴⁵ Arzadon, *Southeast Asia's First Wind Power Plant Is in Ilocos Norte*; and *Northwind Brochure* at 5.

²³⁴⁶ *Northwind IEE Checklist 2*.

8.3.3.1 Submission of Second IEE Checklist

The second IEE Checklist, for the 30MVA Substation and the 69KV Transmission Line from the wind-farm to Laoag City, was also only 22 pages long.²³⁴⁷ Naturally, it differed with respect to the specifications, design and layout of the facilities described, and in terms of the area it covered. But since it was a transmission line following the right of way along an existing national highway, no negative impact was indicated at the outset.

However, the field research found there was actually a significant impact, minimal though it might be to some. Prior to 2004, one of the most scenic and memorable portions of a long drive through the highway from Manila to Pagudpud was a 3-5 km stretch somewhere in Pasuquin town, lined on both sides by large, tall trees over 40 feet high and planted sometime in the past.²³⁴⁸ This no longer exists, because the trees were cut in order to accommodate the windfarm's power transmission line, which made use of the public right-of-way area that lined the highway. This environmental impact could be directly attributed to the windfarm since the transmission line would not have been built without it; it is located in the next town south of Bangui. However, it is not mentioned in either the IEE Report or the longer EIA submitted to the World Bank. It is not known whether/what kind of consultations were held for these facilities, though they spanned the length of an existing national road.

Northwind executives acknowledged the impact and had offered to plant smaller trees to compensate for the loss of the amenity, but was prevented by regulations that prohibited the planting of trees underneath power transmission lines.²³⁴⁹ This minor issue however is a reminder of the limitations of making consultations project-specific. From the standpoint of integration, each energy project should always be seen as a component of a larger system. Issues and questions that arise and are addressed with respect to one

²³⁴⁷ *Ibid.*

²³⁴⁸ This author once drove through the area from Manila to Pagudpud on holiday in April 2002.

²³⁴⁹ Ambrosio 2007.

project may not necessarily encompass issues and questions with respect to the other components with which the former is necessarily connected.

8.3.3.2 Conduct of Expanded EIA

Under the implementing rules of the Philippine EIS System, the wind-farm was not required to undergo a full-blown EIA, and needed to submit only the Initial Environmental Examination Checklist.²³⁵⁰ But in order to qualify for the Prototype Carbon Fund of the World Bank, a complete EIA was needed under the World Bank's "Safeguard Policies."²³⁵¹ These Safeguard Policies were instituted in response to strong criticisms against WB-funded projects "to prevent and mitigate undue harm to people and their environment in the development process."²³⁵² Among the ten environmental and social safeguard policies is an Environmental Assessment policy used to examine the potential risks and benefits associated with projects funded by the Bank.²³⁵³

²³⁵⁰ *EIS Law; Revised EIS Rules; and Revised EIS System Procedural Manual* in relation to *Agreement on EIS for Energy Projects* at para. 2.2.1(a).

²³⁵¹ World Bank, "The World Bank Operational Manual, Operational Policies OP 4.01: Environmental Assessment," online: World Bank <<http://go.worldbank.org/9LF3YQWTP0>> Last updated: 01 March 2007 (Date accessed: 20 April).

²³⁵² World Bank, "Safeguard Policies," online: World Bank <<http://go.worldbank.org/WTa1ODE7T0>> Last updated: 01 January 2008 (Date accessed: 24 July 2008). One of these controversial projects was the Chico River Dam Project financed by the World Bank in the late 1970s and early 1980s. The World Bank abandoned the project after the spirited campaign of the Kalinga and Bontoc indigenous peoples of the Cordillera and Philippine environmental groups shed light on the Bank's support of "development aggression" in cohort with the Marcos dictatorship. This, among other similar projects, influenced the Bank to re-evaluate its projects and procedures. Magno, *supra* Note 1201 at 9-10.

²³⁵³ World Bank, "Environmental Assessment," online: *World Bank* <<http://go.worldbank.org/9LF3YQWTP0>> Last updated: 01 January 2008 (Date accessed: 24 July 2008). (Operational Policy/Bank Procedures 4.01).

Projects availing of the Prototype Carbon Fund and the Global Environment Facility are specifically included under the coverage of this policy.²³⁵⁴ The borrower is required to submit a satisfactory environmental assessment to the Bank for the latter to approve the former's loan; the Bank's decision on the environmental clearance and environmental conditions form part of the loan agreement.²³⁵⁵ While the borrower is responsible for preparing the Terms of Reference that frame the EA and other analysis, as well as obtaining the expertise to carry it out, the Bank may also participate in the preparation of the terms of reference.²³⁵⁶

In April 2004, Northwind engaged the services of Gaia South, a consulting company, to conduct a more in-depth EIA in the form of a Marine Ecosystem Baseline Study completed on 20 May 2004.²³⁵⁷ It was more systematic and methodical than the IEE Checklists, involving a survey of the entire nine-kilometer stretch of the project site and reference sites two kilometers away in neighboring Burgos for comparison; a Manta Tow of the adjacent waters and Line Intersect Transect of nearby reef areas in Bangui Bay; a survey of the fish market; and actual field observations.²³⁵⁸ The study provided additional information in support of Northwind's application for the Prototype Carbon Fund prepared on 10 January 2005. It revealed additional information on the marine environment adjacent to the project site that were not included in either of the two IEE Checklists submitted to the DENR.

The Study indicated the potential presence of green sea turtles in the area. A single sub-adult turtle was sighted during the Manta Tow along *Barangay* Baruyen, and it was found that the species is said to be common in the area and reportedly nested there. However,

²³⁵⁴ *Ibid.*

²³⁵⁵ World Bank, *Environmental Assessment Sourcebook 1999*. Environmental Assessment Sourcebook Update (Washington DC: The World Bank, 1999) at 10.

²³⁵⁶ *Ibid.*, at 18.

²³⁵⁷ Gaia South and Northwind Power Development Corporation, *Marine Ecosystem Baseline Study for the Northwind Project*, 2 vols., vol. 1(unpublished), 2004).

²³⁵⁸ *Ibid.* at i.

this needed verification and validation,²³⁵⁹ as apparently there were no other sightings for the duration of the study. Since the entire length of the project site is practically a sandy beach, it is possible that it provides a good nesting ground for sea turtles. However, residents did not report either the presence, use, or consumption of green sea turtles as part of the local fisheries.

The Study confirmed that there were no coral reefs in the marine area adjacent to the project site, and the dominant substratum was merely sand. For the most part, the sea adjacent to the site was practically devoid of marine life. It was only at the southwestern end at the municipal boundary area between Bangui and Burgos where about 10%-25% live coral cover was found, but this was outside of the project's foreshore lease area.²³⁶⁰ It was likewise found that fish species congregated in the waters off Burgos rather than Bangui.²³⁶¹

But while the Study was directed toward the sea, it did not look into the obvious inland fishery area, a lagoon behind the project site and a portion of the Baruyen River. The foreshore of Bangui where the project is located is a natural barrier between the sea and the Banban and Baruyen Rivers. At certain times of the year, between November and April,²³⁶² the barrier is breached by the natural action of the freshwater and seawater, forming a seasonal estuary. The significance of this estuary is not revealed by either the IEE Checklists submitted to the DENR or the Marine Baseline Study submitted to the World Bank, as the feature is completely ignored in both cases. But its importance to the

²³⁵⁹ *Ibid.* at 7.

²³⁶⁰ *Ibid.* at 4.

²³⁶¹ *Ibid.* at 5.

²³⁶² Personal interview, Three barangay officials, Barangay Taguiporo, Bangui, Ilocos Norte (06 March 2007).

local community became apparent only after Northwind began operating, an effect uncovered in the author's interviews with the local residents.²³⁶³

8.3.3.3 Grant of Foreign Financing

The Electricity Sales Agreement, together with the results of an independent project appraisal conducted by a Danish firm hired by DANIDA, subsequently resulted in the approval of zero-interest financing under the Danish Mixed Credit Program in April 2003. After the Philippine Export Import Bank issued a loan guarantee for the project in February 2004, the loan documents in the amount of 29.35 Million USD was finally signed on 17 March 2004.²³⁶⁴

8.3.4 Construction and Initial Operation

Construction on the wind-farm began on 17 May 2004, beginning with the excavation of the tower foundations. Weather and sea conditions delayed the landing of the blades, nacelles, hubs, and towers which were shipped from abroad,²³⁶⁵ and the equipment had to be stored in Manila from October 2004 to February 2005. The first 15 towers, nacelles and rotors were finally completed in March 2005, as well as the substation and transmission line facilities. Power generation commenced on 08 May 2005,²³⁶⁶ or just under a year after construction began.

²³⁶³ The interview was the first time that the provincial liaison officer in charge of relations between the LGU and the company heard of the issue. Manrique 2007.

²³⁶⁴ Northwind Power Development Corporation, *Milestones*.

²³⁶⁵ The components were too large to be brought in by land, and were shipped directly to the site on a barge. However, Bangui had no port large enough for the barge to dock, and this required the barge to be anchored offshore and the components landed directly onsite. With high wind and current velocities, sea conditions on the coast of Bangui are normally rough, and there is only a small window of opportunity during which it could be calm enough for safe anchoring. Ambrosio 2007.

²³⁶⁶ Northwind Power Development Corporation, *Milestones*.

8.4 Ecological Social Justice Analysis

8.4.1 Participation

Both the DENR and the World Bank required public consultations with the potentially affected local communities as a fundamental element in their respective EIA requirements. In addition, the Philippine Local Government Code requires consultations with the affected local government unit for any project that could affect a community's natural environment.²³⁶⁷ Northwind therefore had to ensure compliance with three converging consultation requirements.

8.4.1.1 *Simple and Direct Communication*

No detailed records of the consultations conducted by Northwind were found, as the law has no specific requirements for detailed records such as transcripts or written communications concerning the consultations. Only the final endorsements appended to the two EIAs and applications for lease or funding serve as evidence that consultations were conducted. However, from all accounts in the field interviews, Northwind's approach to public consultations could be best described as very simple, down-to-earth, and personal. Neils Jacobsen and Fernando Dumlao, as Corporate President and Chairman of the Board respectively of the company, personally went to each of the communities, introduced themselves, established personal rapport and open communication channels with the key leaders and citizens. They explained every aspect of the project, and forthrightly responded to their concerns as they were raised. They did this as early as during the wind assessment phase,²³⁶⁸ throughout the hearings and consultations required for the issuance of the government clearances, and every time they visited the area.²³⁶⁹ They were always accompanied by a representative of the province's Special Projects Office. "We were always informing the people of what was going on in

²³⁶⁷ *Local Government Code*, s. 26-27.

²³⁶⁸ Manrique 2007.

²³⁶⁹ Personal interview, Neils Jacobsen, Chairman of the Board, Northwind Power Development Corporation (15 March 2007).

every place we went to,” according to the provincial liaison officer, Giovanni Manrique.²³⁷⁰

As a lawyer and resident of the town of Pasuquin (the town to the south of Bangui), Dumlao is known and well-respected in the communities.²³⁷¹ He spoke the same language as local residents and the establishment of direct personal linkages clearly contributed to the clear communication of the project’s intentions and impacts.²³⁷² Today, he acts as the main intermediary between the community leaders and the company.²³⁷³ This is a significant function considering that he is also the Chairman of the Board of Directors of the company.

Although a Danish expatriate, Jacobsen’s regular presence was also obviously important for the community leaders because they were able to relate directly with a real and accountable person, not some abstract corporate entity whose responsibilities would have to be somehow imagined and worked out legally. Jacobsen himself felt that because of their local presence, the people could see for themselves that they were being very open and honest about the project whenever they answered the people’s questions to the best of their ability.²³⁷⁴

The locals likewise give importance to direct communication between them and the company through its highest officers. “(It) is a big help, because it is as if they are with us here in the place,” she said, “there are no inhibitions if there are any problems.”²³⁷⁵

²³⁷⁰ Manrique 2007.

²³⁷¹ Agcaoili 2007.

²³⁷² Manrique 2007.

²³⁷³ Jacobsen 2007.

²³⁷⁴ Jacobsen 2007.

²³⁷⁵ Personal interview, Fely Castro Velasco, Barangay Chief, Baruyen, Bangui, Ilocos Norte (06 March 2007).

The communications are coursed directly through either Jacobsen or Dumlao, when they are in the area, or Manrique as the assigned provincial liaison. Both Manrique and another provincial official credit Dumlao's presence and ability to communicate in the local language as being a key factor in the project's acceptance.²³⁷⁶ Manrique explained:

It was a big influence because he is also Ilocano, so he knew the people he was talking with. He also knew how to persuade the people, and he was able to explain it as an Ilocano. He is always present, and he himself talks with the people in the community. So they can talk with him directly. For the people, it doesn't matter that he's the boss of the company, they are happy that they can approach the head, and can explain and talk about their problems.²³⁷⁷

Jacobsen also recognized the importance and benefit of Dumlao's local connection and the respect he has earned at all levels, from the barangay to the provincial level.²³⁷⁸

Leaders from *barangay* similarly appreciated the fact that they could speak with the company directly, through both official and informal channels, through Dumlao or Jacobsen.²³⁷⁹

From the local perspective, the importance of direct and continuing communication through a locally present representative cannot be overemphasized. It appears that the level of communication indicates the level to which the company has been integrated into the community's membership. It is a measure of the company's transparency and the importance that it gives to other stakeholders, its responsibility for the facility, and its responsiveness to local concerns.

²³⁷⁶ Manrique 2007; Agcaoili 2007.

²³⁷⁷ Manrique 2007.

²³⁷⁸ Jacobsen 2007.

²³⁷⁹ Velasco 2007; Personal interview, Rogelio A. Pedronan, Barangay Chief, Manayon, Bangui, Ilocos Norte (06 March 2007).

8.4.1.2 *Open and Flexible Dialogue*

Jacobsen admits that the consultation process was something they had to make up as they went along, and he was not really sure whether there was any specific pattern that they had to follow. What was important to them was that they were open and honest in their dealings with the locals, and that they tried to always give appropriate answers to the best of their ability in response to any questions that were put to them. Manrique noted that this was always the policy from the very beginning, and even before the wind assessment phase got underway they were already consulting with the community leaders and informing them of what they were doing. They called for meetings with the barangay chairpersons, who then called for meetings of the other barangay officials, who in turn met with their constituencies to explain what was happening. They met with the Mayor and the municipal council, and also had formal sessions with the latter. Even when the company was not yet sure of exactly where the wind-farm or its towers would be located, they were already talking with the community leaders. And whenever they were in the area for whatever reason, they also forthrightly informed any onlookers or residents they encountered.²³⁸⁰

Candor was important especially since when they started out, there was really no understanding of the project. Jacobsen narrated,

One question was, because we had models of the wind turbines, and the question was ‘these giant fans, would they not blow our fishing boats out to the sea?’ So we had to explain that it essentially it was the other way around... There was a lot of that; what can you expect, they had absolutely no idea what it is.²³⁸¹

But the patience paid off, as Jacobsen continued his story. They talked so many times with the locals, it came to the point that during the consultation meeting held by the World Bank’s field assessors in relation to Northwind’s CDM application, one *barangay* councilman said to the panel that there was already too much talk about the project, but

²³⁸⁰ Jacobsen 2007; Manrique 2007.

²³⁸¹ Jacobsen 2007.

when they would actually see it? “He was so sick and tired about all this talking about the windfarm, now he really wanted to see them,” Jacobsen laughed.²³⁸²

8.4.1.3 *Personal Presence*

Another important factor to Jacobsen was that both he and Dumlao were at the site personally, explaining the project directly to the people and not hiring a consultant to mediate with them. “Meeting them at the same level, it has helped a lot,” he said, “I think if I were the one to receive it, it would have a bigger impact on me...when it is actually the company’s executives themselves.”²³⁸³

Despite the amount of time it took, the company believes that the process was appropriate, good, and efficient. Direct contact and interaction between company executives and communities is something that Northwind apparently values in its corporate culture. Jacobsen and Ambrosio suggest that perhaps they should sit down with the locals, and eat with them, and basically give them the respect that is due to them, as the company is essentially a guest seeking to become part of the local community. Ambrosio also thinks that it is like someone coming into someone else’s house, it is the latter’s territory and it is important to ask permission personally.²³⁸⁴

Manrique believes that the consultations really helped the process, in that it also made the people very supportive of the project and very cooperative. “Actually they were even more excited than us,” he said, “when we were doing the survey, they were always asking when it would start.”²³⁸⁵

²³⁸² *Ibid.*

²³⁸³ *Ibid.*

²³⁸⁴ *Ibid.*; also Ambrosio 2007.

²³⁸⁵ Manrique 2007.

8.4.1.4 Continuity of Consultations

But while the consultations began very early, it was not as continuous once construction was completed. Admittedly, there were no consultations for the renovation work on the spillway which caused some complaints. This led some *barangay* leaders to suggest that since they cannot really be sure about the basis for their complaints, perhaps a knowledgeable third party should make an on-the-spot visit to look into things and address their concerns. One *barangay* leader said,

[T]hey should hold consultations again to see what the good and bad effects are. That's what they should do, so that they can address the complaints about the project. We've already given them our complaints, so they should come to us, and ask what is it that we do not like or what is our problem with the project now. They should return to the community and ask what the effects are after.²³⁸⁶

In spite of the absence of continuing formal consultations, though, direct communication between the *barangay* and Northwind through its top executives was possible and unhindered. Some *barangay* leaders explained that there were no barriers to communicating directly with either Jacobsen or Dumlao, and that they could usually speak with them personally.²³⁸⁷

8.4.2 Recognition

8.4.2.1. The Host /Beneficiary Community

The leaders of Taguiporo, Baruyen, and Manayon identified their own *barangay*, the smallest LGU, as the relevant host community more often than the municipality with respect to significant interactive processes such as consultations; raising of concerns or complaints; partnerships in important local activities (e.g. when the President of the country visited the Project); and direct beneficiaries of livelihood projects, tax revenue shares, and local infrastructure. This view was shared by the local representatives of the

²³⁸⁶ Three *barangay* officials 2007.

²³⁸⁷ Velasco 2007.

provincial and national governments. For example, the DENR-CENRO required the endorsement of all the LGUs (*barangay* and municipality) prior to recommending issuance of the ECC, and undertook monitoring activities jointly with the *barangay* chairperson, in addition to soliciting their opinions.²³⁸⁸

That the political unit coincides with the conception of community may indeed be expected as a natural response of *barangay* officials, in the absence of any competing or alternative organization, although the *barangay* are defined primarily by population rather than geographical boundaries. Local community members at this level recognize themselves to have distinctive roles and interests separate from that of the municipality, even though technically the latter is the politically and administratively superior unit. For example, the chief of *barangay* Manayon narrated that his *barangay* communicates with the company only about their own ‘direct’ concerns, recognizing that these may be separate from those of others or the municipality.²³⁸⁹ He also mentioned that discussions about what to do with the proceeds of the 0.01 PHP/kWh revenue share were held between the company, the municipality, and the *barangay* as distinct parties.²³⁹⁰ All were aware that they were distinct beneficiaries of specific portions of the real property taxes imposed by the municipality on the company’s operation, since the division of the the taxes between the municipality and the *barangay* hosting the business is prescribed by law. They were also apparently quite conscious of the direct connection between the municipality’s fortunes and theirs through these tax revenues.

The community’s direct access throughout its own area was clearly a primary concern with respect to the entry of the project. The CENRO noted that among the immediate questions raised by the *barangay* was whether the project would stop their traditional livelihoods of fishing and gleaning along the beach and collecting pebbles from the shore. Residents use nets to catch fish along the beach, and there is an area of the Bangui shore

²³⁸⁸ Baguio 2007.

²³⁸⁹ Pedronan 2007.

²³⁹⁰ *Ibid.*

from which local residents extract reputedly beautiful pebbles that are sold as construction materials. Once they were assured that the project would not hinder these traditional livelihood activities, they were satisfied, and further they also hoped that the project would result in improving their own access through the area. Livelihood played a very prominent part in identifying the community as being an recipient of benefits from the project. Even though the expected livelihood fund from the revenue share had not yet been released at the time of the interviews, and no one at the local level knew how much the fund would be worth, the fact that they were assured the project would not interfere with their access to their livelihood sources was a very positive factor.

Conversely, any changes or effects that impinge on the livelihood of community members are a matter of great sensitivity, even though they may not be articulated immediately as an issue of community concern. This is relevant to the Community Environment and Natural Resources Officer(CENRO)'s emphasis on having the monitoring of compliance with the ECC take place at the local community level. He expressed a concern about recent changes in the ECC monitoring system which have placed the task of monitoring in the regional office of the DENR (located in San Fernando City in the province of La Union, more than 200 km away), whereas it was previously assigned to the CENRO. The CENRO used to undertake the monitoring activities jointly with the *barangay* officials concerned.²³⁹¹

8.4.2.2 Interdependence

There is little doubt that Northwind sees itself as a contributor to the development of Bangui. Jacobsen believes that the revenue-sharing scheme works well and is "how it should be," and the spin-off activities from tourism are an additional benefit in which they intend to play a pro-active role. At the time of the field interviews, the company was in talks with the Mayor to establish a Visitor's Center, which is not an obligation or condition under any instrument, but which Jacobsen feels would be a good contribution

²³⁹¹ Baguio 2007.

to the local people. He said that the Visitor's Center could house an educational exhibit on the wind-farm, and have space for shops, and they have purchased the land to build this on and are willing to provide it with free electricity and toilet facilities. Similarly, he had assured the residents of free access throughout Northwind's foreshore lease area, and would allow small shops to be set up within it for selling souvenirs to tourists. He is quite clear, however, that any commercial activity will be by local residents, and will not be conducted by Northwind. "We are prepared to pay for it, but it will have to be the locals' business. Our business is wind-power generation; this form of business should be for local people," he said.²³⁹²

Beyond this, however, Northwind is prepared to contribute a little more. Jacobsen explained that when they have sufficient earnings, they would also like to construct a multi-purpose court next to the substation in Baruyen, where the people or a small nearby school can play basketball and hold events. Jacobsen believes that this is something that would have a positive impact on the locals themselves, and attributes this intention and commitment to feeling that the company is part of the community:

I feel the company is part of the community now, I feel it very strongly, when I talk to the Mayor, when I talk to the barangay captain, when I see the people there, I do feel that they appreciate us, when you talk to all the fishermen when they are catching fish, and talk to them and see what they caught.²³⁹³

While they really don't know what kind of role their company will have in the community in the future, "it is always a personal pleasure to go to the community every time."²³⁹⁴ The sense of integration into the local community is something that Jacobsen values highly. Aside from preventing any negative feelings from arising within the community, it has the effect of creating a community stake in the project:

²³⁹² Jacobsen 2007.

²³⁹³ *Ibid.*

²³⁹⁴ *Ibid.*

I actually very strongly feel that if they feel that they are involved, that they are part of it, then they actually protect it. Since our wind measurement assessments, which is 3 years, nothing has been stolen or damaged or whatever. I feel that they actually looked after it. During the construction phase, I have not been there all the time, but it is my impression that nothing has been stolen.²³⁹⁵

Local involvement may also be a little more visible on account of Northwind's decision, upon suggestion of the locals, to select and train three local residents to become engineers who will eventually take over the technical/engineering positions and maintenance functions of the project facilities.²³⁹⁶ This is a source of community pride, and seems to have built a sense of ownership that goes far beyond the gesture. Northwind does not have any problem with the security of either their facilities or people; they have not even needed to construct fences. "The people are actually protective of the project," notes Ambrosio.²³⁹⁷

The Mayor revealed that an attempt by bandits posing as communist insurgents to extort money from them during the construction phase was prevented by the local government even before the company was notified.²³⁹⁸ Jacobsen notes that the people in the place all knew each other and really wanted to protect the area, and even set up a police detachment on a hill overlooking the wind-farm while the barangay law enforcers also keep watch; the company had never asked for any of these.²³⁹⁹

Despite being part of the community, however, Northwind is also careful to avoid becoming embroiled in the politics that naturally pervades local life. Stable energy was a key issue for Ilocos Norte, and of all the things that the province needed for development,

²³⁹⁵ *Ibid.*

²³⁹⁶ *Ibid.*

²³⁹⁷ Ambrosio 2007.

²³⁹⁸ Personal interview, Wilfred A. Gaces, Mayor, Bangui, Ilocos Norte, Philippines (06 March 2007).

²³⁹⁹ Jacobsen 2007.

everything was present except for reliable power.²⁴⁰⁰ This made any form of power generation a potential political magnet. Fortunately, although the governor endorsed and fully supported the project, wind power *per se* was envisioned for the province decades before, and the common local aversion to conventional power plants contributed to the general acceptability of the project.²⁴⁰¹

This is not to say that politics was entirely avoided. One interviewee noted that in the meetings with the municipal council, there were those who voiced opposition and kept bringing up negatives, and there was one allegation that during the construction phase, those employed by the project tended to be associated with current political administration. However, these appeared to be relatively minor, as overall there did not appear to be any substantial negative views regarding the project or of it being associated with any political agenda. While Dumlao was known to be a close ally of the incumbent governor, his political relationship never factored negatively into any of the interviewees' views. Neither did the governor's name or office ever come up in the interviews with local community leaders.

Jacobsen emphasized that the company is bound to insulate itself from political involvement; this is one of the conditions of the Danish funding agreement. This was the reason why they did not have any high-ranking politicians prominently associated with the project; indeed, in all news media reports, even the governor has been relatively very low-key in regard to the project despite its being an obvious achievement for the province and potential turning-point for its economic future. Jacobsen notes that no one asked for a single centavo, despite the project's initial implementation stages coinciding within months of local elections. While he is aware of the potential for political pressure, he believes that giving in to "requests" even once will prompt a chain of others to follow. Northwind will therefore only follow strictly whatever legal requirements are imposed upon it, and will neither seek nor grant political favors. The most that Northwind has

²⁴⁰⁰ Agcaoili 2007.

²⁴⁰¹ *Ibid.*

asked of the LGUs are the endorsements, the pavement of the provincial road in Bangui in order to support the large 120-ton crane occasionally needed for maintenance of the turbines, and supporting letters in order to follow up with the Danish government regarding the additional turbines needed for expansion.²⁴⁰²

The company's strict adherence is reflected in its compliance with the EIA and foreshore lease requirements, particularly that of endorsement by the local government units. This figures quite highly on the CENRO's favorable view of the company's performance and benefit to the community. The CENRO noted that Northwind was successful partly because it was very good in efficiently and effectively complying with whatever the law and regulations required of them.²⁴⁰³

8.4.3 Distribution

8.4.3.1 Local Benefits

8.4.3.1.1 Contributions to LGU

While the company was expected to somehow immediately contribute to the community's material development, the actual manner and form of this contribution did not become concrete until much later. Prior to the project's implementation, the *sangguniang bayan* issued resolutions asking Northwind to introduce minor improvements into the project area such as public toilets²⁴⁰⁴, a permanent open spillway,²⁴⁰⁵ and maintenance of the access road.²⁴⁰⁶ Later on, after the towers were actually constructed, other resolutions in relation to Northwind were issued seeking

²⁴⁰² Jacobsen 2007. Apparently, there was a delay in the delivery of the additional turbines as Vestas was unable to keep up with the global demand.

²⁴⁰³ Baguio 2007.

²⁴⁰⁴ Municipality of Bangui, Ilocos Norte, *Muni. Res. 6-38-04* (2004) .

²⁴⁰⁵ Municipality of Bangui, Ilocos Norte, *Muni. Res. 6-39-04* (2004) . It is interesting to note that this resolution was later contradicted by a subsequent resolution asking Northwind to close the spillway. Municipality of Bangui, Ilocos Norte, *Muni. Res. 6-85-05* (2005) .

²⁴⁰⁶ Municipality of Bangui, Ilocos Norte, *Muni. Res. 6-48-05* (2005) .

relevant information and guidance on how to properly tax the new facility or determine the expected royalties.²⁴⁰⁷

The expectations are similarly reflected in the local endorsements issued for the project. Although they have a definite *pro forma* character, and it is quite possible they were prepared by the company for the councils, the municipal and *barangay* endorsements accurately reflect sentiments expressed during the interviews done years after their issuance. In their endorsements, the LGUs consistently point to the generation of clean and environment-friendly electricity, stabilization of local power, economic opportunities in the form of employment and tourism, financial benefits, and overall contribution to local development and modernization as reasons for supporting the project's implementation.²⁴⁰⁸

Since the project's implementation, the *barangay* and the municipality respectively have received direct and concrete benefits from the operation of Northwind. At the outset, power development projects are required to prioritize the employment of local residents. Northwind directly employed about 200 people during the construction phase between 2004 to 2005; it was estimated that 80% of all workers hired were locals.²⁴⁰⁹ While this was ongoing, individual members of the local community were also able to sell food, and

²⁴⁰⁷ Municipality of Bangui, Ilocos Norte, *Muni. Res. 6-49-04* (2004) ; Municipality of Bangui, Ilocos Norte, *Muni. Res. 6-50-05* (2005) ; Municipality of Bangui, Ilocos Norte, *Muni. Res. 6-54-05* (2005); Municipality of Bangui, Ilocos Norte, *Muni. Res. 6-41-06* (2006) . It is not clear, however, whether the official resolutions were actually transmitted to Northwind, as Jacobsen stated that he was not aware of any such resolutions. Jacobsen 2007.

²⁴⁰⁸ Wilfred A. Gaces, "Letter-Recommendation, Office of the Mayor," (06 February 2002); Barangay of Baruyen, Municipality of Bangui, Ilocos Norte, *Bgy. Res. 02-2000* (2000); Barangay of Tagiporo, Municipality of Bangui, Ilocos Norte, *Bgy. Res. 09-2000* (2000) .

²⁴⁰⁹ Asociacion Espanola de Normalizacion y Certicacion, *supra* Note 2288 at 3.

some supplies and materials to the project. At present, 19 people (13 of whom are locals) are engaged for regular operations and maintenance tasks.²⁴¹⁰

Bangui benefited directly through the collection of business taxes upon the operation of the turbines on its shore. After the first year of operation, Northwind paid its first annual real estate taxes of 3.9 Million PHP well ahead of the tax payment deadline as part of its corporate social responsibility policy.²⁴¹¹ This alone represents more than a seven-fold increase in Bangui's real property tax revenue. Combined with the annual business tax of 500,000 PHP, it is the single largest taxpayer in Bangui.²⁴¹² Per municipal budgeting rules, the real estate tax revenues are divided between the municipality and the host *barangay* where the taxable property (Northwind's facilities) are actually located. This results in additional annual revenue allotments to the municipality's budget for the *barangay* concerned, amounting to additional 120,000 PHP in 2007.²⁴¹³ The increase in local revenues promoted its classification from a 5th class to a 4th class municipality under the Local Government Code; the Municipal Mayor was particularly proud of this.²⁴¹⁴ Classification is important because the national government uses a municipality's fiscal performance to determine budgetary allocations, entitlement to foreign and local loans and grants, and allotment of shares in national revenues.²⁴¹⁵ An improvement in class implies larger revenue shares from the national government.

²⁴¹⁰ Ambrosio; Armando de Castro. "Sustainable Energy and Sustainable Tourism." (Presented at the *Ministerial Consultations of the Ninth Special Session of the Governing Council, Global Ministerial Environment Forum*, Dubai, 07-09 February 2006) at 3.

²⁴¹¹ Adriano, "Bangui Wind Farm Pays P3.9M in Real Estate Tax," *The Ilocos Times* (09 October 2006), at 1-2.

²⁴¹² *Ibid.*

²⁴¹³ Three *barangay* officials.

²⁴¹⁴ Gaces 2007.

²⁴¹⁵ Municipalities are divided into 6 classes depending on their income, with the 6th being considered the poorest. See *Local Government Code*, at Sec. 284-288; and Bureau of Local Government Finance, *LGU Fiscal and Financial Profile, CY 2004*

Bangui also received about 2 Million PHP in royalties from electricity generation after the first year of operation.²⁴¹⁶ This amount was derived from the royalty of 0.01 PHP for every kilowatt-hour generated, granted to any local government unit hosting a power generating facility within its territorial jurisdiction. It was prescribed by Department of Energy Regulations No. 1-94, as amended, which was issued to implement the Electrical Power Industry Reform Act of 1992.²⁴¹⁷ As required by law, the revenue should be used for electrification (25%), development and livelihood (25%), and reforestation, watershed management, health, and/or environmental enhancement (50%).²⁴¹⁸ For this purpose, 3 separate accounts were opened and turned over to the Department of Energy on 02 August 2006.²⁴¹⁹ The regulations also require that the royalty be distributed among the three different levels of local government according to a principle of radiating benefits, such that beginning with the host *barangay*, the revenues are distributed in various proportions outward: the three *barangay* where the facility is actually located receive 25%, the municipality retains 40%, and the province receives 35%.

In all, the above revenues are indeed a boon to the Municipality, especially when one considers that Bangui's net income amounted to only 4.913 Million PHP in the year prior to the establishment of the wind-farm.²⁴²⁰ The *barangay* are particularly pleased with their respective shares in these revenues channeled through the municipal coffers. One *barangay* chairperson noted that for 25 years, they received only 25,000 PHP from the real property taxes, but this has since ballooned to 354,000 PHP; another received a little less than 200,000 PHP. The *barangay* "really felt" ("*naramdaman namin yan*") this

Statement of Income and Expenditures, 3 vols., vol. 1 (Manila: Department of Finance, Philippines, 2005), at 42-43.

²⁴¹⁶ Adriano, *supra* Note 2411.

²⁴¹⁷ As of April 2010, 1 US Dollar is equivalent to 45 PHP.

²⁴¹⁸ *Local Government Code*, s. 294; Electric Power Industry Reform Act, s. 66.

²⁴¹⁹ Asociacion Espanola de Normalizacion y Certificacion, *supra* Note 2288 at 3.

²⁴²⁰ Commission on Audit, *Annual Financial Reports Volume III-B: Local Governments*. Annual Financial Reports (Quezon City: Commission on Audit, Philippines, 2005) at 258.

increase, and believe that they could not have begun building long-sought local infrastructure (e.g. a farm-to-market road) without this infusion of revenue. *Barangay* officials also plan to use the additional funds to improve their public health services.

These revenue streams directly channeled through the LGUs highlight the redistributive potential of a combination of legal mechanisms and a corporate ethos of contributing to the needs of coastal communities that have few alternative sources of satisfaction. They provide a clear alternative to the ‘trickle-down’ theory behind most large projects and promptly support local plans and initiatives for community development.

8.4.3.1.2 'Spin-off' Benefits

Tourism is another beneficial effect of the Project, which includes both actual economic activities and potential opportunities for the people. As the first operational wind-farm in the country, Northwind has drawn a substantial amount of local tourism. Bangui itself is a pleasant and quiet town, next to the already developed tourist destination of Pagudpud located on the northern end of Bangui Bay. Jacobsen revealed that if the purpose was merely to harness the potential wind energy, the turbines could have been clustered into a compact area; however, they deliberately decided to spread the turbines in a line along the coast, occupying a visually larger and longer area in order to make it more aesthetically pleasing when viewed against the landscape. This was deliberately intended to create tourism potential for the municipality.

Tourists now often arrive either by land, making a stop at Bangui to see the wind-turbines, or by boat from the nearby Pagudpud beach resorts. Educational tours for engineering students coming from the Don Mariano Marcos State University in Batac, another town in Ilocos Norte, have also become common. Northwind sees tourism development as a possible complementary livelihood source for the local residents, and plans to build a viewing deck, information center, and multi-purpose hall for this purpose, as well as a venue for training in tourism-related enterprises. Northwind has committed to set aside funds for social development projects along this line for Bangui. In 2006, after

the first year of operations, Northwind considered developing programs in connection with the tourism potential of the area.

However, while the residents recognize that more visitors have been coming to their place, they also realize that they are not yet fully prepared to receive them. A few local people have already been able to start small enterprises like selling food to visitors, but on the whole *barangay* officials believe that they have yet to maximize the benefit from the tourist arrivals.²⁴²¹ Some envision the need for a place for visitors to stay, while others would like to learn to make furniture or souvenirs from local materials, while others would like to rent things like chairs or beach paraphernalia.²⁴²² The need for preparation or capacity-building in relation to the expected economic opportunities is thus generated by the perceived future benefits.

The company also believes that the community receives other ‘spin-off’ benefits. The area has seen an increase in real property values from the improved access to the shore and apparently from the presence of the wind farm itself. A number of lots around the wind farm changed hands and expatriates have constructed prominent new houses. Jacobsen narrated that the Municipal Assessor’s estimate of the value of lands along the road leading to the site used to be about 50 Pesos per square meter, but has since shot up to 500 to 600 Pesos per square meter. One *barangay* leader corroborated this, saying that land values in their area used to be about 2 PHP/m², but reached 300 PHP/m² in just 2-3 years.²⁴²³

Northwind also sponsored the education and training of engineers from within the province to eventually take over the higher-level technical management of the facility initially provided by foreign contractors. This was done upon the suggestion of the local

²⁴²¹ Three *barangay* officials 2007.

²⁴²² *Ibid.*

²⁴²³ Velasco 2007. However, this also has a burdensome aspect, discussed in the next section.

people, who reasoned that since the project is in Ilocos, the engineers responsible should also be from the same place.²⁴²⁴ Northwind sponsored four people for training in Denmark, but one was unable to complete it due to health reasons.²⁴²⁵ Northwind also trained other support personnel (e.g., electrician, lineman) locally for other aspects of project operations, particularly for facilities outside of the wind-farm, although most were experienced technical personnel recruited from another electric cooperative in neighboring Isabela province. Northwind local employees are expected to take over all operation and maintenance activities by the 6th year of operation.²⁴²⁶

On a side note, an interesting social dynamic mentioned by the interviewees is that although the engineers were from other provinces, when they started working on the project, they met and married spouses in Bangui, and thus became local residents. The members of the community apparently see the in-migration of relatively well-educated persons as an important and valuable development.²⁴²⁷

Apart from the economic benefits, local residents consistently recognize the wind-farm's ability to produce power without causing pollution as a distinct benefit.²⁴²⁸ This is also reflected in the province's stand against conventional power plants that are perceived to be a source of pollution. The mere fact that the wind-farm has not directly and overtly affected either the local people's access or income is seen as a benefit of itself. They say they are happy ("*masaya sila*") that the plant has not impeded their access to the shore, and they are able to continue with their traditional livelihood activities there.²⁴²⁹

²⁴²⁴ Jacobsen 2007; Manrique 2007.

²⁴²⁵ Manrique 2007.

²⁴²⁶ Det Norske Veritas, *supra* Note 2301 at 6.

²⁴²⁷ Velasco 2007. This is understandable considering that *out*-migration has historically been the norm for the province.

²⁴²⁸ Three barangay officials 2007.

²⁴²⁹ Manrique 2007.

The communities also appreciate the fact that Northwind is “very supportive” of them. One cited that after the construction was finished, the company gave them the remaining materials that the company no longer needed, and that the site manager has been very accommodating to any issues or problems they raised.²⁴³⁰ This is neatly summed up by Manrique, who said that “we help each other out, whatever they request, we provide, and whatever we request, they provide” (within their respective limits, of course).²⁴³¹ Much hope is also placed on the discussion of livelihood projects to be put up from the power generation royalties.

Provincial officials consider the project as a major strategic gain for the economy of Ilocos Norte. Northwind now supplies 40% of the province’s electrical needs, pollution-free, and the electricity generated is priced at a 7% discount from regular rates.²⁴³² The fact that this was accomplished without any burden on the part of the province is also a benefit.²⁴³³ Electricity is now available at standard voltage for 24 hours and 7 days a week, no longer substandard and interrupted by periodic outages. The stabilization of the electrical output supports the province’s economic development plans for agriculture and light manufacturing.²⁴³⁴

Ilocos Norte has also incorporated the project into its recommended tourism site listings, and hopes to attract other wind-farms for other suitable areas.²⁴³⁵ However, provincial officials are also aware that the tourism value of the wind-farm may not last. According to a provincial official, “the governor said that it’s attractive now, (but) maybe it will not

²⁴³⁰ Velasco 2007.

²⁴³¹ Manrique 2007.

²⁴³² Agcaoili 2007.

²⁴³³ *Ibid.*

²⁴³⁴ *Ibid.*

²⁴³⁵ Another wind-farm project, this time belonging to the government-owned PNOC, had been pending for years in the neighboring town of Burgos, also in Bangui Bay, but Northwind was implemented and completed ahead of it. Jacobsen 2007.

be attractive in the future, because people will get used to it, or they will see it as a nuisance.”²⁴³⁶

Community members’ attitudes toward the wind-farm are best summed up by one *barangay* councilor:

Of course, if you’re with the people putting up the project, it will always be good, and if you’re opposed, it will always be bad. But for us here in the place, it seems that the benefits are greater than the negative effects. It is only natural, and the good thing about it is that there is no pollution. That is our number one benefit here. It is environment-friendly, so even if our fishcatch has declined, that is offset by the revenue that has been going into our *barangay*. Those in the fishery, those who are opposed, are probably the ones accusing the project of bad things. But that’s probably just how it is.²⁴³⁷

It must be observed that the interviewees consistently expressed a wish for electricity rate to lessen substantially (“*talagang bumaba*”) even though Northwind already sells its power for 7% less than the normal rate. The final pricing for the consumer, however, is beyond Northwind’s control, since Northwind only has a franchise for power-generation, and cannot supply electricity directly to anyone. Any negativity on this issue is not directed toward Northwind since the electricity bills are issued by the INEC, the franchised electrical distributor. The power rates billed by INEC had been a sensitive issue in local media, even prior to Northwind’s entry.²⁴³⁸

²⁴³⁶ Agcaoili 2007

²⁴³⁷ Three *barangay* officials 2007.

²⁴³⁸ "Prov'l Dad Hits INEC for Steep Power Rate Hike," *Ilocos Times* (17 January 2005) at 1; "Prov'l Dad Chides INEC for Overcharging," *Ilocos Times* (21 February 2005) at 1; Cristina Arzadon, "INEC Not Keen on Reducing Power Rates," *Ilocos Times* (28 February 2005) at 3; "SP Set to Ask ERC Intervention in INEC's Alleged Overcharging," *Ilocos Times* (14 March 2005) at 4; "Marcos II: INEC Overcharged Consumers By P10M," *Ilocos Times* (28 March 2005) at 1; "ERC Finds INEC Overcharged Consumers By P123M," *Ilocos Times* (11 April 2005) at 1; "ERC Orders INEC to Refund P102M," *Ilocos Times* (30 August 2005) at 3.

However, this issue does tend to raise the point that regardless of the beneficial effects of a technology, the economic costs and financial requirements of such technologies may limit the extent to which they can respond to local needs. The multi-million dollar capital requirements and financial backing needed to establish a windfarm sets a minimum limit to the extent to which certain financial decisions can be taken without undermining the commercial viability of the endeavor. The need for corresponding large capital and revenue streams to support the project's operations tend to make it more likely for 'outsiders' to the local community to be prioritized. This is potentially detrimental to the local community's interests because it can exclude them from sharing in the benefits of the project (in this case, electricity) . This all the more stresses the need for the energy company to be 'integrated' and 'allied' more closely with the local community in order to ensure that the latter receive some form of compensatory benefit at the very least.

8.4.3.2 Local Burdens

8.4.3.2.1 Micro-scale environmental impacts

Although the benefits are a dominant theme in the conversations about the wind-farm, this has not completely overshadowed a number of local concerns about negative impacts from the facility. One common characteristic of these negative impacts is the relatively high degree of local uncertainty about them. In speaking about these impacts, the interviewees admitted that they could not really say for certain that the effects are directly attributable to the wind-farm, although they noticed them only since it was established. The project was only into its second year of operation at the time of the interviews, and thus no clear and indubitable correlation or pattern had yet emerged.

Two *barangay* raised concerns regarding the negative effect of the project on the estuary created by the Baruyen River between the project site and the sea. Sometime during the first year of operations of the project, renovations were made on the junction for the underground power cables that connect the turbines to the substation. The junction was buried in an area between the sea and the estuary, which seasonally breached by the natural action of the river. According to one resident, the sand closes the river's drainage

into the sea at this point regularly between November to May, and afterwards the water would overflow and begin draining directly into the sea. The encachment of water in this area spans two *barangay* (Taguiporo and Baruyen), which also host the majority of the towers of the project. The renovation put the junction deeper underground, and required a considerable amount of excavation. While this was ongoing, the junction had to be kept from being flooded by the rising waters. The excavation and renovation necessitated controlled drainage of the estuary and resulted in the installation of a floodgate. Apparently this changed the natural cycle of the estuary and affected the small fishery in that area.²⁴³⁹

The change in the cycle of the estuary apparently became the focal point of complaints from within the community. In *barangay* Baruyen, some said that this led to the erosion of their farmlands along the river.²⁴⁴⁰ In *barangay* Taguiporo, some complained that the fish catch has not been good anymore, and what little fish they do catch are no longer as big as they used to be. They say that it is probably because the controlled drainage now allows fish to escape the estuary before they can be caught or can grow. Some would like the floodgate to be permanently closed, to allow the waters to rise and hold more fish, but this would then allow water to flood the electrical junction. One councilor said that there used to be lots of small crabs that could be harvested everyday and yet would not run out, but lately have seem to be gone. The change in the drainage cycle is also seen as a possible culprit in an apparent reduction in the freshwater levels in artesian wells in the community. One other concern was raised regarding the fishery, as it was said that the noise from the turbines, sometimes audible as a humming sound (“*ugong*”), might be by scaring away the fish and leading to the lower fish catch. These are very important

²⁴³⁹ This more or less coincides with the Philippine dry season.

²⁴⁴⁰ This issue was apparently serious enough to be taken up by the municipal council and expressed in a municipal resolution. Municipality of Bangui, Ilocos Norte, *Muni. Res. 6-41-06*.

concerns for the *barangay* involved since they involve long-standing sources of free food for daily consumption and subsistence.²⁴⁴¹

These complaints serve to highlight the need for extreme sensitivity in the assessment and appreciation of impacts on social-ecological systems, and awareness of the uniqueness of even the smallest of places. Entire communities' livelihoods may depend on very small resource bases, in minute niches that may be easily overlooked in relation to the scale of any project. Assurances of mitigation may not be enough and there is a need to take concrete steps to incisively inquire about every economic activity conducted by the locals.

8.4.3.2.2 Impact on Long-term Property Ownership Trends

A quite different type of risk was also perceived by one *barangay* leader. She noted that the wind-farm has attracted people to buy properties, which is behind rising land values in the area. This has resulted in an increase in land disputes among *barangay* members, sometimes two or three people were claiming the same property. But she also noticed that most of the people buying the lands are foreigners, and thus she feared that in the future the local residents may not be able to go to the sea anymore because all the land would have been bought up by these foreigners. "We might become strangers to our own place because of all these people selling their property," she said.²⁴⁴²

Admittedly, this long-term social impact is something that is completely beyond the EIA process and touches on the overall development planning and urbanization of the local area. Nonetheless, it is an important aspect of local development that should also be contemplated in order to ensure that the longer-term and immediate impacts of a project on social equity are incorporated in the decisions and policies of the coastal community affected.

²⁴⁴¹ Three *barangay* officials 2007.

²⁴⁴² Velasco 2007.

8.4.3.2.3 'Snap-shot' Nature of EIAs

It should also be noted that none of these issues could reasonably have been extracted from any of the environmental assessments or the consultations conducted. The issues concerning the estuary located inland in relation to the facility were not covered by the Marine Ecosystem Baseline Study commissioned for the World Bank, which was directed towards the bay area seaward. The IEE Checklist focused only on the actual areas occupied by the facility. However, it was not raised in the consultations either, as the interviewees admitted that it was only later on after the facility became operational for some months that they actually noticed these effects.²⁴⁴³ This shortcoming points to the need to take neither the largest wind-farms nor the smallest natural features for granted. It was easy to overlook the estuary, without speaking with the locals, anyone could quickly assume that it is merely part of the outlet of the sea and there was no indication at all that anyone fished from it. Technically and scientifically it may not have been remarkable at all to whoever prepared Northwind's EIAs, but socially it turned out to be a significant source of local sustenance.

On the side of the Province, according to Manrique it was only during the field interview that he had first heard of some of the concerns, like the observation about the crab harvest which was the most serious.²⁴⁴⁴ It was also the first time he heard of the complaints regarding the possible effect of the noise on fish and the lower freshwater in the artesian wells, although he immediately expressed doubts about the purported connections between these and the project.²⁴⁴⁵ He also noted that in both cases the community had alternative sources.²⁴⁴⁶ Although they had been apprised of the concerns about the drainage of the river due to the renovation work on the junction, that particular excavation happened only once, and was not part of the wind-farm's regular

²⁴⁴³ Three barangay officials 2007.

²⁴⁴⁴ Manrique 2007.

²⁴⁴⁵ *Ibid.*

²⁴⁴⁶ *Ibid.*

operations.²⁴⁴⁷ One of the *barangay* leaders said that she had directly informed Mr. Dumlao of the issue regarding the spillway, and was told that since it was only the first year of operation of the facility, the matter should be observed before they decide on a course of action.²⁴⁴⁸

8.5 Cooperation and Co-existence with New Technology

8.5.1 Continuing Communication is Key

One thing that is immediately prominent from Northwind's case is the nature of its engagement with the coastal populations potentially affected by the wind-farm. The various interviews point to a simple, honest, transparent, unmediated, and sometimes spontaneous consultation process conducted on equal terms between Northwind's top executives and the community members, unconstrained by the formality and procedure of a structured workshop. It laid the basis for direct and continuing engagement on matters of community concern even after the formal requirement and rationale for consultations had ceased. The continuity of communications in the Northwind case contrasts greatly with the experience of the communities in the Malampaya case, where the proponent was largely seen to have disappeared from the grassroots level soon after the project began operating. This points to an intrinsic value in maintaining and continuing direct ties with the local level, probably because basic, direct, and responsive communications underlie the existence of all forms of lasting and significant social relationships.

8.5.2 Accommodation and Support

The face-to-face interaction and direct communication provided not only the means to procure the legally required endorsements from the LGUs, but also laid the foundation for an authentic relationship between the company and community on both personal and

²⁴⁴⁷ *Ibid.*

²⁴⁴⁸ *Ibid.*

corporate levels. The terms of this relationship were based on the posture on the part of Northwind *vis-à-vis* the host community: accommodation and support.

The accommodating attitude of Northwind was manifest in its open and non-exclusionary policy with respect to the foreshore area that it leased from the national government. As lessor, Northwind would be well within its rights of possession to erect fences around its facilities for security or other purposes. But it chose not to do so, to assure the coastal communities of continued access to the little economic benefit that they gained from gathering pebbles from the shore. There was no real issue with fishing on account of the characteristics of the coast in the area; the waters were normally a bit rough most of the year (due in part to high wind velocities) and there was very little marine fishery available. By far, the main usage of the area was for pebble-gathering and mobility across the shore. The absence of fences, both real and virtual, minimized the geographic space occupied by the wind-farm practically to only the base of the towers themselves (people could still walk over the power cables and junction box buried in the ground), so that the farm did not interfere with the community's pre-existing use of the foreshore and did not exclude anyone therefrom. The continuity of access minimized the potential exclusionary socio-economic impact of the project on the surrounding community, which in itself is a clear benefit as far as the community members were concerned.

8.5.3 Community Integration

The benefits of the project, of course, extend beyond continuity of access, and include direct contribution of tangible assistance to each community's finances through the power generation royalties and business taxes. It is important to note that the company viewed these not merely as a kind of "access fee" paid for being in the area, but genuinely as a means of contributing to local development. Over and above the legally imposed contributions, the company also volunteered to contribute small-scale infrastructure in support of the local community, such as the multi-purpose hall, basketball court, and the viewdeck. While it is true that these facilities also serve the company's own purposes, it was under no obligation to share them facilities with the

local community. Allowing local small-scale businesses to benefit also from its viewdeck may be a small thing, but in doing so, Northwind recognizes the need of the individual members of the coastal community to improve their personal socio-economic conditions and attempts to support them by concrete adding to their economic opportunities. Northwind's contributions therefore occur on both the collective level through the LGUs and on the individual level through these small efforts.

By interacting with the locals directly, maintaining close ties with key members thereafter, not interfering in the existing practices of the community with respect to its surroundings, and providing socio-economic assistance to the community on both personal and corporate levels, Northwind achieved easily and 'naturally' what other companies probably attempt through elaborate means but fail to do: the integration of the company into the community as a valued member. Their acceptance comes not merely on account of a legally-enforced contribution to the LGU coffers, but also because of a definite desire to actively benefit the local communities that had very little to begin with. And as it has become clear by now, this mutually beneficial relationship is the essential foundation for what appears to have been established in Bangui: a situation a little closer to the ideals of ecological social justice.

8.6 Sharing Ecological Spaces

Recalling Franklin's three questions, it can be said that in Northwind's case, the technology has not significantly prevented the people of the coastal community from anything they had been previously doing, and in fact, has actually enabled them to avail of additional incomes and economic opportunities. All stakeholders involved, whether it is the energy company, the host community, the electricity users of the province, the national government, etc., all have been able to receive particular benefits relevant to their levels and participation in the endeavor. The costs and burdens to the host communities have been minimized, and whatever remain are seen to have been adequately compensated for by the benefits that they receive. The fair distribution of

benefits from the project may be seen even in the economic positions of the communities and the province in Figure 23.

The *modus vivendi* achieved by Northwind and Bangui communities is one of sharing an ecological space: the coastal area on which Northwind's and the communities' interests converge. This sharing was established from the very outset by Northwind's open and direct dealings with the communities in the project's introduction into the community's space, and the conscious recognition, accommodation, and even contribution to the communities' interests in social and economic development even though it could have simply stood pat on the environmental benefits of the clean energy production. Unlike Malampaya's effective insulation from its local social milieu, Northwind consciously established an active and productive social relationship with the local community. In so doing, it also laid the basis for a socially just sharing of the benefits of clean and green wind energy.

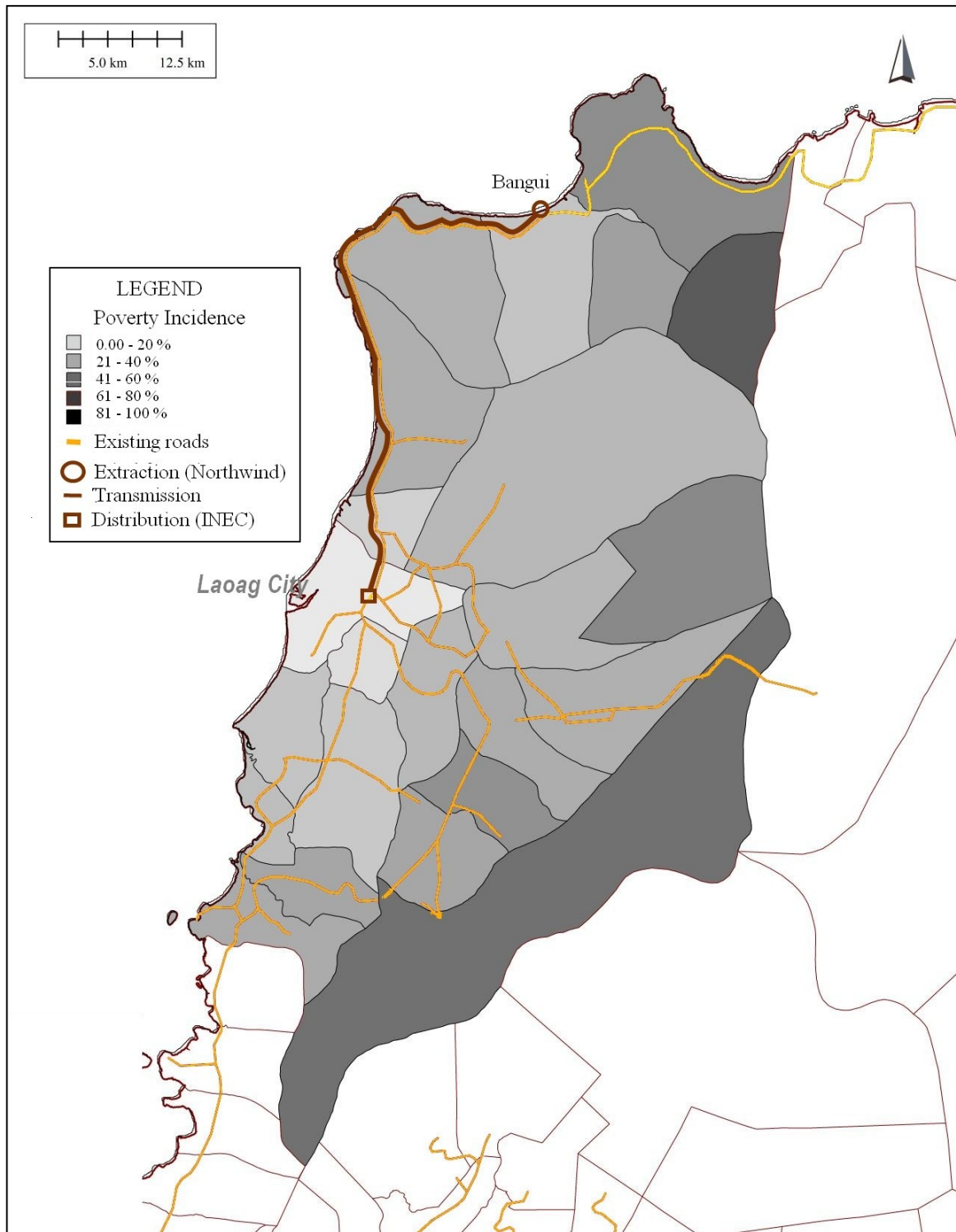


Figure 23. Northwind, Bangui, and Ilocos Norte poverty incidence. Unlike Malampaya, the benefits from usage of the resource flow back to the surrounding communities, contributing to less disparities in socio-economic conditions between places.

CHAPTER 9

CONCLUSION

9.1 Energy and Our Uncommon Future

In 1974, Ivan Illich described the “energy crisis” of the times as “a politically ambiguous issue” that could lead society to either political reconstruction and liberation, or the irrevocable consolidation and perpetuation of oppressive relations of dependence and control. He argued that society’s usage of energy represented the degree to which it was giving up the wealth of opportunity, time and effort for engaging in meaningful and productive social relations, and that beyond certain thresholds of speed and power, humans trap themselves in a lifestyle that requires conformity to a more and more instrumental and industrially-defined existence.²⁴⁴⁹

Almost forty years on, Illich’s words resonate with more power in the light of the energy crisis of the 21st century: balancing State responses to dual challenges of the uncertainty of long-term availability of energy supplies, and the increasingly urgent search for a collective and cooperative response to the inexorable change of the global climate. Both fronts have driven and continue to propel technological innovations in the many ways humans produce and consume the energy they require in modern technological age. Included in these innovations are a new and improved wave of technologies described in Chapter Two, that promise cleaner, greener, and practically unlimited energy from the oceans, promoted and supported by an evolving system of international and municipal environmental laws.

²⁴⁴⁹ Illich, *Energy and Equity*, *supra* Note 320.

But while environmental laws and technologies may be able to create an environmentally-friendly and ecologically-sustainable society, it may not be a *just society*. As shown by the experience with Malampaya in Chapter Seven, compliance with environmental laws and employment of the latest technologies can indeed minimize the bio-physical impacts of energy production but do not necessarily prevent conditions of social injustice arising from the domination and disempowerment of social groups. In fact, such laws and technologies may also serve to obscure latent injustices and insulate those that benefit from them from claims to social remedies such as compensation and recognition of others' valid interests.

The possibility of injustice from environmental laws and technologies, especially in the field of energy, appear to be related to matters of scale: advanced and complex high-technologies requiring massive capitalization and highly specialized knowledge and skills, supporting equally large and widespread economic infrastructure and other dependent technologies, initially appear more prone to creating situations of “clean and green social injustice.” The seeds of latent inequity seem to spring from the very nature of these technologies: after all, an elite group of technology owners, operators, and financiers holding considerable resources is indispensable in order to access, deploy, and operate them.

But even an impressive system of laws to regulate a technology is rarely able to effectively counteract the tendency toward an inequitable outcome: in fact, as Philippine offshore petroleum law suggests, laws instead facilitate the adoption and operation of such technologies to the point of insulating them from other laws intended to protect the interests of society and/or social groups from adverse social impact, such as EIA processes. But even if such technologies were not exempt from protective legal procedures like EIAs, the high scientific standards for environmental assessment that become necessary to deal with the potential effects of such technologies may further marginalize concerned stakeholders like coastal communities and NGOs who did not have the corresponding capacity to either understand the technology or the analysis of its impacts.

Though advanced technologies may indeed eliminate most of the visible negative bio-physical effects, in an uncertain environment like the oceans, doubts will always remain as to whether all such effects are adequately considered and addressed. And if they are not, both the gaps in the law and the requirements of science tend to support the proposition that the complex advanced high-technologies employed are *not* likely to be the source of the problems experienced, leaving the disadvantaged groups with little recourse. Despite their actual experience and knowledge “on the ground,” they are eventually silenced by the uncertainties and lack of scientific expertise and information commensurate to that gathered to support the new technology’s introduction and actually used in its operation.

It is the initial marginalization of the commoner and her/his community that lays the foundation for social injustice: the creation, perpetuation, or reinforcement of “energy elites,” those who use or have more energy than they actually need, and in the future, will have access to more and better energy systems than everyone else. These elites have direct access to energy resources that will not be available to all, which enables them to attain and maintain a level of economic activity and pace of economic growth that those without access cannot, including those from whom they draw their energy supplies. The faster and larger those elites and their immediate regions grow, the wider the gap that is created between them and the commoners at the margins, perpetuating a cycle of inequity underwritten by the resources of and risks borne by the disadvantaged. This is precisely the situation created in Malampaya, where the less advantaged provinces of Palawan and Oriental Mindoro bear the risks of Malampaya’s establishment and production that support Batangas and Metro Manila’s local economic progress without proportionate benefit. As the current generation of Palaweños and Mindoreños remain exposed to the unknown risks and must fend for themselves with their local economic development, Batangas and Metro Manila continue their rapid economic growth, partly due to the significant input of energy from Malampaya. After 20 years when the gas reserve is used up, their future generations will not receive any corresponding benefit in exchange for the resource or their risks.

That the current generation of coastal communities of Palawan and Oriental Mindoro feel resigned to the situation is the mark of disempowerment in the face of laws and technologies theoretically intended for the benefit of all. Unlike trickle-down benefits, however, the disempowerment they experience is real and palpable, though it may not be articulated on account of the indubitable ‘national’ benefits provided by a cleaner and indigenous energy source.

It is not difficult to make parallels between the situation of the various provinces adjacent to Malampaya and that of the rest of the world. Most fossil fuel reserves, the prize energy resource of modern times, are located in developing States, and are or will sooner or later be exploited and extracted to feed the ravenous energy appetites of the developed world, or at least the highly urbanized centers of each developing State. With the worldwide dominance of energy companies of the developed world, and energy-intensive lifestyles or their clientele, there is reason to believe that the developing States’ experience will not be substantially different from Malampaya’s adjacent coastal communities: to look on as the resources of their future generations are siphoned off to feed the demands of a current generation not their own. This is already happening with energy and raw materials through international trade flows (See Figure 24), and there is no reason to believe that it won’t happen with all other resources and the technologies used to exploit them.²⁴⁵⁰

The implications of discounting the role of energy in social injustice can be far-reaching. Already, the popular shift to alternative, cleaner burning fuels like natural gas is driving demand and spurring the global expansion of the natural gas market. A significant portion of the production of natural gas will soon be based in the less-developed countries of the South that hold the bulk of world reserves but who presently do not have the industrial

²⁴⁵⁰ See Wolfgang Sachs and Tilman Santarius, *Fair Future: Resource Conflicts, Security & Global Justice* (London and New York: Zed Books, 2005) at 35-118 for a very good analysis of the disparity in distribution of supply but reverse proportion of consumption of energy and other raw materials between the developed and developing world.

capacity for the energy resource.²⁴⁵¹ Natural gas resources may be siphoned off at present by the energy-hungry industrialized North, which profits immensely from oftentimes excessive and wasteful energy-intensive ways of life at the expense of the future generations of the source countries. Moreover, the development of energy resources for export purposes does not necessarily address the issue of energy poverty within the country; thus in the long-run, the energy-poor countries may remain so in order to support the energy-rich.

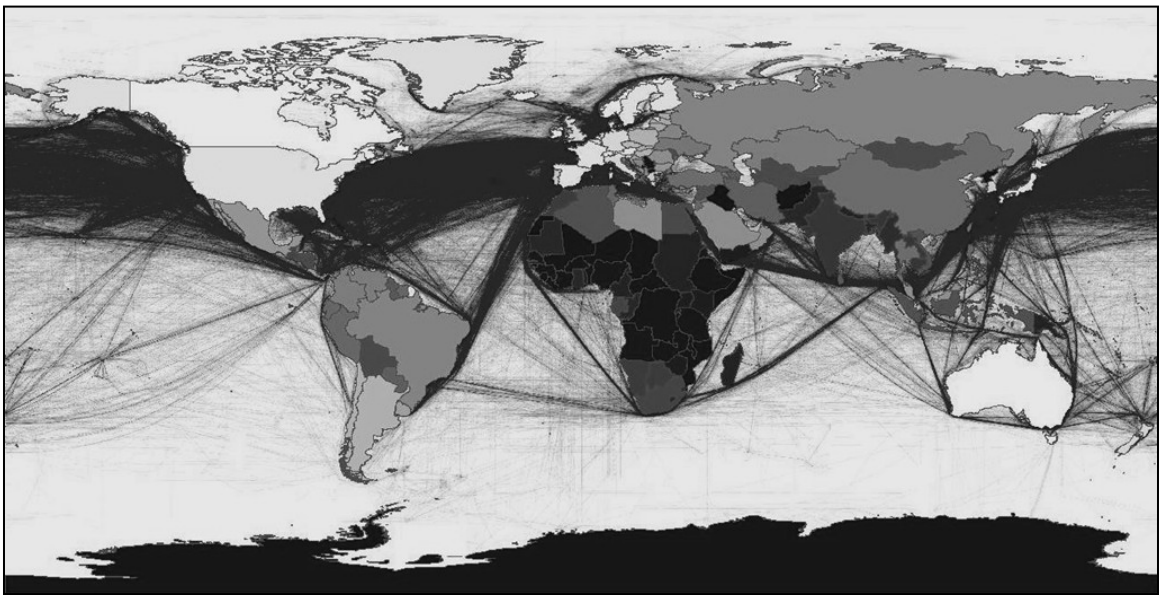


Figure 24. Global resource flows, signified by shipping traffic across the seas, connecting industrialized and developing countries. The shading represents the Human Development Index values for each State; the darker the shade, the poorer the country is. Source: NCEAS, and UN.

The energy elites may also remain at the upper levels of a global pollution economy, where responsibility for emissions and pollution become part of the global market. Simply put, trading in carbon credits allows emitters to continue emitting; by purchasing rights to pollute the atmosphere, these elites have every excuse to allow the burden of

²⁴⁵¹ *Ibid.* at 42.

climate change mitigation to be shifted to those selling their carbon credits. It is the dark side of the carbon market: the commodification of emissions and the imaginary monetization of anti-pollution makes it easier to abdicate simple personal and collective responsibility for the environment, and surrender it to the unseen and capricious “market” and the hazy guidance of “market forces.”

This scenario becomes possible only by permitting patterns of domination to emerge undetected in the multi-layered system of energy and environment laws that surround energy production and consumption. If energy technologies are simply allowed to determine the agenda of legal and policy reform, aligning the law to service technology will also tend to align it toward servicing an energy elite, whether homegrown or foreign. In this regard it is important to defend against the Trojan legal regimes that facilitate the workings of the Trojan machines energy technologies may turn out to be. Key to that defense is the realization and consciousness of the role of Law and lawyers in contributing to these Trojan artifices whether deliberately or unconsciously. Especially with the globalized economies and technologies of today, which are at the center of a worldwide movement toward standardization and clustering of energy production, developing countries seeking to leapfrog or keep pace with energy technology developments with legal reform initiatives must stand vigilant.

Such vigilance must be based first on an understanding of how Law relates to and can reinforce technology and its tendency to re-order society, as alluded to in Chapter Two. At its core is an awareness that while Law plays an instrumental role in regulating the relations between members of society, such regulation may be directed toward the purposes of social groups or forces less than the whole. The complexity of science and technology may contribute to this social reordering by masking or insulating the impacts of economic activities from the scrutiny of those they may adversely affect. Hence there is a need for a critical perspective of any new technology, including especially ocean energy technologies, that appear as attractive solutions to the problems of energy security and climate change.

9.2 Addressing Inequity through Ecological Social Justice

Certainly, the introduction and operation of the new energy technologies of the future need not always result in the hidden disempowerment and deprivation that Malampaya seems to have created, nor does it have to be permanent. The experience of Northwind as detailed in Chapter Eight provides a alternative and optimistic scenario. There are significant contextual differences between Northwind and Malampaya that may be central to their respective outcomes.

Foremost is the issue of scale: despite the impressive size of the wind turbine towers, the project's production component fit well within the confines of only one coastal municipality, whose settlements were not so geographically isolated and scattered. Second, although Northwind used the latest in Danish wind technology, the turbine units, blades, and towers are in themselves relatively simpler technologies to explain; despite being so much larger, there was nothing really mysterious or incomprehensible about the way they used the wind resource and generated energy. Third, the issues of jurisdiction were much clearer, and the Law much more specific, with respect to how the project's benefits would be quantified and divided on the basis of its location and presumed effects within the coastal community's area. And last, but not the least, the way in which the relations were conducted between the energy company and the affected communities from the beginning was far more direct and personal between the representatives of both sides.

The differences in applicable legal regimes is also stark. While they share certain features such as the contracting rounds and model service contracts, the more recent laws on renewable energy incorporates the influences of the expanded social justice policy of the Constitution by including specific provisions concerning wider participation, recognition of stakeholders, and distribution of benefits from the resource. Unlike the offshore petroleum laws enacted during martial law, the laws applicable in the Northwind case exhibited a far greater concern for sharing with and inclusion of local communities in the processes and benefits of renewable energy production.

Moreover, comparing Malampaya and setting aside the issue of scale for the moment, Northwind's main strength is the fact that both company and coastal community clearly established direct, authentic, and continuing relationships that began with the consultation process and did not end after the project secured the legally-required local approval. The stability of this direct relationship for the rest of the project's operation effectively assimilated the company into the coastal community as a stakeholder itself, with the windfarm forming the base of their mutual interests and concerns. Rather than avoid and insulate itself from the affected communities, Northwind effectively integrated itself into them, establishing its own reciprocal relationships and providing the community with needed support in social and economic development without creating a position of dominance over the community. By not imposing itself or its own ideas on the community, maintaining an openness to dialogue and discussion, and at most only providing economic opportunities for the community to develop themselves, Northwind is successfully and concretely sharing many benefits from the wind resource within the community's boundaries.

No doubt, it is possible for the case of Northwind to have turned out differently. Had it been designed differently and laid the windfarm in a haphazard cluster; or had a fence been erected around its leased area and facilities; or had access to and from the surrounding foreshore been restricted; or had the community residents been completely ignored after the endorsements were secured; or had there been no requirement in any rule or law to pay any power generation royalties, then it is quite likely that the situation would not be as optimistic. These critical elements point to the importance of the concept and practice of equitable sharing within coastal communities.

As explained in Chapter Three, international environmental law, as the product of negotiations over the past four decades, has been 'seeded' with an alternative view of sustainable development, one that reflects the requirements of social equity. Although the voices of the developing States were initially softened by the perspective of developed States focusing on limits to growth, elements of the social equity perspective have re-emerged with even greater vigor, especially in the 1990s, on account of the unavoidable

and practical issues concerning the allocation and access to resources among competing user or resource-dependent groups. The experience with Northwind validates and reinforces the view that considers social justice as the central concept in environmental advocacy and decision-making. It confirms the need for an ecological social justice perspective.

At the core of ecological social justice is the search for mutually-acceptable and equitable terms and conditions of sharing Nature and its resources. Broadly speaking, “equitable sharing” here refers to the fair distribution of benefits and burdens from the use of Nature and its resources through economic activity, undertaken with the participation of those who benefit from or are disadvantaged by the distribution, in ways that recognize the needs and interests of all who are affected. It is multi-dimensional in scope, encompassing not only the distribution of tangible matter, but also the mutual respect for local social institutions connected to the shared resource. It is directly concerned with the issues of inclusion and exclusion in the way society relates to Nature, as well as how society’s members relate to each other. After all, justice exists as a relationship between two or more persons, individually or collectively. So striving for ecological social justice also means improving relationships between people as well as between them and their environment.

9.3 Sensitivity to Cultural Variations of Social Justice

An ecological social justice perspective that makes equitable sharing central to environmental advocacy, especially in Law, is based on a substantivist view of the economy, as elucidated in Chapter Three. This perspective makes social justice an integral and primordial element in the analysis of environmental issues and activities, including the technologies that create or carry them out. It also makes the affected community’s culture, which include especially its laws, the starting point and focus on the inquiry.

The examination of culture as an necessary element for understanding the implications of any environmental issue or activity on social justice requires a thorough consideration of the affected community's own conception of social justice. Taking its cue from contemporary thinking on social justice pointed out in Chapter Three, this research considered in depth the context of social justice in the Philippines as developed in its history and constitutional law chronicled in Chapter Four, and applied in its environment and ocean resource laws in Chapter Five. These demonstrated the pivotal role that a legal conception of social justice can play in the development of norms and principles in environment and ocean energy law. They were also vital steps in understanding the surrounding context and the legal standards with which the Malampaya and Northwind case studies were compared and analyzed.

As stated in Chapter Five, the Philippines is fortunate in having a well-developed *corpus* of law and jurisprudence that define an operational conception of social justice, out of which evolved a right to a balanced and healthful ecology. This social right to the environment came to be written into the Philippine Constitution as a direct offshoot of the articulation of a more comprehensive social justice policy that focused not only on economic inequalities, but also social, cultural, and political inequalities. This social justice policy continues to manifest itself, in legislation, executive action, and judicial decisions, to the end that Law and policy may be continually brought under scrutiny and challenged when necessary for the purpose of establishing the conditions that promote the creation of social justice. It relies on a legal concept of social justice that prominently advocates State activism exhibiting partiality for the disadvantaged when needed, and the exercise of the police power of the State as a means of balancing the scales between social groups and forces dissimilarly situated. The partiality is not unbounded, nor is the scope of permissible State action unlimited. The Philippine concept of social justice is the predecessor in practice of Rawls' Difference Principle in theory, and for this reason it is demands consideration as a necessary condition for appreciating ecological social justice in the Philippine context.

The examination of the conceptual background against which Malampaya and Northwind were investigated is important because it provides a complete picture of where the perspectives of justice (and injustice) come from. Although Western theories of justice contribute certain principles used to fully understand various situations and viewpoints, the Philippine concept of social justice remained the primary lens with which to regard the applicable law and the divergent views and perspectives of the parties involved. The purpose of presenting such a detailed account is to contribute a frame of reference with which to compare social issues in other situations and other concepts of social justice. This follows Sen's suggestion that rather than seeking perfect ideal institutions, the search for social justice should instead compare imperfect and real experiences of justice and injustice that can provide practical lessons in how best to improve social conditions.²⁴⁵²

9.4 Areas for Future Exploration

To be sure, however, even the examples provided in this research are not enough, and this research itself is not complete and only the beginning. As with most other research, the view of one is always limited and there is a need to continue the inquiry either along lines not explored but indicated, or into other cases and experiences that may shed more understanding. For Law and environmental lawyers, the main challenge is to continue to uncover the hidden meanings behind legal practices and experiences by subjecting them to critical scrutiny.

²⁴⁵² Sen, *supra* Note 63 at 410:

There is a strong case, I have argued, for replacing what I have been calling transcendental institutionalism –that underlies most of the mainstream approaches to justice in contemporary political philosophy, including John Rawls' theory of justice as fairness- by focusing on questions of justice, first, on assessments of social realizations, that is, on what actually happens (rather than merely on the appraisal of institutions and arrangements); and second, on comparative issues of enhancement of justice (rather than trying to identify perfectly just arrangements).

Three general trends very barely glimpsed in this research especially demand attention in the future; they represent unexplored territories in the legal field, whose ramifications to the expanding systems of environmental law in contemporary times remain largely concealed. The first is the modern impoverishment of the majority with respect to Nature, the second is the assimilation of lifeboat ethics in environmental law, and the third is the trend toward integration of diverse technologies into singular large-scale systems.

The modern impoverishment of the majority is an observation based on the phenomenon called “the modernization of poverty.” Illich posits that the market society endlessly and deliberately creates and recreates hierarchies and inequalities in order to justify the need and movement for economic ‘growth.’ In the energy field, this has already manifested in the idea of “energy poverty” which is an essential rationale for the expansion of the supply-side of energy markets through improvements and innovations in the production of non-renewable energy and renewable energy. The issue that must be raised critically is whether the advocacy for shifting to alternative and renewable energy sources over the long term also reinforces and perpetuates the impoverishment of the majority of peoples of the world who are currently being told that they absolutely need “modern energy services” as a fundamental requirement for their socio-economic upliftment. If by “modern energy services” is meant forms of energy that can only be provided by large scale high technologies, then the “social mortgage” that comes with such energy technologies, and the possible future that society builds for itself with them, have to be considered very closely.

The unseen assimilation of Hardin’s “lifeboat ethics” in the environmental ethos of many environmental legal regimes and social advocacies must also be raised and questioned. Hardin argues that the Earth is more like a lifeboat than a spaceship; there are only a few places onboard, so those who already have their place (the rich) are justified in repelling boarders swimming in the water (the poor) from boarding the lifeboat beyond its safe

passenger carrying capacity.²⁴⁵³ Lifeboat ethics legitimizes the creation and maintenance of a privileged elite who 'deserve' a quality environment they are in (the lifeboat) and must defend against the intrusion of commoners. It is a social injustice at its core not only because it is based on an inequitable distribution, but also because it denies the majority of any say in their own fate. The establishment of technological and legal systems for moving resources from Nature to the already better-off in order to support the lifestyle of the privileged, while at the same time excluding everyone else without their consent, practices this ethic. It is the very situation in which we find the large-scale national and transnational technologies of energy production and consumption worldwide.

This leads then to the third trend, the integration of diverse technologies into singular large-scale systems, especially in the ocean energy realm. From physical, financial, operational, and managerial standpoints, the fully developed ocean energy technologies of today (e.g. offshore oil and natural gas) are comprised of numerous component technologies integrated as large-scale and complex systems in both the upstream and downstream sectors spanning the globe. New and emergent ocean energy technologies like renewables, on the other hand, have not yet proliferated to the extent that there is a discernible pattern in their design, operation, and integration into the existing power distribution and generation systems of society. It would, however, be easy to incorporate these new technologies into existing systems designed for large scale distribution and linked to similarly complex financial, operational, and managerial structures as those for offshore petroleum; renewable energy technologies after all have the advantage of scaleability. For example, large arrays of renewable energy devices connected to 'smart-grid' power distribution systems²⁴⁵⁴ that allow better control over the different and

²⁴⁵³ Garrett Hardin, "Lifeboat Ethics: The Case Against Helping the Poor" (1974) 8 *Psychology Today* 38-43; also Hardin 1974.

²⁴⁵⁴ This idea is currently being promoted in the United States by high-profile environmental advocate and former US Vice President Al Gore. Al Gore, "My Turn: The Energy Electranet," *Newsweek* (18 December 2006), online: *Newsweek* <<http://www.newsweek.com/2006/12/17/my-turn-the-energy-electranet.html>>. For a

intermittent power generation capacities of many renewable energy devices in order to supply national electrical grids would qualify as a large scale complex technological system.²⁴⁵⁵ However, the findings of this research imply that as the scale and complexity of a technology increase, the opportunity and ability of local communities to effectively participate in decisions about the technology get weaker; their claims to recognition become less weighty in view of the broader range of interests involved; and their shares to benefits from the technology get smaller as the number of stakeholders get bigger. The trajectory of development of new and emergent technologies in terms of their scale, relationship, and integration into other systems must therefore be carefully monitored and if necessary, adjusted.

Finally, it is acknowledged that while this research has extensively critiqued the projects subject of its case studies, it has yet to offer detailed helpful recommendations on what can be done to mitigate or prevent the social injustices revealed. The discussions suggests that legal reforms could initially concentrate on the following issues:

- Notifying coastal communities of the mere possibility that their areas will be offered to energy exploration and development of whatever nature, and at that early stage engaging in a consultative process to the end that the communities and their support groups to be better prepared for any actual discussions with prospective energy developers;
- Expanding or refining a system of sharing energy resources and royalties/shares from the development of energy resources, including a clear delineation of entitlements to shares whether based on geography, impact, or other bases;

brief overview and comparison of ‘smart grid’ and similar technology infrastructures, see Debora Coll-Mayor, Mia Paget, and Eric Lightner, "Future Intelligent Power Grids: Analysis of the Vision in the European Union and the United States" (2007) 35 Energy Pol'y 2453.

²⁴⁵⁵ Implementation of a ‘smart grid’ has massive implications for restructuring and upgrading electricity distribution systems and consumer technologies. See Christian Feisst, Dirk Schlesinger, and Wes Frye, *Smart Grid: The Role of Electricity Infrastructure in Reducing Greenhouse Gas Emissions*. Cisco Internet Business Solutions Group (San Jose CA: Cisco Systems, 2008).

- Allowing coastal communities more effective opportunities to participate in the planning and development of energy infrastructure;
- Dissemination of knowledge and information on the possible social effects of energy development activities, both direct and indirect;
- Establishing an independent experts group that can provide independent advisory services and information to coastal communities on energy development activities within their area;
- Establishment of a more transparent, non-technical, and popularly-accessible system for monitoring the environmental impacts of energy projects;
- Dissemination of information on available tool and information resources, such as open-source GIS and public domain data, that could help coastal communities visualize and analyze the effects of proposed energy projects in a more intuitive and less technical way;
- Capacity-building on the part of coastal communities to deal or “negotiate” with energy companies and other stakeholders regarding expected outcomes of permitting energy development in their areas; and
- Promotion of the concept of ecological social justice among coastal communities and their support groups in order to provide them with alternative means of assessing the impact of proposed projects in their areas.

These are but a few of the possible issues for legal reforms, and closer consideration of the different aspects of each of the case studies in this research will reveal even more. However, both time and data considerations demand that these be the subject of a separate study. More than three years have passed since the initial field work was undertaken, and the author has not had the opportunity to return and disseminate the findings to the local communities and to be updated on events since then. In the course of writing this paper, the Philippine government entered into numerous new geophysical and seismic exploration contracts for offshore petroleum; one of which caused enough

controversy to launch a test case on biotic rights before the Supreme Court.²⁴⁵⁶ Even more numerous are the new renewable energy service contracts on account of the passage of the RE Act. New administrative regulations concerning energy and environment have also been issued, and the election of a new administration in May 2010 just as this research comes to a close heralds another round of policy reviews and regulatory adjustments. For these reasons, suggestions for law and policy reform are better left to future research in order to ensure a comprehensive and coordinated treatment of the many aspects of policy and regulations that need to be looked into and addressed as part of a larger effort to promote ecological social justice.

9.5 Setting Course for an Alternative Energy Future

Four decades ago, as the global discourse on sustainable development got under way, André Gorz wrote an insightful critique of ecology and ecological thinking in the French journal *Le Sauvage*. He warned that environmentalism can easily be absorbed by the free market philosophy of capitalism, and adapted to suit its purposes:

(T)he ecological movement is not an end in itself, but a stage in the larger struggle. It can throw up obstacles to capitalist development and force a number of changes. But when, after exhausting every means of coercion and deceit, capitalism begins to work its way out of the ecological impasse, it will assimilate ecological necessities as technical constraints, and adapt the conditions of exploitation to them.²⁴⁵⁷

²⁴⁵⁶ Jolene Bulambot, "Marine Mammals Are Petitioners in Case Vs Oil Exploration," *Philippine Daily Inquirer* (18 December 2007), online: <http://globalnation.inquirer.net/news/breakingnews/view/20071218-107585/Marine_mammals_are_petitioners_in_case_vs_oil_exploration>; Mike Frialde, "Protected Marine Life Go to Court," *Philippine Star* (25 December 2007), online: <<http://www.philstar.com/Article.aspx?articleId=35113>>. The case was filed directly with the Supreme Court by NGOs, small fisherfolk organizations, and concerned citizens after the government permitted the conduct of seismic explorations in the Tañon Strait, a protected seascape since 1998.

²⁴⁵⁷ Andre Gorz. *Ecology As Politics*, trans. Vigdeman and Cloud (Boston: South End Press, 1980) at 3.

Gorz' warning resonates today with the proliferation of so-called "market-based" strategies, approaches, solutions, measures, mechanisms, incentives, etc. in the discourse on contemporary environment law and policy. These devices are but some of the visible extensions of the philosophy of the market society that ride the wave of legal reforms induced by international law, as well as other forces that mark the phenomenon of globalization.²⁴⁵⁸ On a more practical level, they are manifest in energy legislation that places priority on establishing and protecting the specific market conditions required for energy technologies to operate in the ways they have been accustomed to.²⁴⁵⁹

The adverse implications of these forces have been amply demonstrated and portended by the experience of some of the coastal communities examined in this research, who have experienced disempowerment with the proponents' formal compliance with requirements imposed by environmental laws, and upon whose expense the economic progress of other communities have been built. A key element in the domination of these coastal communities has been the deployment of the large-scale high technologies of the offshore petroleum energy industry, and the legal regime that supports it. It has been shown that these technologies implicitly carry with them a system of practices, or a culture, that automatically redefine the relationships between affected social groups. The greater the scale and more complex the technology, the greater the influence of the market society in defining relations between the dominant elite and the dominated masses. In spite of the presumed good intentions behind the system of Law put in place to safeguard the environment and give room for public participation, the coastal communities had virtually no chance of fairly and effectively dealing with the technology's scale and complexity.

²⁴⁵⁸ For a brief but comprehensive overview of the multiple aspects of globalization, see Subhabrata Bobby Banerjee and Stephen Linstead, "Globalization, Multiculturalism and Other Fictions: Colonialism for the New Millennium?" (2001) 8:1 Organization 683.

²⁴⁵⁹ Large-scale high-technologies that can service only large volumes of energy demand such as offshore petroleum technologies are easily among the best examples of this category.

Technological choices are deeply implicated in the emergence and development of a particular type of society.²⁴⁶⁰ The problem as Gorz points out, however, is that “[s]ocietal choices are continually being imposed...under the guise of technical choices.”²⁴⁶¹ Most of the time, ordinary citizens do not seriously question the technological choices that governments make for them. This is especially so where Law is involved, when the most important questions may be directed at the Law itself. But this cannot be allowed to continue, and Gorz impliedly argues that even Law must be “challenged at all levels by alternative social practices and an alternative vision of human civilization.”²⁴⁶² These alternative social practices must be based on voluntary and cooperative choices, the local autonomy of communities and individuals affected.²⁴⁶³ They must also involve environmentally-benign technologies that are used and controlled at the local community level, capable of enhancing the economic options of the people affected, and possibly subject to joint control by producers and consumers.²⁴⁶⁴ The main challenge is to be very conscious of how technologies work, what they imply, and how they should be reformed. As Gorz contends:

Without changing the technology, the transformation of society will remain formal and illusory. The theoretical and practical definition of alternative technologies, and the struggle of communities and individuals to win, collectively and individually, control over their own destinies, must be the permanent focus of political action.²⁴⁶⁵

This research has shown that such political action is possible in Law by providing room for alternative social practices buttressed by a system of legal rules developed through principles of social justice. In at least one instance, it has softened the impact of new technologies to a great extent by establishing the conditions for an authentic

²⁴⁶⁰ See Gorz, *supra* Note 2458 at 19.

²⁴⁶¹ *Ibid.*

²⁴⁶² *Ibid.* at 7.

²⁴⁶³ *Ibid.* at 19.

²⁴⁶⁴ *Ibid.*

²⁴⁶⁵ *Ibid.* at 19-20.

interdependent relationship between the owners and operators of a technology and the surrounding coastal community that revolves around a shared ecological space. An overall ethic of inclusiveness and accommodation characterizes this relationship, made possible partly by the scale of the technology itself and by the actions and attitudes of the people employing it, and partly by the incentives and opportunities created by Law for “the equalization of social and economic forces.” It has created a situation that can properly be characterized as approximating social justice; ultimately this is the only basis for an alternative future with ocean energy technologies.

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BIBLIOGRAPHY

Primary Materials

A. Legislation

Act No. 83. A General Act for the Organization of Provincial Governments in the Philippine Islands (06 February 1901).

Batas Pambansa Blg. 337. An Act enacting a Local Government Code (10 February 1983).

Constitution of the Republic of the Philippines (26 February 1987).

Constitution of the Republic of the Philippines (14 May 1935).

Executive Order No. 192. Providing for the reorganization of the Department of Environment, Energy and Natural Resources, renaming it as the Department of Environment and Natural Resources, and for other purposes (10 June 1987).

Executive Order No. 232. Amending Executive Order No. 462, Enabling private sector participation in the exploration, development, utilization, and commercialization of ocean, solar, and wind energy resources for power generation and other energy uses (23 April 2000)

Executive Order No. 290. Implementing the Natural Gas Vehicle Program for Public Transport (24 February 2004)

Executive Order No. 305. Devolving to municipal and city governments the registration of fishing vessels three (3) gross tonnage below (02 April 2004)

Executive Order No. 396. Reducing the Rates of Import Duty on Compressed Natural Gas Motor Vehicles and Natural Gas Industry-related Equipment, Parts and Components under Section 104 of the Tariff and Customs Code of 1978 (Presidential Decree No. 1464) as amended (31 December 2004)

Executive Order No. 405. Amending Executive Order No. 254-A, Series of 2004, which authorized the further release of funds from the net government share from Service Contract No. 38 over the Camago-Malampaya Natural Gas Reservoir as assistance to the (01 February 2005)

Executive Order No. 462. Enabling private sector participation in the exploration, development, utilization, and commercialization of ocean, solar, and wind energy resources for power generation and other energy uses (29 December 1997)

Executive Order No. 839. Directing oil industry players to maintain prices of petroleum products prevailing on the last windfall of Typhoon "Pepen" (Parma) during the period of emergency in the entire island of Luzon (29 October 2009)

Presidential Decree No. 8. Decreeing the Law to Govern Oil Exploration and Development (02 October 1972)

Presidential Decree No. 27. Decreeing the emancipation of tenants from the bondage of the soil, transferring to them the ownership of the land they till and providing the instruments and mechanism therefor (27 October 1972)

Presidential Decree No. 86. Creating Citizens Assemblies (31 December 1972)

Presidential Decree No. 87. Amending Presidential Decree No. 8 issued on October 2, 1972, and promulgating an amended Act to promote the discovery and production of indigenous petroleum and appropriate funds therefor (31 December 1972)

Presidential Decree No. 189. Amending Part IX of the Integrated Reorganization Plan by renaming the Department of Trade and Tourism as the Department of Tourism, and creating the Department of Tourism with a Philippine Tourist Authority attached to it in lieu of Philippine Tourist Commission (11 May 1973)

Presidential Decree No. 269. Creating the National Electrification Administration as a corporation, prescribing its powers and activities, appropriating the necessary funds therefor and declaring a national policy objective for the total electrification of the Philippines on an area coverage service basis, the organization, promotion and development of electric cooperatives to attain the said objective, prescribing terms and conditions for their operations, the repeal of Republic Act No. 6038, and for other purposes (06 August 1973)

Presidential Decree No. 469. Amending Presidential Decree No. 87, otherwise known as the Oil Exploration and Development Act of 1972. (23 May 1974)

Presidential Decree No. 474. Providing for the reorganization of maritime functions in the Philippines, creating the Maritime Industry Authority, and for other purposes (01 June 1974)

Presidential Decree No. 512. Declaring prospecting and other mining operations of public use and benefit and establishing the basis and prescribing the rules and procedures relative to acquisition and use of surface rights in mineral prospecting, development and exploitation, and providing protection and compensation to surface owners. Act No. 82. A General Act for the Organization of Municipal Governments in the Philippine Islands (31 January 1901)

Presidential Decree No. 538. Creating and establishing the Phividec Industrial Authority and making it a subsidiary agency of the Philippine Veterans Investment Development

Corporation defining its powers, functions and responsibilities, and for other purposes (13 August 1974)

Presidential Decree No. 602. Establishing a National Oil Pollution Operations Center in the Philippine Coast Guard Headquarters (09 December 1974)

Presidential Decree No. 704. Revising and consolidating all laws and decrees affecting fishing and fisheries. (16 May 1974)

Presidential Decree No. 705. Revising Presidential Decree No. 389, otherwise known as the Forestry Reform Code of the Philippines. (19 May 1975)

Presidential Decree No. 781. Further amending Section 17 of Presidential Decree No. 87, as amended, otherwise known as the Oil Exploration and Development Act of 1972. (25 August 1975)

Presidential Decree No. 857. Providing for the reorganization of port administration and operation functions in the Philippines, revising Presidential Decree no. 505 dated July 11, 1974, creating the Philippine Port Authority, by substitution, and for other purposes (23 December 1975)

Presidential Decree No. 979. Providing for the revision of Presidential Decree No. 600 governing marine pollution. (18 August 1976)

Presidential Decree No. 1067. A decree instituting a Water Code, thereby revising and consolidating the laws governing the ownership, appropriation, utilization, exploitation, development, conservation and protection of water resources (31 December 1976)

Presidential Decree No. 1151. Philippine Environmental Policy. (06 June 1977)

Presidential Decree No. 1152. Philippine Environmental Code. (06 June 1977)

Presidential Decree No. 1174. Amending Presidential Decree Numbered Nine Hundred Fifty Two, otherwise known as The Coal Development Act of 1976 (27 June 1977)

Presidential Decree No. 1229. Calling a referendum asking the people to vote on whether or not the President should continue in office (30 October 1977)

Presidential Decree No. 1354. Imposing final income tax on subcontractors and alien employees of service contractors and subcontractors engaged in petroleum operations under Presidential Decree No. 87 (21 April 1978)

Presidential Decree No. 1586. Establishing an Environmental Impact Statement System, including other environmental management-related measures and for other purposes (11 June 1978)

Presidential Decree No. 1587. Instituting the Administrative Code of 1978 (11 June 1978)

Presidential Decree No. 1599. Establishing an Exclusive Economic Zone and for other purposes. (11 June 1978)

Presidential Decree No. 1857. An Act granting new incentives to petroleum service contractors, and for this purpose amending certain sections of Presidential Decree Numbered Eighty-Seven, otherwise known as The Oil Exploration and Development Act of 1972 (01 January 1983)

Presidential Decree No. 1857. An Act granting new incentives to petroleum service contractors, and for this purpose amending certain sections of Presidential Decree Numbered Eighty-Seven, otherwise known as The Oil Exploration and Development Act of 1972 (01 January 1983)

Presidential Decree No. 1857. An Act granting new incentives to petroleum service contractors, and for this purpose amending certain sections of Presidential Decree Numbered Eighty-Seven, otherwise known as The Oil Exploration and Development Act of 1972 (30 January 1987)

Proclamation No. 3, Declaring a national policy to implement reforms mandated by the people, protecting their basic rights, adopting a provisional constitution, and providing for an orderly transition to a government under a new constitution. (25 March 1986)

Proclamation No. 72. Establishing safety and exclusion zones for offshore natural gas wells, flowlines, platform, pipelines, loading buoy and other related facilities for the Malampaya Deep Water Gas-to-Power Project over certain waters and submerged lands adjacent to Batangas, Mindoro and Palawan (10 July 2001)

Public Law No. 235, Chapter 1369. An Act Temporarily to Provide for the Administration of the Affairs of Civil Government in the Philippine Islands, and For Other Purposes (01 July 1902)

Public Law No. 240, Chapter 416. An Act to Declare the Purpose of the People of the United States as to the Future Political Status of the People of the Philippine Islands, and to Provide a More Autonomous Government for those Islands (01 July 1902)

Republic Act No. 386. An Act to ordain and institute the Civil Code of the Philippines (18 June 1949)

Republic Act No. 2264. An Act amending the laws governing local governments by increasing their autonomy and reorganizing provincial governments (19 June 1959)

Republic Act No. 6657. Comprehensive Agrarian Reform Law of 1988. (10 June 1988)

Republic Act No. 6734. An Act providing for the Autonomous Region in Muslim Mindanao. (01 August 1989)

Republic Act No. 6766. An Act providing for an Organic Act for the Cordillera Autonomous Region. (23 October 1989)

Republic Act No. 6938. An Act to ordain a Cooperative Code of the Philippines (10 March 1990)

Republic Act No. 7076. An Act creating a People's Small-scale Mining Program and for other purposes. (27 June 1991)

Republic Act No. 7160. An Act providing for a Local Government Code of 1991. (10 October 1991)

Republic Act No. 7227. An Act accelerating the conversion of military reservations into other productive uses, creating the Bases Conversion and Development Authority for this purpose, providing funds therefor and for other purposes (13 March 1992)

Republic Act No. 7586. An Act providing for the establishment and management of the National Integrated Protected Areas System, defining its scope and coverage, and for other purposes (01 June 1992)

Republic Act No. 7611. An Act adopting the Strategic Environment Plan for Palawan, creating the administrative machinery to its implementation, and converting the Palawan Integrated Area Development Project Office to its Support Staff, providing funds therefor, and for other purposes (19 June 1992)

Republic Act No. 7621. An Act creating the Cebu Port Authority, defining its powers and functions, providing appropriation therefore, and for other purposes (26 June 1992)

Republic Act No. 7638. An Act creating the Department of Energy, rationalizing the organization and functions of government agencies related to energy, and for other purposes (09 December 1992)

Republic Act No. 7922. An Act establishing a special economic zone and free port in the Municipality of Santa Ana and the neighboring islands in the Municipality of Aparri, Province of Cagayan, providing funds therefor, and for other purposes (24 February 1995)

Republic Act No. 8371. The Indigenous Peoples' Rights Act. (29 October 1997)

Republic Act No. 8424. An Act amending the National Internal Revenue Code, as amended, and for other purposes (11 December 1997)

Republic Act No. 8479. An Act deregulating the downstream oil industry and for other purposes. (10 February 1998)

Republic Act No. 8550. An Act providing for the development, management, and conservation of the fisheries and aquatic resources, integrating all laws pertinent thereto, and for other purposes. (25 February 1998)

Republic Act No. 9054. An Act to strengthen and expand the Organic Act for the Autonomous Region of Muslim Mindanao, amending for the purpose Republic Act No. 6734, entitled "An Act providing for the Autonomous Region in Muslim Mindanao, as amended." (31 March 2001)

Republic Act No. 9136. An Act ordaining reforms in the electric power industry, amending for the purpose certain laws and for other purposes (08 June 2001)

Republic Act No. 9147. An Act providing for the conservation and protection of wildlife resources and their habitats, appropriating funds therefor and for other purposes (30 July 2001)

Republic Act No. 9275. An Act providing for a Comprehensive Water Quality Management and for other purposes. (22 March 2004)

Republic Act No. 9295. An Act promoting the development of Philippine domestic shipping, shipbuilding, ship repair and ship breaking, ordaining reforms in government policies towards shipping in the Philippines, and for other purposes (03 May 2004)

Republic Act No. 9301. An Act amending certain provisions of Republic Act No. 7471, entitled "An Act to promote the development of the Philippine overseas shipping" and for other purposes (27 July 2004)

Republic Act No. 9367. An Act to direct the use of Biofuels, establishing for this purpose the biofuel program, appropriating funds therefor, and for other purposes (12 January 2007)

Republic Act No. 9483. An Act providing for the implementation of the provisions of the 1992 International Convention on Civil Liability for Oil Pollution Damage and the 1992 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, providing penalties for violations thereof, and for other purposes (02 June 2007)

Republic Act No. 9513. An Act promoting the development, utilization, and commercialization of renewable energy resources and for other purposes. (16 December 2008)

Republic Act No. 9520. An Act amending the Cooperative Code of the Philippines to be known as the "Philippine Cooperative Code of 2008" (28 June 2008)

Republic Act No. 9522. An Act to amend certain provisions of Republic Act No. 3046, as amended by Republic Act No. 5446, to define the archipelagic baselines of the Philippines, and for other purposes (10 March 2009)

Republic Act No. 9593. An Act declaring a national policy for tourism as an engine of investment, employment, growth and development, and strengthening the Department of Tourism and its attached agencies to effectively and efficiently implement that policy, and appropriating funds therefor (12 May 2009)

Republic Act No. 9729. An Act mainstreaming Climate Change into government policy formulations, establishing the Framework Strategy and Program on Climate Change, creating for this purpose the Climate Change Commission, and for other purposes. (23 October 2009)

Republic Act No. 9993. An Act establishing the Philippine Coast Guard as an armed and uniformed service attached to the Department of Transportation and Communications, thereby repealing Republic Act No. 5173, as amended, and for other purposes. (12 February 2010)

Republic Act No. 10000. An Act providing for an agriculture and agrarian reform credit and financing system through banking institutions. (23 February 2010)

B. Executive Instruments

Barangay Bucana Five-Year Development Plan, Year 2006-2020. Barangay Bucana, El Nido, Palawan, 2007.

DBM - DOE - DOF Joint Circular No. 3. Implementing guidelines for the release of funds for the implementing of development projects chargeable against the Gas-Malampaya Collection per SC 38 pursuant to Executive Order No. 683. (30 January 2008)

DENR - DOE Memorandum of Agreement on Streamlining of EIS Process for Energy Projects (11 October 1999)

DENR Administrative Order No. 2003-30. Implementing Rules and Regulations for the Philippine Environmental Impact Statement (EIS) System. (30 June 2003).

DENR Administrative Order No. 2003-30. Implementing Rules and Regulations of the Philippine Environmental Impact (EIS) System (20 June 2003)

DENR Administrative Order No. 96-37. Revising DENR Administrative Order No. 21, Series of 1992, to further strengthen the implementation of the Environmental Impact Statement System (02 December 1996)

DENR Memorandum Circular No. 00-01. IEE Checklist for Selected Projects. (23 May 2000)

DENR Memorandum Circular No. 003, s. 2006. IEE Checklist for Wind Energy Projects (19 September 2006)

DENR Memorandum Circular No. 01, Series of 2005. Procedural Manual for DENR Administrative Order No. 30 Series of 2003 (DAO 03-30) (21 August 2007)

DENR Memorandum Circular No. 02-03. Additional IEE Checklist for Selected Projects. (20 March 2002)

DENR Memorandum Circular No. 04-04. IEE Checklist for Economic Zone Enterprise (05 October 2004)

DENR Memorandum Circular No. 06-03. IEE Checklist for Wind Energy Projects (16 September 2006)

DENR Memorandum Circular No. 08, Series of 2007. Simplifying the requirements for Environmental Compliance Certificate or Certificate of Non-Coverage Applications (13 July 2007)

DILG - DOE -DOE Circular No. 98-01. Guidelines and procedures on the utilization of the share of national wealth taxes, fees, royalties and charges derived from energy resources (30 September 1998)

DOE Department Circular No. 2004-04-004, Guidelines on the Issuance of Certificate of Accreditation and Certificate of Authority to Import under the Natural Gas Vehicle Program for Public Transport (02 April 2004)

DOE Department Circular No. 2006-04-0004 Adopting Department Circular No. DC2004-04-004 entitled "Guidelines on the Issuance of Certificate of Accreditation and Certificate of Authority to Import under the Natural Gas Vehicle Program for Public Transport" as the implementing rules and regulations of Executive Order Nos. 396 and 488 dated December 31, 2004 and January 12, 2006 respectively, and the Department Circular No. DC2005-07-006 dated July 5, 2005 and amending certain provisions of the said DC2004-04-004.

DOE Department Circular No. 2009-04-004, Reiterating a transparent and competitive system of awarding Service/Operating contracts for coal, geothermal and petroleum prospective areas, repealing for this purpose Department Circular No. DC2006-12-0014 (02 April 2009)

DOE Department Circular No. 2009-07-0011. Guidelines governing a transparent and competitive system of awarding renewable energy Service/Operating contracts and providing for the registration process of renewable energy developers (12 June 2009)

DOE Department Circular No. 95-06-006, Policy Guidelines on the Overall Development and Utilization of Natural Gas in the Philippines. Taguig City, Philippines: Department of Energy, 1995.

DOE Department Circular No. 98-03-005, Rules and Regulations Implementing Executive Order No. 462 (31 March 1998)

DOE Department Circular No. Dc 2002-08-005, Interim Rules and Regulations Governing the Transmission, Distribution, and Supply of Natural Gas. Taguig City, Philippines: Department of Energy, 2002.

DOE Department Circular No. DC 2003-05-005, Procedures for Contract Area Definition and Public Contracting Rounds in Petroleum Prospective Areas (19 May 2003).

DOE Department Circular No. DC2009-05-0008. Rules and regulations implementing Republic Act No. 9513 (25 May 2009)

DOE Department Order No. 2002-02-001, Constituting the DOE New & Renewable Energy Contract Negotiating Panel (12 February 2002)

DOE Department Order No. 2003-05-005, Order Reconstituting the DOE Contracts Negotiating Panel (2003).

DOE Energy Regulations No. 1-94. Rules and regulations implementing Section 5(i) of Republic Act No. 7638, otherwise known as the Department of Energy Act of 1992. (24 May 1994)

DOE. Accounting Procedure (MSC Annex B). Taguig City, Philippines: Department of Energy, 2003.

DOE. Model Service Contract. Taguig City, Philippines: Department of Energy, 2003.

Executive Order No. 125-A. Amending Executive Order No. 125, entitled "Reorganizing the Ministry of Transportation and Communications, defining its powers and functions, and for other purposes." (13 April 1987)

Executive Order No. 12898,
<http://www.epa.gov/compliance/resources/policies/ej/exec_order_12898.pdf> Last updated: 11 February 1994

Executive Order No. 15. Creating the Philippine Council for Sustainable Development. (01 September 1996)

Executive Order No. 232, Amending Executive Order No. 462, Enabling private sector participation in the exploration, development, utilization, and commercialization of

ocean, solar, and wind energy resources for power generation and other energy uses (23 April 2000)

Executive Order No. 254. Creating the Philippine Gas Project Task Force. (30 June 1995)

Executive Order No. 62. Further strengthening the Philippine Council for Sustainable Development (PCSD) (10 December 2001)

Executive Order No. 683. Authorizing the use of fees, revenues and receipts from Service Contract No. 38 for the implementation of development projects for the people of Palawan (01 December 2007)

Joint Congressional Power Commission. Rules and Regulations to Implement Republic Act No. 9136 entitled Electric Power Industry Reform Act of 2001. (27 February 2002)

Philippine Council for Sustainable Development, "Philippine Agenda 21," National Economic Development Authority online: <<http://www.psdn.org.ph/agenda21/start.htm>> Last updated: 16 December 2008 (Date accessed: 03 March 2010)

PPA Administrative Order No. 002-1998. Guidelines of the transfer of the administration of government ports by Local Government Units and Government Corporations (05 August 1998)

Presidential Administrative Order No. 381. Providing for the fulfillment by the National Power Corporation of its obligations under the Agreement for the Sale and Purchase of Natural Gas dated December 30, 1997 with Shell Philippines Exploration B.V./Occidental Philippines, Inc. and the compliance of the national government, through the Department of Finance and the Department of Energy with its performance undertaking therefor and other purposes (17 February 1998)

Presidential Memorandum Order No. 399. Directing the operationalization of the Philippine Agenda 21 and monitoring its implementation. (26 September 1996)

Presidential Memorandum Order No. 47. Strengthening the operationalization and localization of PA21 and monitoring its implementation. (25 January 1999)

Presidential Proclamation No. 1081. Proclaiming a state of martial law in the Philippines. (21 September 1972)

Supreme Court Administrative Matter No. 09-6-8-SC. Rules of Procedure for Environmental Cases (29 April 2010)

Supreme Court Administrative Matter No. 09-6-8-SC. Rules of Procedure for Environmental Cases (29 April 2010)

Supreme Court Administrative Order No. 23-3008. Designation of special courts to hear, try and decide environmental cases. (28 January 2008)

C. Jurisprudence

1. Philippine Cases

Agricultural Credit v. Confederation [1969]. S.C. L-21484, 141 P.R. 334.

Agustin v. Workmen's Compensation Commission [1964]. S.C. L-19957, 120 P.R. 846.

Alfanta v. Noe [1973]. S.C. L-32362, 152 P.R. 458.

Alvarez v. PICOP Resources [2009]. S.C. 162243, online
<<http://sc.judiciary.gov.ph/jurisprudence/2009/december2009/162243.htm>>

Ang Tibay v. Court of Industrial Relations [1940]. S.C. 46496, 69 P.R. 635.

Antamok Goldfields Mining v. Court of Industrial Relations [1940]. S.C. 46892, 70 P.R. 340.

ASLIP v. Secretay of Agrarian Reform [1989]. S.C. 78742, 175 S.C.R.A. 366.

Asosacion de Agricultores v. Talisay-Silay Milling Co. [1979]. S.C. L-19937, 177 P.R. 247.

Bangus Fry Fisherfolk v. Lanzanas [2003]. S.C. 131442, 453 P.R. 479.

Basa v. Federacion Obrera [1974]. S.C. L-27113, 158 P.R. 753.

Basa v. Workmen's Compensation Commission [1981]. S.C. L-43098, 191 P.R. 277.

Biscarra v. Republic [1980]. S.C. L-43425, 184 P.R. 209.

Bradman Company v. Court of Industrial Relations [1977]. S.C. L-24134-35, 168 P.R. 179.

Cabatan v. Court of Appeals [1980]. S.C. L-44875-76, 184 P.R. 281.

Calalang v. Williams [1940]. S.C. 47800, 70 P.R. 726.

Cariño v. Insular Government [1909]. S.C. 72, 41 P.R. 935.

Chavez v. Public Estates Authority [2002]. S.C. 133250, 433 P.R. 506.

Concerned Residents of Manila Bay v. Philippine Government [2009]. R.T.C. B1851-99, online <http://www.thelawofnature.org/files/RTC_DECISION_Sept-13_2002.pdf>

Corales v. Workmen's Compensation Commission [1979]. S.C. L-44063, 177 P.R. 501.

Cosmos Foundry Shiof Workers Union v. Lo [1975]. S.C. L-40136, 159 P.R. 916.

Cristobal v. Employees' Compensation Commission [1981]. S.C. L-49280, 190 P.R. 1030.

Cruz v. Secretary of Environment and Natural Resources [2000]. S.C. 135385, 400 P.R. 904.

De los Santos v. Workmen's Compensation Commission [1983]. S.C. L-43008, 120 S.C.R.A. 730.

Del Rosario v. De los Santos [1968]. S.C. L-20589-90, 131 P.R. 298.

Edu v. Ericta [1970]. S.C. L-32096, 146 P.R. 469.

Elizalde v. Victoriano Rope Workers Union [1974]. S.C. L-25246, 158 P.R. 60.

Garchitorena v. Panganiban [1962]. S.C. L-17784, 116 P.R. 651.

Gonzaga v. Employees' Compensation Commission [1984]. S.C. L-62287, 212 P.R. 405.

Guido v. Rural Progress Administration [1949]. S.C. L-2089, 84 P.R. 847.

Henares v. Land Transportation Franchising and Regulatory Board [2006]. S.C. 158290, 505 S.C.R.A. 104.

In re. Shoop [1920], 41 P.R. 213.

Javellana v. Executive Secretary [1973]. S.C. L-36142, 151-A P.R. 35.

Krivenko v. Register of Deeds [1947]. S.C. L-630, 79 P.R. 461.

La Bugal B'laan v. Secretary (Reconsideration) [2004]. S.C. 127882, 486 P.R. 754.

La Bugal B'laan v. Secretary [2004], 421 S.C.R.A. 148.

Laguna Lake Development Authority v. Court of Appeals [1994]. S.C. 110120, 231 S.C.R.A. 292.

Lina v. Paño [2001]. S.C. 129093, 416 P.R. 438.

Liwanag v. Court of Appeals [1983]. S.C. L-61425, 121 S.C.R.A. 354.

Magtoto v. Manguera [1975]. S.C. L-37201-02, 159 P.R. 611.

Metro Manila Development Authority v. Concerned Residents of Manila Bay [2008]. S.C. 171947 -948, 574 S.C.R.A. 661.

Minors Oposa v. Secretary of Environment and Natural Resources [1993]. S.C. 101083, 224 S.C.R.A. 792.

Mustang Lumber v. Court of Appeals [1996]. S.C. 104988, 327 P.R. 214.

Nilo v. Court of Appeals [1984]. S.C. L-34586, 213 P.R. 460.

Ocampo v. Government Service Insurance System [1947]. S.C. L-602, 78 P.R. 216.

Paat v. Court of Appeals [1997]. S.C. 111107, 334 P.R. 146.

Panotes v. Employees Compensation Commission [1985]. S.C. L-64802, 223 P.R. 188.

Parian v. Workmen's Compensation Commission [1978]. S.C. L-42433, 174 P.R. 191.

People v. Evangelista [1932]. S.C. 36275, 57 P.R. 354.

People v. Evangelista [1932]. S.C. 36278, 57 P.R. 375.

People v. Pomar [1924]. S.C. 22008, 46 P.R. 440.

Philippine Apparel Workers Union v. National Labor Relations Commission [1981]. S.C. L-50320, 193 P.R. 599.

Philippine Blooming Mills Employees v. Philippine Blooming Mills Co. [1973]. S.C. 31195, 51 S.C.R.A. 189.

Philippine Sugar Estates v. Prudencio [1946]. S.C. L-75, 76 P.R. 111.

Pollution Adjudication Board v. Court of Appeals [1991]. S.C. 93891, 195 S.C.R.A. 112.

PPA v. Iloilo [2003]. S.C. 109791, 406 S.C.R.A. 88.

Republic v. Baylosis [1955]. S.C. L-6191, 96 P.R. 461.

Republic v. Court of Appeals [2004]. S.C. 126316, 432 S.C.R.A. 593.

Salonga v. Farrales [1981]. S.C. L-47088, 192 P.R. 614.

Santos v. Workmen's Compensation Commission [1977]. S.C. L-43243, 75 S.C.R.A. 364.

Segismundo v. Government Service Insurance System [1983]. S.C. L-50941, 121 S.C.R.A. 304.

Serrano v. Gallant Maritime Services [2009]. S.C. 167614, online <<http://sc.judiciary.gov.ph/jurisprudence/2009/march2009/167614.htm>>

Social Justice Society v. Mayor of Manila [2008]. S.C. 156052, 545 S.C.R.A. 92.

Tan v. COMELEC [1986]. S.C. L-73155, 142 S.C.R.A. 727.

Tanada v. Tuvera [1985]. S.C. L-63915, 136 S.C.R.A. 27.

Tano v. Provincial Governor of Palawan [1997]. S.C. 110249, 343 P.R. 670.

United States v. Bull [1940]. S.C. L-4614, 15 P.R. 7.

Victorias Milling v. Workmen's Compensation Commission [1969]. S.C. L-25665, 28 S.C.R.A. 285.

Ysmael & Co. v. Deputy Executive Secretary [1990]. S.C. 79538, 190 S.C.R.A. 673.

2. International Cases

Legality of the Threat Or Use of Nuclear Weapons, Advisory Opinion, [1996] ICJ Reports 809.

Case Concerning the Gabčíkovo-Nagymaros Project (Hungary V Slovakia), [1997] ICJ Reports 7.

Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay), Judgment of 20 April 2010, online: International Court of Justice <<http://www.icj-cij.org/docket/files/135/15877.pdf>> Date accessed: 07 July 2010)

Case Concerning the Maritime Delimitation in the Area Between Greenland and Jan Mayen (Denmark V Norway), [1993] ICJ Reports 38.

Case Concerning the Dispute Regarding Navigational and Related Rights (Costa Rica V. Nicaragua), Judgment of 13 July 2009, online: International Court of Justice <<http://www.icj-cij.org/docket/files/133/15321.pdf>> Date accessed: 07 July 2010.

Delimitation of the Maritime Boundary in the Gulf of Maine Area (Canada V. United States), [1984] ICJ Reports 246

Letter From the Ambassador of Ecuador (Appointed) to the Kingdom of the Netherlands to the Registrar of the International Court of Justice, dated 31 March 2008, online: International Court of Justice <<http://www.icj-cij.org/docket/files/138/14474.pdf>> Date accessed: 07 July 2010.

Request for Examination of the Situation in Accordance With Paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests (New Zealand V France) Case, [1995] ICJ Reports 288

D. International Materials

1. Treaties and Conventions

African Convention on the Conservation of Nature and Natural Resources. Algiers, 15 September 1968, 1001 U.N.T.S. 3 (entered into force 16 June 1969).

Agreement Establishing the South Pacific Regional Environment Programme. Apia, 16 June 1993 (entered into force 31 August 1993).

Agreement Governing the Activities of States on the Moon and Other Celestial Bodies. New York, 18 December 1979, 18 I.L.M. 1434 (entered into force 11 July 1984).

Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area. Monaco, 24 November 1996, 36 I.L.M. 777 (entered into force 01 June 2001).

Agreement on the Conservation of Polar Bears. Oslo, 23 April 1969, 13 I.L.M. 13 (1974) (entered into force 26 May 1978).

Arctic Environmental Protection Strategy. Rovaniemi, 14 June 1991, 30 I.L.M. 1624.

ASEAN Agreement on the Conservation of Nature and Natural Resources, Kuala Lumpur, 09 July 1985, online: Association of Southeast Asian Nations <<http://www.aseansec.org/1490.htm>> Last updated: 30 November 2009 (Date accessed: 10 July 2010).

Cartagena Protocol on Biosafety to the Convention on Biological Diversity. Montreal, 29 January 2000, 39 I.L.M. 1027 (entered into force 11 September 2003).

Convention for Cooperation in the Protection of the Marine and Coastal Environment of the West and Central African Region. Abidjan, 23 March 1981, 20 I.L.M. 746 (entered into force 05 August 1984).

Convention for the Establishment of the Lake Victoria Fisheries Organization. Kisumu, 30 June 1994, 36 I.L.M. 667 (entered into force 24 May 1996).

Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region. Cartagena de Indias, 24 March 1983, 22 I.L.M. 240 (entered into force 11 October 1986).

Convention for the Protection of the Marine Environment in the North-East Atlantic. Paris, 22 September 1992, 32 I.L.M. 1069 (entered into force 25 March 1998).

Convention for the Protection of the Marine Environment of the Caspian Sea. Teheran, 11 November 2003, 44 I.L.M. 1 (entered into force 12 August 2006).

Convention for the Protection of the Mediterranean Sea Against Pollution. Barcelona, 16 February 1976, 15 I.L.M. 285 (entered into force 12 February 1978).

Convention for the Protection of the Natural Resources and Environment of the South Pacific Region. Noumea, 25 November 1986, 26 I.L.M. 38 (entered into force 1990).

Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region. Nairobi, 21 June 1985, online: United Nations Environment Programme
<http://www.unep.org/NairobiConvention/docs/English_Nairobi_Convention_Text.pdf>
Last updated: 10 July 2010 (Date accessed: 10 July 2010).

Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. Aarhus, 25 June 1998, 38 I.L.M. 517 (entered into force 08 October 2009).

Convention on Biological Diversity. Rio de Janeiro, 05 June 1992, 31 I.L.M. 818 (entered into force 29 December 1993).

Convention on Conservation of Nature in the South Pacific. Apia, 12 June 1976 (entered into force 26 June 1990), online: Center for International Earth Science Network
<<http://sedac.ciesin.org/entri/texts/nature.south.pacific.1976.html>> Last updated: 12 March 2001 (Date accessed: 10 July 2010) .

Convention on Environmental Impact Assessment in a Transboundary Context. Espoo, 25 February 1991, 30 I.L.M. 800 (entered into force 10 September 1997).

Convention on Persistent Organic Pollutants. Stockholm, 22 May 2001, 40 I.L.M. 532 (entered into force 17 May 2004).

Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. Rotterdam, 11 September 1998, 38 I.L.M. 1 (entered into force 24 February 2004).

Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. Honolulu, 05 September 2000, 40 I.L.M. 278 (entered into force 19 June 2004).

Convention on the Conservation of European Wildlife and Natural Habitats. Bern, 19 September 1979 (entered into force 01 March 2002), online: Council of Europe

<<http://conventions.coe.int/treaty/en/treaties/html/104.htm>> Last updated: 09 December 2009 (Date accessed: 10 July 2010).

Convention on the Conservation of Migratory Species of Wild Animals. Bonn, 23 June 1979, 19 I.L.M. 15 (entered into force 01 November 1983).

Convention on the International Trade in Endangered Species. Washington DC, 03 March 1973, 993 UNTS 243 (entered into force 01 July 1975).

Convention on the Law on Non-Navigational Uses of International Watercourses. New York, 21 May 1997, 36 I.L.M. 700 (Not yet in force).

Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques. New York, 18 May 1977, 1108 UNTS 151 (entered into force 05 October 1978).

Convention on the Protection and Use of Transboundary Watercourses and International Lakes. Helsinki, 17 March 1992, 31 I.L.M. 1312.

Convention on the Transboundary Effects of Industrial Accidents. Helsinki, 17 March 1992, 31 I.L.M. 1330 (entered into force 19 April 2000).

International Convention for the Regulation of Whaling. Washington DC, 02 December 1946, (entered into force 10 November 1948).

Kuwait Regional Convention on Cooperation for the Protection of the Marine Environment From Pollution. Kuwait, 24 April 1978, 17 I.L.M. 501 (entered into force 01 July 1979).

Kyoto Protocol to the United Nations Framework Convention on Climate Change. Kyoto, 10 December 1997, 37 I.L.M. 22 (entered into force 16 February 2005).

North American Agreement on Environmental Cooperation. Washington DC, Ottawa, Mexico City, 14 September 1993, 32 I.L.M. 1480 (entered into force 01 January 1994).

Protocol on Pollutant Release and Transfer Registers. Kiev, 21 May 2003, (entered into force 08 October 2009).

Protocol on Strategic Environmental Assessments to the Convention on Environmental Impact Assessment in a Transboundary Context. Kiev, 21 May 2003 (not yet in force).

Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, London, 17 June 1999, UN Doc. MP.WAT/AC.1/1999/1 (entered into force 04 August 2005).

Protocol to the 1972 Convention on the Prevention of Marine Pollution By Dumping of Wastes and Other Matter. London, 07 November 1996, 36 I.L.M. 1(entered into force 24 March 2006).

Regional Convention for the Conservation of the Red Sea and the Gulf of Aden Environment. Jeddah, 14 February 1982 (entered into force 20 August 1985), online: United Nations Environment Programme
<<http://www.unep.ch/regionalseas/main/persga/convtext.html>> Last updated: 12 September 2006 (Date accessed: 10 July 2010)

Treaty for Amazonian Cooperation. Brasilia, 03 June 1978, 17 I.L.M. 1045 (entered into force 03 August 1980).

Treaty on the River Plate Basin. Brasilia, 23 April 1969, 8 I.L.M. 905 (entered into force 14 August 1970).

UNESCO Convention for the Protection of the World Cultural and Natural Heritage. Paris, 16 November 1972, 11 I.L.M. 1358 (entered into force 17 December 1975).

United Nations Convention on the Law of the Sea. Montego Bay, 10 December 1982, 21 I.L.M. 1261(entered into force 28 July 1994).

United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought And/or Desertification, Particularly in Africa. Paris, 17 June 1994, 33 I.L.M. 1328 (entered into force 26 December 1996).

United Nations Framework Convention on Climate Change. New York, 09 May 1992, 31 I.L.M. 849 (entered into force 21 March 1994).

2. UN Documents

Achievement of Social Justice. GA Res. 42/49, UN GAOR, UN Doc A/RES/42/49 (1989).

Achievement of Social Justice. GA Res. 44/55, UN GAOR, UN Doc A/RES/44/55 (1989).

Achievement of Social Justice. GA Res. 45/86, UN GAOR, UN Doc A/RES/45/86 (1991).

Achievement of Social Justice. ESC Res. 1988/46, UN ESCOR, UN Doc E/RES/1988/46 (1988).

Achievement of Social Justice. ESC Res. 1989/71, UN ESCOR, UN Doc E/RES/1989/71 (1989).

Achievement of Social Justice. ESC Res. 1990/25, UN ESCOR, UN Doc E/RES/1990/25 (1990).

Activities of Foreign Economic and Other Interests Which Are Impeding the Implementation of the Declaration on Granting of Independence to Colonial Countries and Peoples in Southern Rhodesia, South West Africa and Territories under Portuguese domination and in all other Territories under Colonial administration and efforts to eliminate colonialism, apartheid and racial discrimination in Southern Africa. GA Res. 2258 (XXII), UN GAOR, UN Doc Reso. No. 2258 (XXII) (1967).

Activities of Foreign Economic and Other Interests Which Are Impeding the Implementation of the Declaration on the Granting of Independence to Colonial Countries and Peoples in Southern Rhodesia, Namibia and Territories under Portuguese domination and in all other Territories under colonial domination and efforts to eliminate colonialism, apartheid and racial discrimination in Southern Africa. GA Res. 2979 (XXVII), UN GAOR, UN Doc Reso. No. 2258 (XXII) (1972).

Aging. ESC Res. 1983/21 (XIV), UN ESCOR, UN Doc E/RES/1983/21 (1983).

Agricultural Technology for Development. GA Res. 62/190, UN GAOR, UN Doc A/RES/62/190 (2008).

An International Development Strategy for the Third U.n. Development Decade. GA Res. 35/56, UN GAOR, UN Doc A/RES/35/56 (1981).

Arrangements for the Transfer of Operative Technology to Developing Countries. ESC Res. 1311 (XLIV), UN ESCOR, UN Doc E/RES/1311(XLIV) (1968).

Arrangements for the Transfer of Operative Technology to Developing Countries. ESC Res. 1361 (XLV), UN ESCOR, UN Doc E/RES/1361(XLV) (1968).

Arrangements for the Transfer of Operative Technology to Developing Countries. ESC Res. 1429 (XLVI), UN ESCOR, UN Doc. E/RES/1429(XLVI) (1969).

Arrangements for the Transfer of Operative Technology to Developing Countries. GA Res. 1201 (XLII), UN GAOR, UN GA Res. 1201 (XLII) (1967).

Charter of the Economic Rights and Duties of States. GA Res. 3281 (XXIX), UN GAOR, UN GA Res. 3281 (XXIX) (1974).

Consideration of Africa As a Denuclearized Zone. GA Res. 1652 (XVI), UN GAOR, UN GA Res. 1652 (XVI) (1961).

Convention on the Prohibition of Military Or Other Hostile Use of Environmental Modification Techniques. GA Res. 31/72, UN GAOR, UN Doc A/RES/31/72 (1976).

Cooperation in the Field of the Environment Concerning Natural Resources Shared By Two Or More States. GA Res. 3129 (XXVIII), UN GAOR, UN GA Res. 3129 (XXVIII) (1973).

Declaration on Social Progress and Development. GA Res. 24/2542, UN GAOR UN Doc A/RES/24/2542 (1969).

Declaration on the Denuclearization of Africa. GA Res. 2033 (XX), UN GAOR, UN GA Res. 2033 (XX) (1965).

Declaration on the Elimination of All Forms of Intolerance and of Discrimination Based on Religion Or Belief. GA Res. 36/55, UN GAOR, UN Doc A/RES/36/55 (1981).

Declaration on the Establishment of a New International Economic Order. GA Res. 3201 (S-VI), UN GAOR, UN GA Res. 3201 (S-VI) (1974).

Declaration on the Prohibition of the Use of Nuclear and Thermo-Nuclear Weapons. GA Res. 1653 (XVI), UN GAOR, UN GA Res. 1653 (XVI) (1961).

Declaration on the Use of Scientific and Technological Progress in the Interests of Peace and for the Benefit of Mankind. GA Res. 3384 (XXX), UN GAOR, UN GA Res. 3384 (XXX) (1975).

Development and Environment. GA Res. 2849 (XXVI), UN GAOR, UN Doc Reso. No. 2849 (XXVI) (1971).

Development of International Co-Operation in the Fields of Science, Culture and Education. GA Res. 1164 (XII), UN GAOR, UN Doc A/RES/1164(XII) (1957).

Draft Convention on Weather Modification. 13 I.L.M. 1472 (1974)

Economic Development and the Conservation of Nature. GA Res. 1831 (XVII), UN GAOR, UN GA Res. 1831 (XVII) (1962).

Efforts and Measures for Securing the Implementation and Enjoyment By Youth of Human Rights, Particularly the Right to Education and to Work. GA Res. 36/29, UN GAOR, UN Doc A/RES/35/29 (1981).

Efforts and Measures for Securing the Implementation and Enjoyment By Youth of Human Rights, Particularly the Rights to Life, Education and Work. GA Res. 1985/27, UN GAOR, UN Doc A/RES/1985/27 (1985).

Environmental Protection of Extraterritorial Spaces for Present and Future Generations. GA Res. 44/451, UN GAOR, UN Doc A/DEC/44/451 (1989).

First Review and Appraisal of the Implementation of the International Plan of Action on Aging. ESC Res. 1985/28, UN ESCOR, UN Doc E/RES/1985/28 (1985).

General and Complete Disarmament. GA Res. 1378 (XIV), UN GAOR, UN GA Res. 1378 (XIV) (1959).

Historical Responsibility of States for the Preservation of Nature for Present and Future Generations. GA Res. 35/8, UN GAOR, UN Doc A/RES/35/8 (1980).

Historical Responsibility of States for the Preservation of Nature for Present and Future Generations. GA Res. 36/7, UN GAOR, UN Doc A/RES/36/7 (1981).

Human Rights and Scientific and Technological Developments. GA Res. 3026 (XXVII), UN GAOR, UN GA Res. 3026 (XXVII) (1972).

Human Rights and Scientific and Technological Developments. GA Res. 3268 (XXIX), UN GAOR, UN GA Res. 3268 (XXIX) (1974).

Implementation of the International Plan of Action on Aging. GA Res. 40/30, UN GAOR, UN Doc A/RES/40/31 (1985).

Implementation of the Vienna Programme of Action on Science and Technology for Development. GA Res. 44/14, UN GAOR, UN Doc A/RES/44/14 (1989).

Institutional and Financial Arrangements for International Environmental Cooperation. GA Res. 2997 (XXVII), UN GAOR, UN Doc A/RES/2997 (XXVII) (1973).

International Code of Conduct on the Transfer of Technology. GA Res. 45/204, UN GAOR, UN Doc A/RES/45/204 (1990).

International Code of Conduct on the Transfer of Technology. GA Res. 46/214, UN GAOR, UN Doc A/RES/46/214 (1991).

International Code of Conduct on the Transfer of Technology. GA Res. 47/182, UN GAOR, UN Doc A/RES/47/182 (1993).

International Cooperation in the Application of Science and Technology to Economic and Social Development. GA Res. 1944 (XVIII), UN GAOR, UN Doc A/RES/1944 (XVIII) (1963).

International Covenant on Civil and Political Rights. GA Res. 2200A (XXI), UN GAOR, 21st Sess., Supp. No. 16. UN Doc A/6316 (1966) (1966). 52

International Covenant on Economic, Social and Cultural Rights. GA Res. 2200A (XXI), UN GAOR, 21st Sess., Supp. No. 16. UN Doc A/6316 (1966) (1966). 49

International Cultural and Scientific Co-Operation. GA Res. 1043 (XI), UN GAOR, UN Doc A/RES/1043(XI) (1957).

International Relations and Exchanges in the Fields of Education, Science and Culture. ESC Res. 803 (XXX), UN ESCOR, UN Doc E/RES/803 (XXX) (1960).

International Relations and Exchanges in the Fields of Education, Science and Culture. GA Res. 1397 (XIV), UN GAOR, UN Doc A/RES/1397(XIV) (1959).

Methods to Increase World Productivity. GA Res. 522 (VI), UN GAOR, UN Doc A/RES/522(VI) (1952).

Permanent Sovereignty Over Natural Resources of Developing Countries and Expansion of Domestic Sources of Accumulation for Economic Development. GA Res. 2692 (XXV), UN GAOR, UN Doc Reso. No. 2169 (XXI) (1970).

Permanent Sovereignty Over Natural Resources of Developing Countries. GA Res. 3016 (XXVII), UN GAOR, UN GA Res. 3016 (XXVII) (1972).

Permanent Sovereignty Over Natural Resources of Developing Countries. GA Res. 1737 (LIV), UN GAOR, UN Doc Reso. No. 1737 (LIV) (1973).

Permanent Sovereignty Over Natural Resources. GA Res. 1803 (XVII), UN GAOR, UN Doc Reso. No. 1820 (XVII) (1962).

Permanent Sovereignty Over Natural Resources. GA Res. 2158 (XXI), UN GAOR, UN Doc Reso. No. 2169 (XXI) (1966).

Permanent Sovereignty Over Natural Resources. GA Res. 3171 (XXVIII), UN GAOR, UN GA Res. 3171 (XXVIII) (1973).

Prevention of the Wider Dissemination of Nuclear Weapons. GA Res. 1376 (XV), UN GAOR, UN GA Res. 1376 (XV) (1960).

Prevention of the Wider Distribution of Nuclear Weapons. GA Res. 1380 (XIV), UN GAOR, UN GA Res. 1380 (XIV) (1959).

Problems of the Human Environment. GA Res. 2398 (XXIII), UN GAOR, UN GA Res. 2398 (XXIII) (1968).

Process of Preparation of the Environmental Perspective to the Year 2000 and Beyond. GA Res. 38/161, UN GAOR, UN Doc A/RES/38/161 (1983).

Protection of Global Climate for Present and Future Generations of Mankind. GA Res. 43/53, UN GAOR, UN Doc A/RES/43/53 (1989).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 44/207, UN GAOR, UN Doc A/RES/44/207 (1990).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 45/212, UN GAOR, UN Doc A/RES/45/212 (1991).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 47/195, UN GAOR, UN Doc A/RES/47/195 (1993).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 51/184, UN GAOR, UN Doc A/RES/51/184 (1997).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 54/222, UN GAOR, UN Doc A/RES/54/222 (2000).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 57/257, UN GAOR, UN Doc A/RES/57/257 (2003).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 58/243, UN GAOR, UN Doc A/RES/58/243 (2004).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 63/656, UN GAOR, UN Doc A/RES/58/656 (2004).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 59/234, UN GAOR, UN Doc A/RES/59/234 (2005).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 60/197, UN GAOR, UN Doc A/RES/60/197 (2006).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 61/201, UN GAOR, UN Doc A/RES/61/201 (2007).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 62/86, UN GAOR, UN Doc A/RES/62/86 (2008).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 63/32, UN GAOR, UN Doc A/RES/63/32 (2009).

Protection of the Global Climate for Present and Future Generations. Reso 63/32, UN GAOR, (2009). 3 Apr 2009

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 46/169, UN GAOR, UN Doc A/RES/46/169 (1992).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 49/102, UN GAOR, UN Doc A/RES/49/102 (1995).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 52/199, UN GAOR, UN Doc A/RES/52/199 (1998).

Protection of the Global Climate for Present and Future Generations of Mankind. GA Res. 56/199, UN GAOR, UN Doc A/RES/56/199 (2002).

Question of Aging. GA Res. 38/27 (LXVI), UN GAOR, UN Doc A/RES/38/27(XLVI) (1983).

Question of French Nuclear Tests in the Sahara. GA Res. 1379 (XIV), UN GAOR, UN GA Res. 1379 (XIV) (1959).

Questions Relating to Science and Technology. GA Res. 1047 (XXXVII), UN GAOR, UN Doc A/RES/1047(XXXVII) (1964).

Questions Relating to Science and Technology. ESC Res. 980 (XXXVI), UN ESCOR, UN Doc E/RES/980 (XXXVI) (1963).

Recommendations Concerning International Respect for the Right of Peoples and Nations to Self-Determination. GA Res. 1314 (XIII), UN GAOR, (1958).

Report of the Advisory Committee on the Application of Science and Technology to Development. ESC Res. 1083 (XXXIX), UN ESCOR, UN Doc E/RES/1083(XXXIX) (1965).

Report of the Governing Council of the United Nations Environment Programme. GA Res. 3326 (XXIX), UN GAOR, UN GA Res. 3326 (XXIX) (1974).

Report of the United Nations Conference on Environment and Development. UN Doc A/CONF.151/26/Rev. 1 (vol. I) (1992).

Report of the United Nations Scientific Committee on the Effects of Atomic Radiation. GA Res. 1629 (XVI), UN GAOR, UN GA Res. 1629 (XVI) (1961).

Research on the Interrelationships Between Population, Resources, Environment and Development. GA Res. 3345 (XXIX), UN GAOR, UN GA Res. 3345 (XXIX) (1974).

Resolution Establishing the Commission on the Status of Women. ESC Res. 2/11 (1946), UN ESCOR, UN Doc E/RES/2/11 (1946).

Right to Exploit Freely Natural Wealth and Resources. GA Res. 626 (VII), UN GAOR, UN Doc Reso. No. 626 (VII) (1952).

Science and Technology for Development. GA Res. 46/165, UN GAOR, UN Doc A/RES/46/165 (1991).

Science and Technology for Development. GA Res. 52/184, UN GAOR, UN Doc A/RES/52/184 (1998).

Science and Technology for Development. GA Res. 54/201, UN GAOR, UN Doc A/RES/54/201 (2000).

Science and Technology for Development. GA Res. 56/182, UN GAOR, UN Doc A/RES/56/182 (2002).

Science and Technology for Development. GA Res. 58/200, UN GAOR, UN Doc A/RES/58/200 (2004).

Science and Technology for Development. GA Res. 60/205, UN GAOR, UN Doc A/RES/60/205 (2006).

Science and Technology for Development. GA Res. 62/201, UN GAOR, UN Doc A/RES/62/201 (2008).

Science and Technology. GA Res. 2082 (XX), UN GAOR, UN Doc A/RES/2082(XX) (1965).

Science and Technology. GA Res. 2318 (XXII), UN GAOR, UN GA Res. 2318 (XXII) (1967).

Science and Technology. ESC Res. 1155 (XLI), UN ESCOR, UN Doc E/RES/1155 (XLI) (1966).

Second International Decade of the World's Indigenous Peoples. GA Res. 59/174, UN GAOR, UN Doc A/RES/59/174 (2004).

Social Welfare, Development and Science and Technology. GA Res. 44/54, UN GAOR, UN Doc A/RES/44/54 (1989).

Standardization in Industrial Development. ESC Res. 1182 (XLI), UN ESCOR, UN Doc E/RES/1082(XLI) (1966).

Strengthening the Coordination of the Mechanisms on the Commission for Science and Technology for Development: Promoting Complementarity of Activities in the Area of New and Innovative Technologies Within the United Nations System. UN GA Res. 55/185, UN GAOR, UN Doc A/RES/55/185 (2001).

Suspension of Nuclear and Thermo-Nuclear Tests. GA Res. 1377 (XV), UN GAOR, UN GA Res. 1377 (XV) (1960).

Suspension of Nuclear and Thermo-Nuclear Tests. GA Res. 1378 (XV), UN GAOR, UN GA Res. 1378 (XV) (1960).

Suspension of Nuclear and Thermo-Nuclear Tests. GA Res. 1577 (XV), UN GAOR, UN GA Res. 1577 (XV) (1960).

Suspension of Nuclear and Thermo-Nuclear Tests. GA Res. 1578 (XV), UN GAOR, UN GA Res. 1578 (XV) (1960).

The Role of Modern Science and Technology in the Development of Nations and the Need to Strengthen Economic and Technico-Scientific Co-Operation Among States. GA Res. 2658 (XXV), UN GAOR, UN GA Res. 2658 (XXV) (1970).

The Role of Modern Science and Technology in the Development of Nations and the Need to Strengthen Economic, Technical and Scientific Co-Operation Among States. GA Res. 3168 (XXVIII), UN GAOR, UN GA Res. 3168 (XXVIII) (1973).

The Role of Patents in the Transfer of Technology to Under-Developed Countries. ESC Res. 1013 (XXXVII), UN ESCOR, UN Doc E/RES/1013(XXXVI) (1964).

Transfer of Technology to Developing Countries. GA Res. 2091 (XX), UN GAOR, UN Doc A/RES/2091(XX) (1965).

United Nations Conference on an International Code of Conduct on the Transfer of Technology. GA Res. 34/195, UN GAOR, UN Doc A/RES/34/195 (1979).

United Nations Conference on Science and Technology for Development. GA Res. 32/115, UN GAOR, UN Doc A/RES/32/115 (1977).

United Nations Conference on Science and Technology for Development. GA Res. 34/218, UN GAOR, UN Doc A/RES/34/218 (1979).

United Nations Conference on the Human Environment. GA Res. 2657 (XXV), UN GAOR, UN GA Res. 2657 (XXV) (1970).

United Nations Conference on the Human Environment. GA Res. 2850 (XXVI), UN GAOR, UN Doc Reso. No. 2850 (XXVI) (1971).

United Nations Decade of Disabled Persons. ESC Res. 1988/45, UN ESCOR, UN Doc E/RES/1988/45 (1988).

United Nations Declaration on the Rights of Indigenous Peoples. GA Res. 61/295, UN GAOR, UN Doc A/RES/61/295 (2007).

United Nations Development Decade: A Programme for International Economic Co-Operation (I). GA Res. 1710 (XVI), UN GAOR, UN Doc A/RES/1710(XVI) (1959).

United Nations Millennium Declaration. GA Res. No. 55/2., UN GAOR, UN Doc A/RES/55/2 (2000).

Universal Declaration of Human Rights. GA Res. 217(III), UN GAOR, 3d Sess., Supp. No. 13.UN Doc A/RES/810 (1948). 71

Use of Scientific and Technological Developments in the Interests of Peace and Social Development. GA Res. 3150 (XXVIII), UN GAOR, UN GA Res. 3150 (XXVIII) (1973).

World Charter for Nature. GA Res. 37/7, UN GAOR, UN Doc A/RES/37/7 (1982).

World Day of Social Justice. GA Res. 62/10, UN GAOR, UN Doc A/RES/62/10 (2007).

3. Non-Treaty Instruments

“Action Plan for the Protection and Development of the Marine Environment and Coastal Areas of the West and Central African Regions,” 20 I.L.M. 738 (1981).

“Declaration on the Protection of the Ozone Layer,” 28 I.L.M. 1335 (1989).

“Draft Articles on the Preservation of the Marine Environment,” 12 I.L.M. 583 (1973).

"Final Act of the Conference on Security and Co-Operation in Europe, 01 August 1975," 14 I.L.M. 1292 (1975).

Action Plan for the Protection and Development of the Marine Environment and the Coastal Areas of Bahrain, Iran, Iraq, Oman, Qatar, Saudi Arabia, and the United Arab Emirates, 23 April 1978, 17 I.L.M. 501 (1978) (entered into force 01 July 1979).

Amazon Declaration, 06 May 1989, 28 I.L.M. 1303 (1989).

CBD Secretariat. Akwe: Kon Voluntary Guidelines for the Conduct of Cultural, Environmental, and Social Impact Assessment regarding Developments proposed to take place on, or which are likely to impact on, Sacred Sites and on Lands and Waters Traditionally Occupied or used by Indigenous and Local Communities. CBD Guidelines Series. CBD Secretariat, Montreal, 2004.

Copenhagen Accord. UN FCCC Dec. 2/CP.15, UN FCCCOR, 15th Sess.UN Doc FCCC/CP/2009/11/Add.1 (2009). 4.

Hague Declaration on the Environment. Hague, 11 March 1989, 28 I.L.M. 1308 (1989).

Latin American and Caribbean Summit Declaration of Brasilia on the Environment, 31 March 1989, 28 I.L.M. 1311 (1989).

Marrakesh Accords. UN FCCC Dec. 2-14/CP.7, FCCCOR, UN, 7th Sess.UN Doc FCCC/CP/2001/13/Add.1 (2001). 2.

Organization for Economic Cooperation and Development. "Energy and Environment Recommendation C(74)222." In , 1974.

Organization of Petroleum Exporting Countries. "Solemn Declaration of the Sovereigns and Heads of State of the Organization of Petroleum Exporting Countries Concerning the International Economic Crisis." Algiers, 1975: 14 I.L.M. 566.

Plan of Implementation of the World Summit on Sustainable Development. Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002. UN Doc A/CONF.199/20 (2002), 7-72.

Summit of the Central African Heads of State on the Conservation and Sustainable Management of Tropical Forests: The Yaounde Declaration, 17 March 1999, 38 I.L.M. 738 (1999).

United Nations Commission on Sustainable Development. "Report on the Ninth Session, 5 May 2000 and 16-17 April 2001." UN Doc E/CN.17/2001/19, Supp. No. 9 (2001).

United Nations Conference on Trade and Development, "Commission on Science and Technology for Development: Mandate and Institutional Background," online: United Nations Conference on Trade and Development
<<http://www.unctad.org/Templates/Page.asp?intItemID=2700&lang=1>> (Date accessed: 15 February 2010)

United Nations Environment Programme. *Action Plan for the Caribbean Environment Programme.* UN Doc UNEP/CEPAL/IG.27/3, Annex IV (1981).

United Nations Environment Programme. "Appendix to Annex II. Summary of the Recommendations of the High-Level Group of Experts on the Interrelationships Between People, Resources, Environment and Development." UN Doc A/36/25 (1981), 147-48.

United Nations Environment Programme. "Governing Council Decision 15/36 on Global Climate Change." UNEP Governing Council Decision 15/36, 28 I.L.M. 1330 (1989).

United Nations Environment Programme. "Governing Council Decision 20(III) at Its Third Session." UN Doc UNEP/GC/55, 14 I.L.M. 1070 (1975).

United Nations Environment Programme. *Nairobi Declaration on the State of the Worldwide Environment.* UN Doc UNEP/GC.10/INF.5, 21 I.L.M. 676 (1982).

United Nations. *Declaration of the United Nations Conference on the Human Environment.* In U.N. Doc A/CONF.48/14 Corr.1, 11 I.L.M. 1416 (1972).

United Nations. *Declaration of the United Nations Conference on Environment and Development.* UN Doc A/CONF.151/26/Rev. 1, 31 I.L.M. 814 (1992).

United Nations. *United Nations Millennium Declaration.* UN Doc A/RES/55/2, 31 I.L.M. 814 (2000).

Secondary Materials

A. Other Official or Private Documents

Asociacion Espanola de Normalizacion y Certicacion. *Northwind Bangui Bay Project Monitoring Report*. Washington DC: World Bank Online, 2006.

Department of Energy, "Developing the natural gas industry," Department of Energy online:

<http://www.doe.gov.ph/servlet/page?_pageid=399,401,403,407&_dad=portal30&_schema=PORTAL30> (Date accessed: 03 April 2004)

Department of Energy, "Philippine Energy Plan, 2004-2013,"

<http://www.doe.gov.ph/PEP/PEP_2004_2013.pdf> Last updated: 31 December 2006 (Date accessed: 21 August 2008)

Department of Energy, "The Philippine Natural Gas Industry: Vision, Strategy and Policy; A Briefing for the Proponents of House Bill No. 4754," Coordinating Committee for Geoscience Programmes in the East and Southeast Asia online:

<http://www.ccop.or.th/epf/philippines/philippines_profile.html> (Date accessed: 21 August 2008)

Department of Energy, "Study on the Regulatory Framework for the Development of the Natural Gas Industry," <<http://www.doe.gov.ph/ER/ngreports.htm>> Last updated: 19 August 2008 (Date accessed: 21 August 2008)

Department of Energy, "Philippine Energy Plan 2003-2012," Department of Energy online: <http://www.doe.gov.ph/PEP/PEP_2003_2012.pdf> Last updated: 22 April 2010 (Date accessed: 04 May 2010)

Department of Energy, "The Philippine Natural Gas Industry: Vision, Strategy, and Policy (Briefing for the Proponents of House Bill No. 4754, House of Representatives)," Department of Energy - Philippines online:

<http://www.doe.gov.ph/ER/pdf/Nat_Gas_Presentation.ppt> (Date accessed: 21 August 2008)

Department of Energy, "PCR-1 draws firm interest from international oil companies," (Date accessed: 3 March 2004)

Department of Energy, "Philippine Energy Plan 2004-2013," Department of Energy online: <http://www.doe.gov.ph/PEP/PEP_2004_2013.pdf> Last updated: 22 April 2010 (Date accessed: 04 May 2010)

Department of Energy, "Philippine Energy Plan 2004-2013," Department of Energy online: <<http://www.doe.gov.ph/PEP/Previous%20PEP.htm>>

Department of Energy, "Energy Resources: Natural Gas," Department of Energy online: <<http://www.doe.gov.ph/ER/Natgas.htm>> Last updated: 31 August 2005 (Date accessed: 21 August 2008)

Department of Energy, "Mandate, Mission, Vision," Department of Energy online: <<http://www.doe.gov.ph/About%20DOE/Mandate,%20Mission,%20Vision.htm>> (Date accessed: 05 April 2008)

Department of Energy, "Philippine Energy Plan 2005-2014," Department of Energy online: <http://www.doe.gov.ph/PEP/PEP_2005_2014.pdf> Last updated: 22 April 2010 (Date accessed: 04 May 2010)

Department of Energy, "MSE Building, Wind Power Project get ASEAN Energy Awards, DOE Announced," Department of Energy online: <<http://www.doe.gov.ph/press/2006-08-20-mse%20building.html>> Last updated: 20 August 2006

Department of Energy, "Renewable Energy: Geothermal Energy," Department of Energy online: <<http://www.doe.gov.ph/ER/geothermal.htm>> Last updated: 21 November 2007 (Date accessed: 04 May 2010)

Department of Energy, "Philippine Energy Situation," Department of Energy online: <[http://www.doe.gov.ph/PEP/consultations/PLENARY%20\(A.M.\)/Philippine%20Energy%20Situation.pdf](http://www.doe.gov.ph/PEP/consultations/PLENARY%20(A.M.)/Philippine%20Energy%20Situation.pdf)> Last updated: 22 April 2010 (Date accessed: 04 May 2010)

Department of Energy, "Electric Power Development Plans," Department of Energy online: <<http://www.doe.gov.ph/EP/Devp.htm>> Last updated: 22 April 2010 (Date accessed: 04 May 2010)

Department of Energy, "Highlights of the Philippine Energy Plan 2009-2030," Department of Energy online: <<http://www.doe.gov.ph/PEP/default.htm>> Last updated: 22 April 2010 (Date accessed: 04 May 2010)

Department of Energy, "Philippine Energy Outlook," Department of Energy online: <[http://www.doe.gov.ph/PEP/Philippine Energy Outlook.pdf](http://www.doe.gov.ph/PEP/Philippine%20Energy%20Outlook.pdf)> Last updated: 22 April 2010 (Date accessed: 04 May 2010)

Department of Environment and Natural Resources, Philippines. *Environmental Compliance Certificate No. 9708-001-207c*. Quezon City: DENR Environmental Management Bureau, 1998.

Department of Environment and Natural Resources. *Lease Contract (Bangui Foreshore)*. San Fernando La Union: Department of Environment and Natural Resources (Region 1), 2003.

Det Norske Veritas. *Validation Report, Northwind Bangui Bay Project (Report No. 2005-1530)*. Hovik Norway: Det Norske Veritas, 2005.

Department of Energy. *Model Service Contract*. Taguig City, Philippines: Department of Energy, 2003.

Exec. Dir. Benjamin Geronimo, Bureau of Local Government Finance, Letter/Opinion (12 August 2001).

Gaces, Wilfred A. "Letter-Recommendation, Office of the Mayor." In , 2002.

Clean Development Mechanism. "Clean Development Mechanism Project Design Document: Northwind Bangui Bay Project (Project 0543)." CDM online: UN FCCC <<http://cdm.unfccc.int/UserManagement/FileStorage/XKG2H3VVI59T07P953BBUDNBE7AJGR>> (Date accessed: 08 May 2010).

Municipal Resolution No. 6-38-04, A Resolution requesting the Northwind Power Development Corporation to construct two (2) public toilets at strategic places along the coastal road being constructed by said company (23 September 2004)

Municipal Resolution No. 6-39-04, a Resolution earnestly requesting the Northwind Power Development Corporation to construct a permanent spillway at the estuary of the Baruyen and Banban River, Bangui, Ilocos Norte (20 September 2004)

Municipal Resolution No. 6-49-04, Requesting the Department of Energy, Manila to kindly provide information on revenues/taxes in(sic) which the Municipality could impose to(sic) a newly installed wind mill power plant operated by a private corporation (18 October 2004)

Municipal Resolution No. 6-48-05, A Resolution earnestly requesting the Northwind Power Development Corporation to retain the existing access road along the shoreline of Barangays Baruyen, Taguiporo, Manayon, and Masikil, Bangui, Ilocos Norte (09 May 2005)

Municipal Resolution No. 6-50-05, a Resolution earnestly requesting Atty. Arturo V. Baloalao, Director for Legal Services, Department of Energy, Manila to kindly provide information revenues/taxes in [sic] which the Municipality could impose to [sic] a (30 May 2005)

Municipal Resolution No. 6-54-05, a Resolution earnestly requesting Atty. Ferdinand Dumlao, Chairman of the Board of Directors, Northwind Power Development Corporation, Unit 310 Jollibee Plaza Bldg., Emerald Avenue, Ortigas Center, Pasig City, to fur (14 June 2005)

Municipal Resolution No. 6-85-05, a Resolution requesting the Wind Power Development Corporation, Sitio Suyo, Barangay Baruyen, to kindly caused [sic] the

immediate closure of the newly-constructed estuary at the Baruyen River and rehabilitate (28 September 2005)

Municipal Resolution No. 6-32-06, a Resolution endorsing and allowing the Northern Luzon UPC Asia Corporation to exclusively conduct wind assessment research and development of a Clean Development Mechanism (CDM) Project within the period of four (4) (03 July 2006)

Municipal Resolution No. 6-33-06, a Resolution authorizing the Honorable Mayor Wilfred A. Gaces to sign for and in behalf of the Municipality of Bangui the Support Agreement with Northern Luzon UPC Asia Corporation relative to the conduct of wind assessment (03 July 2006)

Municipal Resolution No. 6-41-06, a Resolution requesting Engr. Nicanor Ventura, Manager, Transco, Laoag City, to furnish the Municipality of Bangui, Ilocos Norte the actual energy production of Northwind Development Corporation to date to be used as basis (23 October 2006)

Resolution No. 1458-97, A Resolution authorizing Congressman Vicente A Sandoval, Provincial Council for Sustainable Development (PCSD) Chairman of the Natural Gas and Oil Resources Committee to establish and maintain linkage with Shell/Oxy Consortium, Department of Energy/National Power Corporation (DOE/NPC) and other government entities (03 June 1997)

Palawan Council for Sustainable Development. "Minutes." *67th Regular Meeting of the PCSD*, Quezon City, 20 August 1999.

Palawan Council for Sustainable Development. "Minutes." *72nd Regular Meeting of the Palawan Council for Sustainable Development*, Quezon City, 28 January 2000.

Palawan Council for Sustainable Development. "Minutes." *76th Regular Meeting of the Palawan Council for Sustainable Development*, Quezon City, 14 June 2000.

Palawan Council for Sustainable Development. "PCSD Clearance: Malampaya Gas Project, Offshore Northwest, Palawan." (16 June 2000)

Republic of the Philippines. *A Partial Submission on the Outer Limits of the Continental Shelf of the Republic of the Philippines Pursuant to Article 76(8) of the United Nations Convention on the Law of the Sea*. New York: Commission on the Limits of the Continental Shelf, 2009.

Scientific Advisory Team of ELAC. *The Malampaya Sound Pipeline: A Position Paper of Environmental and Social Concerns Surrounding the Project*. Puerto Princesa City, Philippines: Environmental Legal Assistance Center, Inc. (ELAC), 1999.

Seasteams. *Temporal Audio Measurements in Selected Coastal Areas of Oriental Mindoro and Batangas: Final Report*. Unpublished, 2003.

Shell Philippines Exploration. *Comments on the 'Position Paper on Environmental and Social Concerns Surrounding the Project' By the Environmental Legal Assistance Center, Inc. (Elac) Submitted to Shell Philippines Exploration Bv (Spex) By the Palawan Council for Sustainable Develo*. Muntinlupa City, Philippines: Shell Philippines Exploration BV, 1999.

Solleza, Chanie Marie, and Jeremy Barnes. *Shell Malampaya (Case Study)*. Makati City and New York: Unpublished: Asian Institute of Management and The Synergos Institute, 2003.

Woodward-Clyde Inc. *Scoping Report: Malampaya Gas Project*. Quezon City: Unpublished, 1996.

Woodward-Clyde Inc. *Environmental Impact Statement, Malampaya Gas Project*. 5 vols. Quezon City: DENR Environmental Management Bureau, 1997.

World Bank, "The World Bank Operational Manual, Operational Policies OP 4.01: Environmental Assessment," The World Bank online:
<<http://go.worldbank.org/9LF3YQWTP0>> Last updated: 01 March 2007 (Date accessed: 20 April)

World Bank, "Environmental Assessment," The World Bank online:
<<http://go.worldbank.org/9LF3YQWTP0>> Last updated: 01 January 2008 (Date accessed: 24 July 2008)

World Bank, "Safeguard Policies," The World Bank online:
<<http://go.worldbank.org/WTa1ODE7T0>> Last updated: 01 January 2008 (Date accessed: 24 July 2008)

World Bank. *Integrated Safeguards Data Sheet, Report No. 31489*. Washington DC: The World Bank, 2005.

World Bank. *Project Information Document No. 31488*, 2005.

Resolution No. 02-2000, a Resolution endorsing the establishment of a commercial windmill power plant in Barangay Baruyen, Bangui, Ilocos Norte (13 November 2000)

Resolution No. 09-2000, a Resolution endorsing the establishment of a commercial windmill power plant in Barangay Taguiporo, Bangui, Ilocos Norte (13 November 2000)

B. Field Interviews

1. Those who consented to be named:

Agcaoili, Pedro S., Provincial Planning and Development Officer, Ilocos Norte, Philippines. Personal interview (07 March 2007).

Aguilar, Rodolfo C., Tagbanua Leader, Coron, Palawan. Personal interview (04 August 2006).

Ambrosio, Jose Ildebrando, Corporate Secretary and Vice President (Legal), Northwind Power Development Corporation. Personal interview (15 March 2007).

Ayopila, Jonathan D., Barangay Chief, Bucana, El Nido, Palawan. Personal interview (26 March 2007).

Baguio, Alberto B., Community Environment and Natural Resources Officer, DENR. Personal interview (06 March 2007).

Bernardino, Cleofe, Palawan NGO Network, Puerto Princesa City, Palawan. Personal interview (23 March 2007).

Bonoan, Rolando Jr. E, Provincial Information Office, Puerto Princesa City, Palawan. Personal interview (23 March 2007).

Cagatulla, Loreta, Environmentl Legal Assistance Center, Coron, Palawan. Personal interview (04 August 2006).

Carpio, Alfremo B., Tagbanua Leader, Coron, Palawan. Personal interview (04 August 2006).

Castro, Lucille S., Municipal Planning and Development Coordinator (former), Culion, Palawan. Personal interview (31 July 2006).

Gaces, Wilfred A., Mayor, Bangui, Ilocos Norte, Philippines. Personal interview (06 March 2007).

Gutierrez, Ernesto B., Municipal Planning and Development Coordinator, Naujan, Oriental Mindoro. Personal interview (22 August 2006).

Jacobsen, Neils, Chairman of the Board, Northwind Power Development Corporation. Personal interview (15 March 2007).

Lim, Christopher C., Member, Sangguniang Bayan, Coron, Palawan. Personal interview (04 August 2006).

Lisboa, Glen N., Member, Sangguniang Bayan, Culion, Palawan. Personal interview (31 July 2006).

Manrique, Giovanni, Provincial Liaison Officer, Ilocos Norte, Philippines. Personal interview (06 March 2007).

Marasigan, Emiliano P., Municipal Mayor, Culion, Palawan. Personal interview (31 July 2006).

Mayo-Anda, Grizelda, and Katherine Mana-Galido, Environmental Legal Assistance Center, Puerto Princesa City, Palawan. Personal interview (23 March 2007).

Mendez, Antonio M., Municipal Agriculturist, Coron, Palawan. Personal interview (04 August 2006).

Pedronan, Rogelio A., Barangay Chief, Manayon, Bangui, Ilocos Norte. Personal interview (06 March 2007).

Pole, Elma C., Barangay Chief, San Jose, Naujan, Oriental Mindoro. Personal interview (17 August 2006).

Remotin, Josito M., BFARMC Chair, Bulalacao, Oriental Mindoro. Personal interview (15 August 2006).

Velasco, Fely Castro, Barangay Chief, Baruyen, Bangui, Ilocos Norte. Personal interview (06 March 2007).

Vicentino, Arnulfo C., Municipal Planning and Development Coordinator, Coron, Palawan. Personal interview (04 August 2006).

2. Those who did not consent to be named:

Department official, Department of Energy, Manila. Personal interview (13 August 2006).

Four municipal officials, Bulalacao, Oriental Mindoro. Personal interview (15 August 2006).

Four municipal officials, El Nido, Palawan. Personal interview (26 March 2007)

Four municipal officials, Pola, Oriental Mindoro. Personal interview (14 August 2006).

Malampaya Foundation worker, El Nido, Palawan. Personal interview (26 March 2007).

NGO worker, Calapan, Oriental Mindoro. Personal interview (22 August 2006).

Pilipinas Shell Foundation worker, Makati City, Philippines. Personal interview (10 May 2007).

Three barangay officials, Barangay Taguiporo, Bangui, Ilocos Norte. Personal interview (06 March 2007).

Three municipal officials, Linapacan, Palawan. Personal interview (27 March 2007).

Three provincial government representatives, Calapan, Oriental Mindoro. Personal interview (18 August 2006).

Two municipal officials, Naujan, Oriental Mindoro. Personal interview (17 August 2006).

C. Books

Abinales, Patricio N., and Donna J. Amoroso. *State and Society in the Philippines*. Pasig City: Anvil Publishing, 2005.

Agpalo, Remigio E. *Jose P. Laurel: National Leader, Political Philosopher*. Quezon City: Vera Reyes, 1992.

Agyeman, Julian, Robert D. Bullard, and Bob Evans, eds. *Just Sustainabilities: Development in an Unequal World*. Cambridge Massachusetts: The MIT Press, 2003.

Agyeman, Julian, Robert D. Bullard, and Bob Evans. "Exploring the Nexus: Bringing Together Sustainability, Environmental Justice and Equity" (2002) 6:1 Space and Polity 77

Agyeman, Julian. *Sustainable Communities and the Challenge of Environmental Justice*. New York: New York University Press, 2005.

Aliño, Porfirio M., Andre J. Uychiaoco, and Philreefs 1996-1997 workshop participants. "Philippine Initiatives in the Management of Coral Reefs." In *Atlas of Philippine Coral Reefs*, edited by Porfirio M. Aliño, Evangline F.B. Micalat, Cleto Jr. Nañola, Hilly Ann Roa-Quiaoit and Reuben T. Campos, 16-21. Quezon City: Goodwill Trading Co., 2002.

Anand, R.P. *Origin and Development of the Law of the Sea*. The Hague: Martinus Nijhoff Publishers, 1983.

Antonio, Robert J., ed. *Marx and Modernity: Key Readings and Commentary*. Edited by Ira J. Cohen, *Modernity and Society*. Malden; Oxford; Victoria: Blackwell Publishing, 2003.

Arcilla, Jose S. *An Introduction to Philippine History*. 4th ed. Quezon City: Ateneo de Manila University Press, 1998.

Arthur, W. Brian. *The Nature of Technology: What It Is and How It Evolves*. New York: Free Press, 2009.

Aruego, Jose Maminta. *The Framing of the Philippine Constitution (1934-1935)*. Manila: University Publishing Co., 1936.

Ball, Iwan. *Turning the Tide: Power From the Sea and Protection for Nature*. Cardiff: World Wildlife Fund - UK, 2002.

Barry, Brian. "Sustainability and Intergenerational Justice." In *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*, edited by Andrew P. Dobson, 93-117. Oxford; New York;: Oxford University Press, 1999.

Barry, Brian. *Theories of Justice*. Vol. 1, A Treatise on Social Justice. Berkeley; Los Angeles: University of California Press, 1989.

Beckerman, Wilfred. "Sustainable Development and Our Obligations to Future Generations." In *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*, edited by Andrew P. Dobson, 71-92. Oxford; New York;: Oxford University Press, 1999.

Beierle, Thomas C. "Public Participation in Environmental Decisions: An Evaluation Framework Using Social Goals." Washington DC: Resources for the Future, 1998.

Berdard, Roger, Mirko Previsic, Omar Siddiqui, George Haberman, and Michael Robinson. *Survey and Characterization: Tidal in Stream Energy Conversion (Tisec) Devices*: Electric Power Research Institute, 2005.

Berkes, Fikret, and Carl Folke. *Linking Social and Ecological Systems; Management Practices and Social Mechanisms for Building Resilience*. Cambridge UK, New York NY: Cambridge University Press, 1998.

Bernal, Patricio, and Biliana Cicin-Sain. *Ensuring the Sustainable Development of Oceans and Coasts: A Call to Action. Co-Chairs' Report From the Global Conference on Oceans and Coasts at Rio+10*. Paris and Newark: Intergovernmental Oceanographic Commission and Center for the Study of Marine Policy, 2001.

Bernas, Joaquin G. *The 1987 Constitution of the Republic of the Philippines: A Commentary*. Manila: Rex Printing Co., 2009.

Birnie, Patricia, Alan Boyle, and Catherine Redgwell. *International Law & the Environment*. 3rd ed. Oxford: Oxford University Press, 2009.

Birnie, Patricia, and Alan Boyle. *International Law and the Environment*. Second ed. Oxford: Oxford University Press, 2002.

Block, Fred. "Introduction." In *The Great Transformation: The Political and Economic Origins of our Time*, xviii-xxviii. Boston: Beacon Press, 2001.

Bolasco, Mario. "Marxism and Christianity in the Philippines: 1930-1983." In *Marxism in the Philippines: Marx Centennial Lectures*, edited by Third World Studies Center, 99-154. Quezon City: Third World Studies Center, 1984.

Bolger, Len, and Eddy Isaacs. "Shaping an Integrated Energy Future." In *Fueling the Future: How the battle for energy is changing everything*, edited by Andrew Heintzman and Evan Solomon, 55-81. Toronto: House of Anansi Press, 2003.

Boud, Richard. "Wave and Current Energy: Status and Research and Development Priorities." In *DTI Report No. FES-R-132*, edited by UK Department of Trade and Industry. London: UK Department of Trade and Industry, 2003.

Boyce, James K., Sunita Narain, and Elizabeth A. Stanton, eds. *Reclaiming Nature: Environmental Justice and Ecological Restoration*. London: Anthem Press, 2007.

Breierle, Thomas C., and Jerry Cayford. *Democracy in Practice: Public Participation in Environmental Decisions*. Washington DC: Resources for the Future Press, 2002.

Buchanan, Allen. "A Critical Introduction to Rawls' Theory of Justice." In *John Rawls' Theory of Social Justice: An Introduction*, edited by H. Gene Blocker and Elizabeth H. Smith, 5-41. Athens: Ohio University Press, 1980.

Bullard, Robert D. "Confronting Environmental Racism." In *Ecology*, edited by Carolyn Merchant, 265-76. New York: Humanity Books, 2008.

_____. *The Quest for Environmental Justice: Human Rights and the Politics of Pollution*. San Francisco: Sierra Club Books, 2005.

Bureau of Local Government Finance. *LGU Fiscal and Financial Profile, CY 2004 Statement of Income and Expenditures*. 3 vols. Vol. 1. Manila: Department of Finance, Philippines, 2005.

Burke, James. *Connections*. Boston, Toronto and London: Little, Brown and Company, 1978.

Callaghan, John. *Future Marine Energy: Results of the Marine Energy Challenge, Cost Competitive and Growth of Wave and Tidal Stream Energy*. London: The Carbon Trust, 2006.

Canadian Association of Petroleum Producers. *Drilling an Offshore Well in Atlantic Canada*. Calgary: Canadian Association of Petroleum Producers, 2001.

Canadian Association of Petroleum Producers. *Offshore Drilling Rigs*. Calgary: Canadian Association of Petroleum Producers, 2001.

_____. *Seismic Surveys: The Search for Oil and Gas in Atlantic Canada*. Calgary: Canadian Association of Petroleum Producers, 2001.

Carpio, Jesus Alfonso Z. "Shell Malampaya Deepwater Gas to Power Project: A Model for Integrating Sustainable Development Into the Business." Master's Thesis, Asian Institute of Management, 2003.

Carrier, James G. *A Handbook of Economic Anthropology*. Cheltenham UK: Edward Elgar Publishing, 2005.

Carruthers, David V., ed. *Environmental Justice in Latin America: Problems, Promise and Practice*. Cambridge MA: The MIT Press, 2008.

Carson, Rachel. *The Silent Spring*. New York: First Mariner Books, 2002.

Castells, Manuel. *The Rise of the Network Society*. 2nd ed. 3 vols. Vol. 1, The Information Age: Economy, Society and Culture. Malden; Oxford; Victoria: Blackwell Publishing, 2000.

Cazorla, M., and M. Toman. *International Equity and Climate Change Policy*, Climate Change Issue Brief No. 27. Washington DC: Resources for the Future, 2000.

Chua, Thia-Eng, and S. Ross. *Pollution Prevention and Management in the East Asian Seas: A Paradigm Shift in Concept, Approach and Methodology*, MPP-EAS Technical Report No. 15. Manila: GEF/UNDP/IMO Regional Programme for Prevention and Management of Marine Pollution in the East Asian Seas, 1998.

Churchill, R.R., and A.V. Lowe. *The Law of the Sea*. 1988 ed. Manchester UK: Manchester University Press, 1983.

Cole, Luke, and Sheila Foster. "The Environmental Justice Movement." In *Ecology*, edited by Carolyn Merchant, 277-92. New York: Humanity Books, 2008.

Collins, Lynda M. "Revisiting the Doctrine of Intergenerational Equity in Global Environmental Governance" (2007) 30 Dalhousie Law Journal 79

Coll-Mayor, Debora, Mia Paget, and Eric Lightner. "Future Intelligent Power Grids: Analysis of the Vision in the European Union and the United States" (2007) 35 Energy Policy 2453

Commission for Racial Justice. *Toxic Wastes and Race in the United States: A National Report on the Racial and Socio-Economic Characteristics of Communities With*

Hazardous Waste Sites. Washington DC: Public Data Access, Inc. / United Church of Christ, 1987.

Commission on Audit. *Annual Audit Report on the Department of Energy for Cy 2004*. Quezon City: Commission on Audit, Philippines, 2006.

_____. *Annual Financial Reports Volume III-B: Local Governments*, Annual Financial Reports. Quezon City: Commission on Audit, Philippines, 2005.

Cowan, Robin, and David Kline. *The Implications of Potential "Lock-In" in Markets for Renewable Energy*. Golden CO: National Renewable Energy Laboratory, 1996.

Coyle, Diane, and Patrick Meier. *New Technologies in Emergencies and Conflicts: The Role of Information and Social Networks*. Washington DC and Berkshire UK: UN Foundation-Vodafone Group Foundation Partnership, 2009.

Crawford, Brian, Miriam Balgos, and Cesario R. Pagdilao. *Community-Based Marine Sanctuaries in the Philippines: A Report on Focus Group Discussions*. Rhode Island: Coastal Resources Center URI and Philippine Council for Aquatic and Marine Research and Development, 2000.

Daily, Gretchen C., ed. *Nature's Services: Societal Dependence on Natural Ecosystems*. Washington DC: Island Press, 1997.

Dalton, George, ed. *Primitive, Archaic, and Modern Economies: Essays of Karl Polanyi*. Boston: Beacon Press, 1968.

Del Furia, L., and J. Wallace-Jones. "The Effectiveness of Provisions and Quality of Practices Concerning Public Participation in the EIA Procedures in Italy and the Uk." Milan: Fondazione Eni Enrico Mattei, 1998.

DeLuca, Kevin. "A Wilderness Environmentalism Manifesto: Contesting the Infinite Self-Absorption of Humans." In *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, edited by Ronald Sandler and Phaedra C. Pezzullo, 27-55. Cambridge MA: MIT Press, 2007.

Department for Business Enterprise & Regulatory Reform. *Uk Renewable Energy Strategy Consultation Document*. London: Department for Business, Enterprise, and Regulatory Reform, 2008.

Department of Environment and Natural Resources, Bureau of Fisheries and Aquatic Resources, Conservation International Philippines and Haribon Foundation, *Priority Sites for Conservation in the Philippines: Marine Key Biodiversity Areas (CD-ROM and Poster)*. Quezon City: (Department of Environment and Natural Resources, 2002.

Department of Environment and Natural Resources. *Initiatives to Streamlining the Philippine Environmental Impact Statement System (PEISS): A Brief Guide for LGUs*. Quezon City: DENR Environmental Management Bureau, 2007.

_____. *What You Should Know About Environmental Impact Assessment (Eia) and Environmental Compliance Certificate (ECC)*. Quezon City: DENR Environmental Management Bureau, 2007.

Development Alternatives. *LGU Revenue Share in Maritime Transportation and Port Operations: A Policy Study for the Navigation and Transport Coastal Zone of Davao City*, The Philippine Environmental Governance 2 Project. Manila: United States Agency for International Development, 2006.

Diamond, Jared. *Collapse: How Societies Choose to Fail Or Succeed*. New York: Penguin Group, 2005.

_____. *Guns, Germs, and Steel: The Fates of Human Societies*. 2003 ed. New York: W.W. Norton & Company, 1997.

Diokno, Jose W. "A Filipino Concept of Social Justice." In *A Nation for Our Children: Human Rights, Sovereignty, Nationalism - Selected Writings of Jose W. Diokno*, 16-31. Quezon City: Claretian Publications, 1987.

Dobson, Andrew P. "'Critical Natural Capital' and Social Justice (Part I)." In *Justice and the Environment*, edited by Andrew P. Dobson, 87-131. Oxford: Oxford University Press, .

_____. "The Dimensions of Social Justice." In *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*, edited by Andrew P. Dobson, 62-84. Oxford; New York;: Oxford University Press, 1998.

_____. *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*. 1999 ed. Oxford, New York: Oxford University Press, 1999.

_____. *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*. Oxford; New York;: Oxford University Press, 1998.

Dresner, Simon. *The Principles of Sustainability*. 2004 ed. London; Sterling VA;: Earthscan, 2002.

Drouuilhet, S., and M. Shirazi. *Wales, Alaska High-Penetraton Wind-Diesel Hybrid Power System: Theory of Operation*. Edited by National RenewableEnergy Laboratory, Technical Report NREL/TP-500-31755. Golden CO: National Renewable Energy Laboratory, 2002.

Dryzek, John S. "Paradigms and Discourses." In *The Oxford Handbook of International Environmental Law*, edited by Daniel Bodansky, Jutta Brunnée and Ellen Hey, 44-62. Oxford UK: Oxford University Press, 2007.

Dupuy, Rene Jean, and Daniel Vignes. *A Handbook on the New Law of the Sea*. Vol. 1. The Hague: Martinus Nijhoff Publishers, 1991.

Ebbeson, Jonas. "Public Participation." In *The Oxford Handbook of International Environmental Law*, edited by Daniel Bodansky, Jutta Brunnée and Ellen Hey, 681-703. Oxford UK: Oxford University Press, 2007.

Elliot, D., M. Schwartz, R. George, S. Haymes, D. Heimiller, and G. Scott. *Wind Energy Resource Atlas of the Philippines*. Golden CO: National Renewable Energy Laboratory, 2001.

Elliot, David. "Sustainable Energy: Choices, Problems and Opportunities." In *Issues in Environmental Science and Technology*, edited by R. Hester and Ed Harrison, 19-47: Royal Society of Chemistry, 2003.

Energy Information Administration. *The Global Liquefied Natural Gas Market: Status and Outlook*, DOE/EIA-0637 (2003). Washington DC: US Department of Energy, 2003.

_____. *Worldwide Natural Gas Supply and Demand and the Outlook for Global LNG Trade*, Natural Gas Monthly August 1997. Washington DC: US Department of Energy, 1997.

Engfeldt, Lars-Goran. *From Stockholm to Johannesburg and Beyond: The Evolution of the International System for Sustainable Development Governance and Its Implications*. Stockholm: Government Offices of Sweden/Ministry for Foreign Affairs, 2009.

Enriquez, Virgilo G. *From Colonial to Liberation Psychology: The Philippine Experience*. Quezon City: The University of the Philippines Press, 2008.

Environmental Protection Agency. *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses*. Washington DC: US Government Printing Office, 1998.

Escobar, Arturo. *Encountering Development: The Making and Unmaking of the Third World*. Princeton; New Jersey: Princeton University Press, 1995.

Esteva, Gustavo. "Development." In *The Development Dictionary: A Guide to Knowledge as Power*, edited by Wolfgang Sachs, 6-25. London: Zed Books London, 1992.

European Commission. *Energy Charter Treaty*. Lisbon, 17 December 1994, 34 I.L.M. 382 (entered into force 16 April 1998).

Feisst, Christian, Dirk Schlesinger, and Wes Frye. *Smart Grid: The Role of Electricity Infrastructure in Reducing Greenhouse Gas Emissions*, Cisco Internet Business Solutions Group. San Jose CA: Cisco Systems, 2008.

Føllescal, Andreas. "Sustainable Development, State Sovereignty and International Justice." In *Towards Sustainable Development: On the Goals of Development - and the Conditions of Sustainability*, edited by William M Lafferty and Oluf Langhelle, 70-83. Houndmills, Basingtoke, Hampshire; London;: MacMillan Press, 1999.

Food and Agriculture Organization. *Climate Change Mitigation and Adaptation in Agriculture, Forestry, and Fisheries*. Rome: Food and Agriculture Organization, 2008.

Foucault, Michel. "Governmentality." In *The Foucault Effect: Studies in governmentality, with two lectures by and an interview with Michel Foucault*, edited by Graham Burchell, Colin Gordon and Peter Miller, 87-104. Chicago: University of Chicago Press, 1991.

_____. *Society Must Be Defended: Lectures at the College De France, 1975-1976*. Translated by David Macey. New York: Picador, 2003.

_____. *The Archaeology of Knowledge*. Translated by A.M. Sheridan Smith. London; New York: Routledge Classics, 1989.

_____. *The Order of Things: An Archaeology of the Human Sciences*. London: Tavistock, 1970.

Foxon, Tim, Robert Gross, and Dennis Anderson. *Innovation in Long Term Renewables Options in the Uk: Overcoming Barriers and 'System Failures'. Final Report 2003*, DTI Renewable Innovation Review. London: Imperial College London Centre for Energy Policy and Technology, 2003.

Franklin, Ursula M. *The Real World of Technology*. 1999 ed, CBC Massey Lectures Series. Toronto: House of Anansi Press, 1990.

_____. "New Issues of Access to Justice Raised By Modern Technology." In *The Ursula Franklin Reader: Pacifism As A Map*, 183-97. Toronto: Between The Lines, 2006.

Freestone, David, and Ellen Hey. *The Precautionary Principle and International Law: The Challenge of Implementation*. Edited by David and Ellen Hey Freestone. Vol. 31, International Environmental Law and Policy Series. The Hague; Boston: Kluwer Law International, 1996.

Gaia South and Northwind Power Development Corporation. *Marine Ecosystem Baseline Study for the Northwind Project*. 2 vols. Vol. 1: (unpublished), 2004.

- Garvey, James. *The Ethics of Climate Change: Right and Wrong in a Warming World*. London: Continuum International, 2008.
- Glaser, Barney G. and Anselm L. Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine Pub. Co., 1967.
- Golay, Frank Hindman. *Face of Empire: United States-Philippine Relations, 1896-1946*. 2nd ed. Quezon City: Ateneo de Manila University Press, 1998.
- Gold, Edgar. *Maritime Transport: The Evolution of International Shipping Policy and Maritime Law*. Lexington MA: Lexington Books, 1989.
- Gorz, André. *Ecology As Politics*. Translated by Patsy Vigderman and Jonathan Cloud. Boston: South End Press, 1980.
- Gottlieb, Roger S. "Saving the World: Religion and Politics in the Environmental Movement." In *Liberating faith: religious voices for justice, peace, and ecological wisdom*, edited by Roger S. Gottlieb, 491-512. Lanham ML: Bowman & Littlefield Publishers, 2003.
- Gunderson, Lance, and Crawford S. Holling, eds. *Panarchy: Understanding Transformations in Human and Natural Systems*. Washington DC: Island Press, 2001.
- Gupta, Joyeeta. "Glocalization: The Precautionary Principle and Public Participation, With Special Reference to the Un Framework Convention on Climate Change." In *The Precautionary Principle and International Law: The Challenge of Implementation*, edited by David Freestone and Ellen Hey, 231-46. Hague, London, Boston: Kluwer Law International, 1996.
- Habermas, Jurgen. *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy*. Translated by William Rehg. 1996 ed, Studies in Contemporary German Social Thought. Cambridge Mass.: The MIT Press, 1996.
- _____. *The Inclusion of the Other: Studies in Political Theory*. Edited by Ciaran Cronin and Pablo De Greiff, Studies in Contemporary German Social Thought. Cambridge Mass.: The MIT Press, 1998.
- Hajer, Maarten A., and Hendrik Wagenaar, eds. *Deliberative Policy Analysis: Understanding Governance in the Network Society*. Edited by Robert E. Goodin, *Theories of Institutional Design*. Cambridge: Cambridge University Press, 2003. Reprint, 2004.
- Hampson, Fen Osler, and Judith Reppy, eds. *Earthly Goods: Environmental Change and Social Justice*. New York: Cornell University, 1996.
- Henson, Robert. *The Rough Guide to Climate Change*. London: Rough Guides, 2006.

Hoebel, E. Adamson. *Anthropology: The Study of Man*. 4th ed. New York: McGraw-Hill Book Company, 1958.

Hoffman, Erich. "The Challenge of Economic and Social Development." In *Technology and Social Justice: An International Symposium on the Social and Economic Teaching of the World Council of Churches from Geneva 1966 to Uppsala 1968*, edited by Ronald H. Preston, 99-123. Valley Forge, Pennsylvania: SCM Press, 1971.

Holmes, Oliver Wendell Jr. "The Path of the Law." In *Oliver Wendell Holmes, collected legal papers*, 167-202, 1897.

IEA Renewable Energy Working Party. *The Evolving Renewable Energy Market*. Edited by Rodney Janssen. Sittard, The Netherlands: Novem BV, 1999.

Ileto, Reynaldo C. *Pasyon and Revolution: Popular Movements in the Philippines, 1840-1910*. Quezon City: Ateneo de Manila University Press, 1979.

Illich, Ivan. *Energy and Equity*, Ideas in Progress. New York; San Francisco; London; Evanston: Harper & Row, 1974.

_____. *Tools for Conviviality*. 1990 ed. London: Marion Boyars Publishers, 1973.

Intergovernmental Panel on Climate Change. *Climate Change 2007: Synthesis Report*. Edited by Core Writing Team, R.K. Pachauri and A. Reisinger. 4 vols. Vol. 4, IPCC Fourth Assessment Report. Geneva: Intergovernmental Panel on Climate Change, 2009.

International Energy Agency. *International Collaboration in Energy Technology: A Sampling of Success Stories*. Paris: OECD/IEA, 1999.

_____. *Offshore Wind Experiences*. Paris: International Energy Agency, 2005.

_____. *Prospects for Hydrogen and Fuel Cells*, Energy Technology Analysis. Paris: International Energy Agency, Organization for Economic Cooperation and Development, 2005.

International Finance Corporation. *Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets*. Washington DC: International Finance Corporation, 2007.

International Labour Organization. *The ILO at a Glance*. Geneva: International Labour Organization, 2008.

International Petroleum Industry Environmental Conservation Association, *The Oil and Gas Industry: Operating in Sensitive Environments*. London: International Petroleum Industry Environmental Conservation Association, 2004.

International Union for the Conservation of Nature, United Nations Environment Programme, and World Wildlife Fund. *World Conservation Strategy: Living Resource Conservation for Sustainable Development*. Gland, Switzerland: IUCN, 1980.

Ivatury, Gautam, and Mark Pickens. *Mobile Phone Banking and Low-Income Customers: Evidence From South Africa*. Washington DC: Consultative Group to Assist the Poor/World Bank and United Nations Foundation, 2006.

Jacobs, Michael. "Sustainable Development: A Contested Concept." In *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*, edited by Andrew P. Dobson, 21-45. Oxford: Oxford University Press, 1999.

Jamieson, Dale. "Justice: The Heart of Environmentalism." In *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, edited by Ronald Sandler and Phaedra C. Pezzullo, 85-101. Cambridge MA: MIT Press, 2007.

Jha, Alok, "UK announces world's largest algal biofuel project," Guardian News and Media Limited online: <<http://www.guardian.co.uk/environment/2008/oct/23/biofuels-energy>> Last updated: 23 October 2008 (Date accessed: 16 April)

Johnston, Douglas M. *The Theory and History of Ocean Boundary-Making*. Kingston and Montreal: McGill-Queen's University Press, 1988.

Johnston, Larry. *Politics: An Introduction to the Modern Democratic State*. Petersborough ON: Broadview Press, 2001.

Journal of the Constitutional Commission. 5 vols. Quezon City: 1986 Constitutional Commission, 1987.

Kang, David C. *Crony Capitalism: Corruption and Development in South Korea and the Philippines*. Cambridge: Cambridge University Press, 2002.

Kasemir, Bernd, Carlo C. Jaeger, and Jill Jager. "Citizen Participation in Sustainability Assessments." In *Public Participation in Sustainability Science: A Handbook*, edited by Bernd Kasemir, Jill Jager, Carlo C. Jaeger and Matthew T. Gardner, 3-36. Cambridge: Cambridge University Press, 2003.

Kasemir, Bernd, Jill Jager, Carlo C. Jaeger, and Matthew T. Gardner, eds. *Public Participation in Sustainability Science: A Handbook*. Cambridge: Cambridge University Press, 2003.

Kay, Robert C., and Jacqueline Alder. *Coastal Planning and Management*. New York: Taylor & Francis Group, 2005.

Kinkade, Sheila, and Katrin Verclas. *Wireless Technology for Social Change*. Washington DC and Berkshire UK: UN Foundation-Vodafone Group Foundation Partnership, 2008.

Kreidler, Tai Deckner. "The Offshore Petroleum Industry: The Formative Years, 1945-1962." Dissertation, Texas Tech University, 1997.

La Solidaridad. Translated by Guadalupe Fores-Ganzon. Vol. 1. Quezon City: University of the Philippines Press, 1967.

Lafferty, William M, and Oluf Langhelle, eds. *Towards Sustainable Development: On the Goals of Development - and the Conditions of Sustainability*. Houndmills, Basingtoke, Hampshire; London;: MacMillan Press, 1999.

Lafferty, William M., and Oluf Langhelle. "Sustainable Development As Concept and Norm." In *Towards Sustainable Development: On the Goals of Development - and the Conditions of Sustainability*, edited by William M Lafferty and Oluf Langhelle, 1-30. Houndmills, Basingtoke, Hampshire; London;: MacMillan Press, 1999.

Lansing, J. Stephen. *Perfect Order: Recognizing Complexity in Bali*. New Jersey: Princeton University Press, 2006.

Laurel, Jose P. "Commentaries on the Moral Code." In *Social Justice and Human Rights in the Philippines*, 77-82. Manila: Lyceum of the Philippines, 1965.

_____. "Political and Moral Philosophy." In *Jose P. Laurel: Leader for All Seasons*, edited by Jose P. Lansang. Manila: Jose P. Laurel Memorial Foundation, 1970.

_____. *Proceedings of the Philippine Constitutional Convention*. Edited by Salvador H. Laurel. 7 vols. Manila: Lyceum Press, 1966.

_____. *Thinking for Ourselves*. Manila, 1958.

Lauterpacht, H. *The Development of International Law By the International Court*. Cambridge: Cambridge University Press, 1996.

Low, Nicholas, and Brendan Gleeson. *Justice, Society and Nature: An Exploration of Political Ecology*. London: Routledge, 1998.

Macgraw, Daniel Barstow, and Lisa D. Hawke. "Sustainable Development." In *The Oxford Handbook of International Environmental Law*, edited by Daniel Bodansky, Jutta Brunnée and Ellen Hey, 613-38. Oxford UK: Oxford University Press, 2007.

MacKenzie, Ken. "Freeway Planning and Protests in Vancouver 1954-1972." Master's Thesis, Simon Fraser University, 1985.

MacPherson, C.B. *Democratic Theory: Essays in Retrieval*. London: Oxford University Press, 1973.

Manaligod, Ruffy. *Struggle Against Development Aggression: Tribal Filipinos & Ancestral Domain*. Quezon City: Tunay na Alyansa ng Bayan Alay sa Katutubo, 1990.

Mangahas, Mahar K. "Distributive Justice in the Philippines: Ideology, Policy and Surveillance." In *Reflections in Development in Southeast Asia*, edited by Lim Teck Ghee, 80-109. Singapore: Institute of Southeast Asian Studies, 1988.

Markussen, Jan Magne. "Deep Seabed Mining and the Environment: Consequences, Perceptions, and Regulations." In *Green Globe Yearbook of International Co-operation on Environment and Development 1994*, edited by Helge Ole Bergesen and Georg Parmann, 31-39. Oxford: Oxford University Press, 1994.

Martinez-Alier, Joan. *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*. New Delhi: Oxford University Press, 2004.

Marx, Karl. *Capital: A Critical Analysis of Capitalist Production*. Translated by Samuel Moore and Edward Aveling. Edited by Frederick Engels. 4th ed. 4 vols. Vol. 1. Moscow: Progress Publishers, 1887.

Matthews, Petter, Ian Neal, Jennifer Stuttle, Camilla Herd, and Michael Warner. "Learning From Amec's Oil and Gas Asset Support Operations in the Asia-Pacific Region With a Case Study on the Shell 'Malampaya' Gas-To-Power Project: An Interim Report." In . London: Engineers Against Poverty; Overseas Development Institute; AMEC plc, 2004.

McDonald, David A. "Introduction: What Is Environmental Justice?" In *Environmental Justice in South Africa*, edited by David A. McDonald. Athens & Cape Town: Ohio University Press & University of Cape Town Press, 2002.

McHoul, Andy, and Wendy Grace. *A Foucault Primer: Discourse, Power and the Subject*. New York: New York University Press, 1993.

McDonald, David A., ed. *Environmental Justice in South Africa*. Athens & Cape Town: Ohio University Press & University of Cape Town Press, 2002.

Meadows, Donella H., Dennis L. Meadows, Jurgen Randers, and William III W. Behrens. *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. New York: Universe Books, 1972.

Meadows, Donnella, Jurgen Randers, and Dennis L. Meadows. *Limts to Growth: The 30-Year Update*. White River Junction VT: Chelsea Green Publishing Company, 2004.

Melana, D.M., J. Atchue III, C.E. Yao, R. Edwards, E.E. Melana, and H.I. Gonzales. *Mangrove Management Handbook*. Quezon City: Department of Environment and Natural Resources, Coastal Resource Management Project, 2000.

Migdal, Joel S. "The State in Society: An Approach to Struggles for Domination." In *State Power and Social Forces: Domination and Transformation in the Third World*, edited by Joel S. Migdal, Atul Kohli and Vivienne Shue, 7-36. Cambridge, New York, Melbourne: Cambridge University Press, 1994.

Miles, Edward. "Preparations for UNCLOS IV?" Presented at the *New Developments in Marine Science and Technology: Economics, Legal and Political Aspects of Change*. 22nd Annual Conference of the Law of the Sea Institute, Naraggansett RI, 12-16 June 1988.

Miller, David. "Social Justice and Environmental Goods." In *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*, edited by Andrew P. Dobson, 151-72. Oxford; New York;: Oxford University Press, 1999.

_____. *Political Philosophy: A Very Short Introduction*. Oxford: Oxford University Press, 2003.

_____. *Principles of Social Justice*. Cambridge Massachusetts, London: Harvard University Press, 1999.

_____. *Social Justice*. Oxford, London: Clarendon Press, 1976.

Mish, Frederick C., ed. *Merriam-Webster's Collegiate Dictionary, Tenth Edition*. Philippines Reprint ed. Mandaluyong City: National Bookstore, 1993.

Morito, Bruce. *Thinking Ecologically: Environmental Thought, Values and Policy*. Halifax: Fernwood Publishing, 2002.

Muyot, Albert T. *Social Justice and Human Rights in the Philippines*, The U.P. Anthology of Filipino Socio-Political Thought since 1972. Quezon City: University of the Philippines Press, 2003.

National Statistical Coordination Board, *Philippines in Figures*. Manila: National Statistics Office, 2010.

Northwind Power Development Corporation. "Northwind Bangui Bay Project (Brochure)." Pasig City: Northwind Power Development Corporation, 2005.

_____. *Bangui Bay 60MW Wind Power Project Ilocos Norte, IEE Checklist, November 2000*. Pasig City: Unpublished, 2000.

Northwind Power Development Corporation. *North Wind Bangui Bay Project Phase I, IEE Checklist, February 2004*. Pasig City: Unpublished, 2004.

Orwell, George. *1984*, Signet Classic. New York: Penguin Group, 1950.

OSPAR Commission. *An Overview of the Environmental Impact of Non-Wind Renewable Energy Systems in the Marine Environment*, Biodiversity Series: OSPAR Commission, 2006.

Paavola, Jouni, and W Neil Adger. *Justice and Adaptation to Climate Change*, Tyndall Centre Working Paper No. 23. Norwich UK: Tyndall Centre for Climate Change Research, 2002.

Padilla, Jose. *Analysis of Coastal and Marine Resources: A Contribution to Philippine Country Environmental Analysis*. Washington DC: World Bank (unpublished), 2008.

Palma, Mary Ann. *The Philippines As an Archipelagic and Maritime Nation: Interests, Challenges, and Perspectives*. Vol. 182, RSIS Working Papers. Singapore: S. Rajaratnam School of International Studies, 2009.

Panganiban, Jose Villa. "English-Pilipino Dictionary, 1938-1966 (Mimeoscript)." In . Manila: Limbagang Pilipino, 1966.

Pellow, David Naguib, and Robert J. Brulle. *Power, Justice, and the Environment: A Critical Appraisal of the Environmental Justice Movement*. Cambridge MA: Massachusetts Institute of Technology, 2005.

Pertierra, Raul, ed. *Remittances and Returnees: The Cultural Economy of Migration in Ilocos*. Quezon City: New Day Publishers, 1992.

Polanyi, Karl. "Our Obsolete Market Mentality." In *Primitive, Archaic, and Modern Economies: Essays of Karl Polanyi*, edited by George Dalton, 59-77. Boston: Beacon Press, 1968.

_____. "Redistribution: The State Sphere in Eighteen-Century Dahomey." In *Primitive, Archaic, and Modern Economies: Essays of Karl Polanyi*, edited by George Dalton, 207-37. Boston: Beacon Press, 1968.

_____. "Societies and Economic Systems." In *Primitive, Archaic, and Modern Economies: Essays of Karl Polanyi*, edited by George Dalton, 3-25. Boston: Beacon Press, 1968.

_____. "The Economy As Instituted Process." In *Primitive, Archaic, and Modern Economies: Essays of Karl Polanyi*, edited by George Dalton, 139-74. Boston: Beacon Press, 1968.

_____. "The Economy As Instituted Process." In *Trade and Market in the Early Empires*, edited by Karl Polanyi, Conrad M. Arensberg and Harry W. Pearson, 243-70. Glencoe IL: The Free Press, 1957.

_____. "The Place of Economies in Societies." In *Primitive, Archaic, and Modern Economies: Essays of Karl Polanyi*, edited by George Dalton, 116-38. Boston: Beacon Press, 1968.

_____. "The Place of Economies in Societies." In *Trade and Market in the Early Empires*, edited by Karl Polanyi, Conrad M. Arensberg and Harry W. Pearson, 239-42. Glencoe IL: The Free Press, 1957.

_____. "The Self-Regulating Market and the Fictitious Commodities: Land, Labor and Money." In *Primitive, Archaic, and Modern Economies: Essays of Karl Polanyi*, edited by George Dalton, 26-37. Boston: Beacon Press, 1968.

_____. *The Great Transformation: The Political and Economic Origins of Our Time*. Boston: Beacon Press, 1944.

Pope John Paul II. *Centesimus Annus, on the Hundredth Anniversary of Rerum Novarum, 01 May 1991*. The Vatican: Libreria Editrice Vaticana, 1991.

_____. *Sollicitudo Rei Socialis, for the Twentieth Anniversary of "Populorum Progressio," 30 December 1987*. The Vatican: Libreria Editrice Vaticana, 1987.

Pope Leo XIII. *Rerum Novarum, on Capital and Labor, 15 May 1891*. The Vatican: Libreria Editrice Vaticana, 1891.

Pope Pius XI. *Quadragesimo Anno, on Reconstruction of the Social Order, 15 May 1931*. The Vatican: Libreria Editrice Vaticana, 1931.

Pound, Roscoe. "A Survey of Social Interests" (1943) 57:1 Harvard Law Review 1

_____. "Roscoe Pound." In *My Philosophy of Law: Credo of Sixteen American Scholars*, 247-62. Boston: Boston Law Book Co. and Julius Rosenthal Foundation, 1941.

_____. "The Need of a Sociological Jurisprudence" (1907) 19:10 The Green Bag 607

_____. "The Need of a Sociological Jurisprudence" (1964) 10 Crime Delinquency 385

_____. *Jurisprudence*. St. Paul MN: West Publishing Co., 1959.

_____. *Social Control Through Law*, The Powell Lectures, Sixth Series. Bloomington IN: Archon Books, 1942.

Preston, Ronald H., ed. *Technology and Social Justice: An International Symposium on the Social and Economic Teaching of the World Council of Churches From Geneva 1966 to Uppsala 1968*. Valley Forge, Pennsylvania: SCM Press, 1971.

Quirino, Carlos. *The Laurel Story*. Quezon City: Vera Reyes, 1992.

Rahnema, Majid, and Victoria Bawtree. *The Post-Development Reader*. Halifax: Fernwood Publishing, 1997.

Raphael, D.D. *Concepts of Justice*. New York: Oxford University Press, 2001.

Rawls, John. "Justice As Fairness: Political Not Metaphysical." In *Justice: Key concepts in critical theory*, edited by Milton Fisk, 48-67. Atlantic Highlands NJ: Humanities Press, 1993.

_____. *A Theory of Justice*. Cambridge MA: Harvard University Press, 1971.

_____. *Justice As Fairness: A Restatement*. Edited by Erin Kelly. 2003 ed. Cambridge Mass.; London: Harvard University Press, 2003.

Rechtschaffen, Clifford, and Eileen Gauna. *Environmental Justice: Law, Policy and Regulation*. Durham NC: Carolina Academic Press, 2002.

Record of the Constitutional Commission. 6 vols. Quezon City: The 1986 Constitutional Commission, 1987.

REN21. *Renewables 2007 Global Status Report*. Paris, Washington DC: REN21 Secretariat and Worldwatch Institute, 2008.

Rist, Gilbert. *The History of Development: From Western Origins to Global Faith*. 2004 ed. London: Zed Books, 1997.

Robert Gordon University Aberdeen. *A Scoping Study for an Environmental Impact Field Programme in Tidal Current Energy*. Edited by Department of Trade and Industry UK, DTI Pub/URN 02/882. London: Department of Trade and Industry UK, 2002.

Roberts, Paul. *The End of Oil: On the Edge of a Perilous New World*. 2005 ed. Boston; New York: Houghton Mifflin Company, 2005.

Roberts, Simon. "Law and Dispute Processes." In *Companion Encyclopedia of Anthropology*, edited by Tim Ingold, 962-82. London: Routledge, 1994.

Roco, Facundo, and Karen Agabin. *Power From the Deep: The Malampaya Story*. 2 vols. Vol. 1. Makati City Philippines: Shell Philippines Exploration BV, 2005.

Rood, Steven, "NGOs and Indigenous Peoples." In G. Sydney Silliman and Lela Garner Noble (eds.), *Organizing for Democracy: NGOs, Civil Society, and the Philippine State* (Honolulu: University of Hawai'i Press, 1998), 138-56.

Sachs, Wolfgang, and Tilman Santarius. *Fair Future: Resource Conflicts, Security, and Global Justice*. Translated by Patrick Camiller. Black Point Nova Scotia: Fernwoord Publishing Co., Ltd., 2007.

Sachs, Wolfgang, ed. *The Development Dictionary: A Guide to Knowledge As Power*. London: Zed Books London, 1992.

Sandler, Ronald, and Phaedra C. Pezzullo, eds. *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*. Cambridge MA: MIT Press, 2007.

Sands, Philippe. *Principles of International Environmental Law*. 2nd ed. Cambridge: Cambridge University Press, 2003.

Saulo, Alfredo B. *Communism in the Philippines: An Introduction*. Quezon City: Ateneo de Manila University Press, 1969.

Schlosberg, David. *Defining Environmental Justice: Theories, Movements and Nature*. Oxford UK: Oxford University Press, 2007.

_____. *Environmental Justice and the New Pluralism: The Challenge of Difference in Environmentalism*. New York: Oxford University Press, 1999.

Schrader-Frechette, Kristin. *Environmental Justice: Creating Equality, Reclaiming Democracy*. Edited by Kristin Shrader-Frechette, Environmental Ethics and Science Policy Series. Oxford UK: Oxford University Press, 2002.

Schumacher, John N. *The Propaganda Movement, 1880-1895: The Creation of a Filipino Consciousness, the Making of the Revolution*. Rev ed. Quezon City: Ateneo de Manila University Press, 1997.

Sen, Amartya. *The Idea of Justice*. Cambridge MA: Harvard University Press, 2009.

Sharpe, Sidney. *A Patch of Green: Canada's Oilpatch Makes Peace With the Environment*. Toronto: Key Porter Books, 2002.

Shell Philippines Exploration and Occidental Petroleum Philippines. *Malampaya Gas Project: Isang Praymer*. Muntinlupa City, Philippines: Shell Philippines Exploration BV, 1996.

Shell Philippines Exploration. *Malampaya Project (Brochure)*. Muntinlupa City, Philippines: Shell Philippines Exploration BV (undated).

Shelton, Dinah. "Equity." In *The Oxford Handbook of International Environmental Law*, edited by Daniel Bodansky, Jutta Brunnée and Ellen Hey, 639-62. Oxford UK: Oxford University Press, 2007.

Shiva, Vandana. "The Greening of Global Reach." In *The Geopolitics Reader*, edited by Gearoid O Tuathail, Simon Dalby and Paul Routledge, 231-35. New York; London;: Routledge, 1998.

Sigaut, Francois. "Technology." In *Companion Encyclopedia of Anthropology*, edited by Tim Ingold, 420-59. London: Routledge, 1994.

Smith, Adam. *An Inquiry Into the Nature and Causes of the Wealth of Nations*, The Great Books. Chicago: Encyclopedia Britannica, 1952.

Sohn, Jonathan, ed. *Development Without Conflict: The Business Case for Community Consent*. Washington DC: World Resources Institute, 2007.

Stein, Jess, and Laurence Urdang. *Random House Dictionary of English Language, Unabridged Ed*. New York: Random House, .

Street, John. *Politics and Technology*. Edited by Steve Fuller, The Conduct of Science Series. New York: Guilford Press, 1992.

Susskind, Charles. *Understanding Technology*. Baltimore; London;: The Johns Hopkins University Press, 1973.

Task Force on Climate Change Vulnerable Communities and Adaptation. *Livelihoods and Climate Change*. Winnipeg: International Institute for Sustainable Development, International Union for Conservation of Natural Resources, and Stockholm Environment Institute, 2003.

Thurman, Harold V. *Introduction to Oceanography*. 8th ed. New Jersey: Prentice-Hall 1997.

Tickner, Joel A. *Precaution, Environmental Science, and Preventative Public Policy*. Edited by Joel A. Tickner. Washington DC: Island Press, 2003.

Trouwborst, Arie. *Evolution and Status of the Precautionary Principle in International Law*. Edited by Daniel and David Freestone Bodansky. Vol. 62, International Environmental Law and Policy Series. The Hague; London; New York: Kluwer Law International, 2002.

Ullrich, Otto. "Technology." In *The Development Dictionary: A Guide to Knowledge as Power*, edited by Wolfgang Sachs, 275-87. London; New York;: Zed Books, 2001.

UN FCCC. *Expert Group on Technology Transfer: Five Years of Work*. Bonn: UN FCCC, 2007.

UN Food and Agriculture Organization. *The World's Mangroves 1980-2005*, FAO Forestry Paper 153. Rome: UN Food and Agriculture Organization, 2007.

UNDP, UNDESA, and WEC. *World Energy Assessment: Overview*. New York: United Nations Development Program, United Nations Department of Economic and Social Affairs, World Energy Council, 2000.

UN-Energy. *The Energy Challenge for Achieving the Millennium Development Goals*. New York: United Nations, 2005.

University of the Philippines Marine Science Institute, Asian Bureau for Conservation, ASEAN Regional Centre for Biodiversity Conservation, Department of Environment and Natural Resources, and Association of Southeast Asian Nations. *Marine Protected Areas in Southeast Asia*. Los Baños, Philippines: ASEAN Centre for Biodiversity Conservation - DENR, 2002.

US Geological Survey. *Coal-Bed Methane: Potential and Concerns*. Edited by US Geological Survey, USGS Fact Sheet FS-123-00. Denver CO: US Geological Survey, 2000.

Velasco, Geronimo Z. *Trailblazing: The Quest for Energy Self-Reliance*. Pasig City: Anvil Publishing, 2006.

Vera, Cesar Allan, Chito Dugan, and Alfredo Bernarte. *Guide to Fishing Gears in the Philippines*. Quezon City: Sentro para sa Ikauunlad ng Katutubong Agham at Teknolohiya, 2003.

Vergilius Maro, Publius. *The Aeneid of Virgil*. Translated by Cecil Day Lewis. London: Hogarth Press, 1961.

Visvanathan, Shiv. "Mrs Brundtland's Disenchanted Cosmos." In *The Geopolitics Reader*, edited by Gearoid O Tuathail, Simon Dalby and Paul Routledge, 237-41. New York; London;: Routledge, 1998.

Vital Wave Consulting. *Mhealth for Development: The Opportunity of Mobile Technology for Healthcare in the Developing World*. Washington DC and Berkshire UK: UN Foundation-Vodafone Group Foundation Partnership, 2009.

Ward, Barbara. *Spaceship Earth*, George B. Pegram Lecture Series. New York: Columbia University Press, 1966.

Warnke, Georgia. *Justice and Interpretation*. Cambridge MA: MIT Press, 1993.

Weiss, Edith Brown. "Global Environmental Change and International Law: The Introductory Framework." In *Global environmental change and international law: new challenges and dimensions*, edited by Edith Brown Weiss, 3-38. Tokyo: United Nations University, 1992.

Weiss, Edith Brown. *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity*, Innovation in International Law. The Hague: Brill Academic Publishers, 1989.

Wenz, Peter. "Does Environmentalism Promote Injustice for the Poor?" In *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, edited by Ronald Sandler and Phaedra C. Pezzullo, 57-83. Cambridge MA: MIT Press, 2007.

Westra, Laura, and Peter Wenz, eds. *Face of Environmental Racism: Confronting Issues of Global Justice*. New York: Rowman & Littlefield Publishers, 1995.

Wetlesen, Jon. "A Global Ethic of Sustainability?" In *Towards Sustainable Development: On the Goals of Development - and the Conditions of Sustainability*, edited by William M Lafferty and Oluf Langhelle, 30-47. Houndmills, Basingtoke, Hampshire; London;: MacMillan Press, 1999.

White, Alan T., Porfirio M. Aliño, and Anna Meneses. *Creating and Managing Marine Protected Areas in the Philippines*. Cebu City: Fisheries for Improved Sustainable Harvest; Coastal Conservation and Education Foundation; University of the Philippines Marine Science Institute, 2006.

Winner, Langdon. *The Whale and the Reactor: A Search for Limits in an Age of High Technology*. Chicago and London: University of Chicago Press, 1986.

World Bank. *Environmental Assessment Sourcebook 1999*, Environmental Assessment Sourcebook Update. Washington DC: The World Bank, 1999.

_____. *Philippine Environment Monitor 2005: on Coastal and Marine Resource Management*, Philippine Environment Monitor. Washington DC: The World Bank, 2005.

World Commission on Environment and Development. *Our Common Future: Report of the World Commission on Environment and Development*, UN Doc A/42/427. Oxford; New York;: Oxford University Press, 1987.

World Council of Churches. "The Report of Section III on World Economic and Social Development." In *Technology and Social Justice: An International Symposium on the Social and Economic Teaching of the World Council of Churches from Geneva 1966 to Uppsala 1968*, edited by Ronald H. Preston, 99-123. Valley Forge, Pennsylvania: SCM Press, 1971.

Young, Iris Marion. *Inclusion and Democracy*. Edited by Will Kymlicka, David Miller and Alan Ryan. 2002 ed, Oxford Political Theory. Oxford; New York: Oxford University Press, 2000.

_____. *Justice and the Politics of Difference*. Princeton: Princeton University Press, 1990.

D. Articles

"Beijing High-level Statement on Technology Development and Technology Transfer for Climate Change." Presented at the *Beijing High-Level Conference on Climate Change: Technology development and Technology Transfer*, 7-8 November 2008.

"List of municipality/city declared marine protected areas (MPAs) in the Philippines," Coastal Conservation Education Foundation online:
<http://www.coast.ph/userfiles/LOCALmpa_database.pdf> Last updated: 01 May 2009 (Date accessed: 28 March 2010)

"The Bali Principles of Climate Justice," India Resource Center online:
<<http://www.indiaresource.org/issues/energycc/2003/baliprinciples.html>> Last updated: 28 November 2003 (Date accessed: 5 May)

"The Founex Conference," Manitou Foundation online:
<<http://www.mauricestrong.net/20100213146/founex/founex/founex-environment-conference-1971/all-pages.html>> Last updated: 06 March 2010 (Date accessed: 30 January 2010)

"The Founex Report on Environment and Development, 1971," Manitou Foundation online: <<http://www.mauricestrong.net/20100228149/founex/founex/founex-report-environment-development/all-pages.html>> (Date accessed: 30 January 2010)

"Whale Wars," Animal Planet online: <<http://animal.discovery.com/tv/whale-wars/>> Last updated: 01 June 2010 (Date accessed: 01 July 2010)

Abkowitz, ark D., Mark A. Cohen, Susan S. Buck, David W. Case, and Patricia A. Drake. "Environmental Information Disclosure and Stakeholder Involvement: Searching for Common Ground" (1999) 6:4 Corporate Environmental Strategy 415

Agterbosch, Susanne, Pieter Glasbergen, and Walter JV Vermeulen. "Social Barriers in Wind Power Implementation in the Netherlands: Perceptions of Wind Power Entrepreneurs and Local Civil Servants of Institutional and Social Conditions in Realizing Wind Power Projects" (2007) 11 Renewable and Sustainable Energy Reviews 1025

Allen, Ted. "Note, the Philippine Children's Case: Recognizing Legal Standing for Future Generations" (1994) 6 Georgetown International Environmental Law Review 713

Applegate, John S. "The Taming of the Precautionary Principle" (2002) 27 Wm. & Mary Env'tl. L. & Pol'y Rev. 13

Aqeel, Anjun. "The Relationship Between Energy Consumption and Economic Growth in Pakistan" (2001) 8:2 Asia-Pacific Development Journal 101

Arizona State University, "Can microorganisms be a solution to the world's energy problems?," <<http://www.sciencedaily.com/releases/2008/07/080710094033.htm>> Last updated: 11 July 2008 (Date accessed: 22 June)

Armonio-Magbanua, Arlene Y. "The Philippine Energy Contracting Round (Presentation)." Presented at the *5th Workshop of the Philippine Sulu Sea-East Palawan Basin Case Study*, Cebu City, 16 March 2006.

Arquiza, Yasmin, and Pia Faustino. "Arroyo: Philippines Most in Danger From Climate Change." *GMA News.TV* (18 December 2009), online
<<http://www.gmanews.tv/story/179670/arroyo-philippines-most-in-danger-from-climate-change>>.

Arthur, W. Brian. "Competing Technologies, Increasing Returns and Lock-In By Historical Events" (1989) 99:394 *Economic Journal* 116

ASEAN Council on Petroleum. "Trans-Asian Gas Pipeline." In , 2010.

ASEAN Energy Center, "Developments on the Trans-ASEAN Gas Pipeline," ASEAN Energy Center Online online:
<http://www.aseanenergy.org/energy_sector/natural_gas/developments_tagp.htm> (Date accessed: 30 March 2004)

Avila, Madeleine, Ma. Angeli Diaz, and Cristina Rodriguez. "Konsepto Ng Katarungan" (1987) 9:1 *Kaya Tao* 47

Balce, Guillermo R., and Eric F. Pablico, "Philippine Natural Gas Resources: Maximizing their Potential," Department of Energy online:
<<http://www.doe.gov.ph/ER/ngreports.htm>> Last updated: 21 November 2007 (Date accessed: 05 May 2010)

Banerjee, Subhabrata Bobby, and Stephen Linstead. "Globalization, Multiculturalism and Other Fictions: Colonialism for the New Millennium?" (2001) 8:1 *Organization* 683

Banerjee, Subhabrata Bobby. "Who Sustains Whose Development? Sustainable Development and the Reinvention of Nature" (2003) 24:1 *Organizational Studies* 143

Barresi, Paul A. "Beyond Fairness to Future Generations: An Intragenerational Alternative to Intergenerational Equity in the International Environmental Area" (1997) 11 *Tulane Environmental Law Journal* 59

Barresi, Paul A. "Advocacy, Frame and the Intergenerational Imperative: A Reply to Professor Weiss on "Beyond Fairness to Future Generations"" (1998) 11 Tulane Environmental Law Journal 425

Barrett, Scott, and Robert Stavins. "Increasing Participation and Compliance in International Climate Change Agreements" (2003) 3 International Environmental Agreements: Politics, Law and Economics 349

Batongbacal, Jay L. "*Archipelagic Sea-Lanes and Transit Passage Through Straits: Shared Responsibilities Are Essential to Implementation.*" In *The Strategic Importance of Seaborne Trade and Shipping*, edited by Andrew Forbes, 99-112. Canberra ACT: Royal Australian Navy Sea Power Center, 2002.

_____. "*Delineation and Delimitation of Sub-National Maritime Boundaries: Insights From the Philippines.*" In *Ocean Yearbook 20*, edited by Aldo Chircop, Scott Coffen-Smout and Moira McConnell, 41-78. New York: University of Chicago Press, 2006.

_____. "*EIA As the Start of a Social Bargaining Process: The Malampaya Deepwater Gas to Power Project.*" In *Governance for Sustainability - Issues, Challenges and Successes.*, edited by K. Bosselman, R. Engel and P. Taylor. Bonn: IUCN - The World Conservation Union, 2008.

_____. "The Maritime Territories and Jurisdictions of the Philippines and the United Nations Convention on the Law of the Sea" (2001) 76:2 Philippine Law Journal 123-68.

_____. "The Philippines' Right to Designate Sealanes in Its Archipelagic Waters Under International Law" (1997) 1:1 Ocean Law and Policy Series 81

_____. *Fisheries Management Policy in Relation to Other Resource Management Policies of the Philippines*. Edited by Elvira C. Ablaza. 10 vols. Vol. 2, Fisheries Resource Management Project Technical Monograph Series. Quezon City: Bureau of Fisheries and Aquatic Resources, 2004.

_____. "Legal Aspects and a Proposed Strategy for the Establishment of an Ecosystem Approach to Fisheries (EAF) Management in the Philippines," OneOcean.Org online:
<http://www.oneocean.org/overseas/201004/legal_aspects_and_proposed_strategy.html>
Last updated: 30 April 2010 (Date accessed: 27 June 2010)

Baxter, Vern. "The Effects of Industry Governance on Offshore Oil Development in the Gulf of Mexico" (1997) 21:2 International Journal of Urban and Regional Research 238

Been, Vicki. "What's Fairness Got to Do With It? Environmental Justice and the Siting of Locally Undesirable Land Uses" (1993) 78 Cornell Law Review 1001

- Bellows, Anne C., and Michael W. Hamm. "Local Autonomy and Sustainable Development: Testing Import Substitution in Localizing Food Systems" (2001) 18 Agriculture and Human Values 271
- Birch, Charles. "Creation, Technology and Human Survival: Called to Replenish the Earth" (1975) 28 Ecumenical Review 66
- Biswas, Margaret K., and Asit K. Biswas. "Environment and Sustained Development in the Third World: A Review of the Past Decade" (1982) 4:3 Third World Quarterly 479
- Bliss-Guest, Patricia, and Arsenio Rodriguez. "The Caribbean Action Plan: A Framework for Sustainable Development" (1981) 10:6 Ambio 346
- Bocobo, Jorge. "The Cult of Legalism" (1937) 17:6 Philippine Law Journal 253
- Boele, Richard, Heike Fabig, and David Wheeler. "Shell, Nigeria and the Ogoni. A Study in Unsustainable Development. I. The Story of Shell, Nigeria and the Ogoni People - Environment, Economy, Relationships: Conflict and Prospects for Resolution" (2001) 9 Sustainable Development 74
- Boele, Richard, Heike Fabig, and David Wheeler. "Shell, Nigeria and the Ogoni. A Study in Unsustainable Development. Ii. Corporate Social Responsibility and 'Stakeholder Management' Versus a Rights-Based Approach to Sustainable Development" (2001) 9 Sustainable Development 121
- Bourdieu, Pierre. "The Force of Law: Toward a Sociology of the Juridical Field" (1987) 38 Hastings Law Journal 805
- Bridges, Lloyd. "The Changing Face of Malware" (2008) 2008:1 Network Security 17
- Brisman, Avi. "The Aesthetics of Wind Energy Systems" (2005) 13 New York University Environmental Law Journal 1
- British Geological Survey, "Mineral Profile: Coal," Natural Environment Research Council online: <http://www.bgs.ac.uk/mineralsuk/free_downloads/home.html> (Date accessed: 15 April 2009)
- Brooks, Benjamin T. "The Origin of Petroleum in the Light of Recent Research" (1948) 68:4 The Ohio Journal of Science 129
- Brulle, Robert J., and David Naguib Pellow. "Environmental Justice: Human Health and Environmental Inequalities" (2006) 27 Annual Review of Public Health 103
- Bryant, Raymond L. "Putting Politics First: The Political Ecology of Sustainable Development" (1991) 1:6 Global Ecology and Biogeography Letters 164

Buen, Jorund. "Danish and Norwegian Wind Industry: The Relationship Between Policy Instruments, Innovation and Diffusion" (2006) 34 Energy Policy 3887

Bullard, Robert D. "Symposium: The Legacy of American Apartheid and Environmental Racism" (1996) 9 St. John's Journal of Legal Commentary 445

Bunting, Kathy. "Risk Assessment and Environmental Justice: A Critique of the Current Legal Framework and Suggestions for the Future" (1995) 3 Buff. Env'tl. L. J. 129

Bureau of Fisheries and Aquatic Resources. "Fisheries Administrative Orders," Bureau of Fisheries and Aquatic Resources online: <<http://www.bfar.da.gov.ph/legislation/list.htm>> Last updated: 09 June 2010 (Date accessed: 09 June 2010)

_____. "Municipal Fisheries Production, 2008," Bureau of Fisheries and Aquatic Resources online: <http://www.bfar.da.gov.ph/styles/Publications03/munici_prod_05/municipal_fisheries%2808%29.htm> Last updated: 03 June 2010 (Date accessed: 09 June 2010)

Capistrano, Robert Charles G. "Reclaiming the Ancestral Waters of Indigenous Peoples in the Philippines: The Tagbanua Experience With Fishing Rights and Indigenous Rights" (2010) 34 Marine Policy 453

Carroll, William K. "Hegemony and Counter-Hegemony in a Global Field" (2007) 1:1 Studies in Social Justice 36

Carter, Luther J. "Marriage of Conservation and Development" (1980) 207:4437 Science 1328

Castellano, Carmine C., Eric A. Midboe, and George Jr. M. Hargerman. "The U.s. Department of Energy's 40mwe Ocean Thermal Energy Conversion Pilot Plant Program: A Status Report" (1983) 15 Oceans 728, online: <http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=1151976>

Cayley, David, "How to Think About Science," Canadian Broadcasting Corporation online: <<http://www.cbc.ca/ideas/features/science/index.html>>

Chadwick, John. "Davy Jones' Treasure Locker" (2008) International Mining 20

Chen, Luzheng, Wenqing Wang, Yihui Zhang, and Guanghui Lin. "Recent Progresses in Mangrove Conservation, Restoration and Research in China" (2009) 2:2 Journal of Plant Ecology 45

Chontanawat, Jaruan, Lester C. Hunt, and Richard Pierse. *Causality Between Energy Consumption and Gdp: Evidence From 30 Oecd and 78 Non-Oecd Countries*, Surrey Energy Economics Discussion Paper, 2006.

- Chua, Thia-Eng. "Essential Elements of Integrated Coastal Zone Management" (1993) 21:1-3 Oceans & Coastal Management 81
- Clark, Ann Marie, Elisabeth J. Friedman, and Kathryn Hochstetler. "The Sovereign Limits of Global Civil Society: A Comparison of Ngo Participation in Un World Conferences on the Environment, Human Rights, and Women" (1998) 51:1 World Politics 1
- Clark, William. "Robert Mcnamara at the World Bank" (1981) 60:1 Foreign Affairs 167
- Colchester, Marcus. "Conservation Policy and Indigenous Peoples" (2004) 7 Environmental Science & Policy 145
- Cook, Hera. "The English Sexual Revolution: Technology and Social Change" (2005) 59 History Workshop Journal 109
- Coumans, Catherine, "Environmental Justice Case Study: Marcopper in the Philippines," University of Michigan online: <<http://www.umich.edu/~snre492/Jones/marcopper.htm>> Last updated: 01 May 2003 (Date accessed: 29 June 2010)
- Cox, Noel. "The Relationship Between Law, Government, Business and Technology" (2006) 8:1 Duquense Business Law Journal 31
- D'Agnes, Heather, Joan Castro, Leona D'Agnes, and Rhona Montebon. "Gender Issues Within the Population-Environment Nexus in Philippine Coastal Areas" (2005) 33:4 Coastal Management 447
- Dalisay, Jose Jr. Y. "The Lava Brothers: Blood and Politics" (1998) 2:3 Public Policy 87
- Daly, Herman E. "Sustainable Development: From Concept and Theory to Operational Principles" (1990) 16:Supplement Population and Development Review 25
- Dam, Kenneth. "The Evolution of North Sea Licensing Policy in Great Britain" (1974) 17:2 Journal of Law & Economics 213
- Dampier, William. "Ten Years After Stockholm: A Decade of Environmental Debate" (1982) 11:4 Ambio 215
- Davide, Hilario. "The Judiciary and the Environment in the Third Millennium" (1999) Special Edition Court Systems Journal 332
- Davidson, John Edward. "Tomorrow's Standing Today: How the Equitable Jurisdiction Clause of Article Iii, Section 2 Confers Standing Upon Future Generations" (2003) 28 Columbia Journal of Environmental Law 185

- Davis, Frank, and P.J. Higson. "Biofuel Cells - Recent Advances and Applications" (2007) 22 *Biosensors and Bioelectronics* 1224
- Dawar, Sangeeta, B.K. Behera, and Prasanna Mohanty. "Development of a Low-Cost Oxy-Hydrogen Bio-Fuel Cell for Generation of Electricity Using Nostoc As a Source of Hydrogen" (1998) 22 *International Journal of Energy Resources* 1019
- Dawe, R.A., and S. Thomas. "A Large Potential Methane Source - Natural Gas Hydrates" (2007) 29:3 *Energy Sources, Part A: Recovery, Utilization and Environmental Effects* 217
- de Castro, Armando. "Sustainable Energy and Sustainable Tourism." Presented at the *Ministerial Consultations of the Ninth Special Session of the Governing Council, Global Ministerial Environment Forum*, Dubai, 07-09 February 2006.
- De Dios, J.V. Emmanuel A. *Developing the Philippines Natural Gas Industry*. Taguig City, Philippines: Department of Energy - Philippines, .
- de Jong, R., and C.G. Treadaway. "A New *Celaenorrhinus* Species (Lepidoptera: Hesperidae) From a Remarkable Locality in the Philippines" (1993) 67:24 *Zoologische Mededelingen* 345
- Dear, Michael. "Understanding and Overcoming the Nimby Phenomenon" (1992) 58 *Journal of the American Planning Association* 288
- DeCarolis, Joseph F., and David W. Keith. "The Economics of Large-Scale Wind Power in a Carbon-Constrained World" (2006) 34 *Energy Policy* 395
- DeFleur, Lois B. "Technology, Social Change and the Future of Sociology" (1982) 25:4 *Pacific Sociological Review* 403, online: <<http://www.jstor.org/stable/1388922>>
- Department of Energy. *Indicative Power Development Plan: Investment Opportunity in Power Generation*. Presented at the First Philippine Public Contracting Round, Makati City Philippines, 23 August 2003.
- Desierto, Diane A. "Justiceability of Socio-Economic Rights: Comparative Powers, Roles, and Practices in the Philippines and South Africa" (2009) 11:1 *Asian-Pacific Law & Policy Journal* 114
- DiLuigi, Denee A. "Kyoto's So-Called "Fatal Flaws": A Potential Springboard for Domestic Greenhouse Gas Regulation" (2002) 32 *Golden Gate University Law Review* 693
- Donnelly, Jack. "In Search of the Unicorn: The Jurisprudence and Politics of the Right to Development" (1985) 15 *California Western International Law Journal* 473

Downs, Jennifer A. "A Healthy and Ecologically Balanced Environment: An Argument for a Third Generation Right" (1993) 3 Duke Journal of Comparative & International Law 351

Doyle, Timothy. "Sustainable Development and Agenda 21: The Secular Bible of Global Free Markets and Pluralist Democracy" (1998) 19:4 Third World Quarterly 771

Dransfield, Soejatmi. "A New Species and a New Combination of *Cyrtocloa* (Poaceae-Bambusoideae) From the Philippines" (2003) 58 New Bulletin 981
Drucker, Charles. "Dam the Chico: Hydropower Development and Tribal Resistance." (1985) 15:4 Ecologist 149-57.

Duke, James A., "Handbook of energy crops (online version)," Purdue University Center for New Crops & Plant Products online:
<http://www.hort.purdue.edu/newcrop/duke_energy/Rhizophora_mangle.html> Last updated: 09 January 1998 (Date accessed: 15 April)

Dumas, André. "The Ecological Crisis and the Doctrine of Creation" (1975) 27 Ecumenical Review 24

EC-ASEAN Green Independent Power Producers Network, "Wind Energy Development in ASEAN," Green IPP Network online: <http://www.ec-asean-greenippnetwork.net/dsp_page.cfm?view=page&select=207> Last updated: 26 July 2005 (Date accessed: 21 July 2008)

Ecumenical Coalition on Tourism and Peace for Life Consultation, "Tourism in the Philippines: a view from the underside," Peace for Life online: Last updated: 19 March 2010 (Date accessed: 27 May 2010)

Elefant, Carolyn. "Ocean Energy Development in the 1990s" (1993) 14 Energy Law Journal 335.

Ellis, Jaye and Alison Fitzgerald, "The Precautionary Principle in International Law: Lessons From Fuller's Internal Morality" (2004) 49 McGill L. J. 779.

Energy Information Administration, "Wind," Energy Information Administration online: <<http://www.eia.doe.gov/cneaf/solar.renewables/page/wind/wind.html>> Last updated: 01 April 2008 (Date accessed: 15 April 2009)

_____. "Average energy conversion efficiency of photovoltaic cells and modules," Energy Information Administration online:
<http://www.eia.doe.gov/cneaf/solar.renewables/page/solarreport/table3_8.html> Last updated: 01 October 2008 (Date accessed: 15 April 2009)

_____. "Country Analysis Briefs: Philippines," Department of Energy - United States online: <<http://www.eia.doe.gov/emeu/cabs/Philippines/NaturalGas.html>> Last updated: 01 August 2008 (Date accessed: 21 August 2008)

_____, "EIA country analysis briefs: Philippines," Energy Information Administration online: <<http://www.eia.doe.gov/emeu/cabs/philippi.html>> Last updated: 01 August 2008 (Date accessed: 21 August 2008)

_____. "International Energy Outlook 2010 – Highlights," Energy Information Administration online: <<http://www.eia.doe.gov/oiaf/ieo/highlights.html>> Last updated: 01 July 2010 (Date accessed: 09 July 2010).

Enriquez, Virgilo G. "The Concept of Social Justice in the Philippine Value System" (1987) 9:1 Kaya Tao 1

Environmental Protection Agency, "Environmental Justice," Environmental Protection Agency online: <<http://www.epa.gov/oecaerth/environmentaljustice/>> Last updated: 13 February 2009 (Date accessed: 5 May 2009)

Ercmann, Sevine. "Linking Human Rights, Rights of Indigenous People and the Environment" (2000) 7 Buffalo Environmental Law Journal 15

Escobar, Arturo. "The Invention of Development" (1999) 98:631 Current History 382

Esselstyn, Jacob A., Harvey J.D. Garcia, Mylanar G. Saulog, and Lawrence R. Heaney. "A New Species of Desmalopex (Pteropodidae) From the Philippines, With a Phylogenetic Analysis of the Pteropodini" (2008) 89:4 Journal of Mammology 815

Fiore, Karine. "Nuclear Energy and Sustainability: Understanding Iter" (2006) 34 Energy Policy 3334

Firestone, Jeremy, and Willett Kempton. "Public Opinion About Large Offshore Wind Power: Underlying Factors" (2007) 35 Energy Policy 1584

Food and Agriculture Organization, "National Aquaculture Sector Overview: Philippines," Food and Agriculture Organization online: <http://www.fao.org/fishery/countrysector/naso_philippines/en> Last updated: 10 June 2010 (Date accessed: 14 March 2010)

Food and Agriculture Organization. "Fao Releases New Global Estimate of Mangroves: Deforestation Continues But at Slower Rate.", UN Food and Agriculture Organization, 2003.

Ford, Lucy H. "Challenging Global Environmental Governance: Social Movement Agency and Global Civil Society" (2003) 3:2 Global Environmental Politics 120

- Ford, Richard. "Malware: Troy Revisited" (1999) 18:2 Computers & Security 105
- French, Duncan A. "Developing States and International Environmental Law: The Importance of Differentiated Responsibilities" (2000) 49:1 International and Comparative Law Quarterly 35
- Frischmann, Brett M. "Some Thoughts on Shortsightedness and Intergenerational Equity" (2005) 36 Loyola University of Chicago Law Journal 457
- Gaba, Jeffrey M. "Environmental Ethics and Our Moral Relationship to Future Generations: Future Rights and Present Virtue" (1999) 24 Columbia Journal of Environmental Law 249
- Gallardo, Susan, and Leonila Abella. "The challenges and opportunities of environmental catalysis in the natural gas based industry and the academe in the Philippines." Presented at the *6th AEESEAP Triennial Conference*, 23-25 August.
- Gardner, Royal C. "Public Participation and Wetlands Regulation" (1992) 10 UCLA Journal of Environmental Law and Policy 1
- Gatmaytan, Dante B. "Artificial Judicial Environmental Activism: Oposa V. Factoran As Aberration" (2007) 17 Indiana International and Comparative Law Review 1
- _____. "The Illusion of Intergenerational Equity: Oposa V. Factoran As Pyrrhic Victory" (2003) 15:3 Georgetown International Environmental Law Review 457
- Gaudiosi, Gaetano. "Offshore Wind Energy Prospects" (1999) 16 Renewable Energy 828
- Gbaruko, B.C., J.C. Igwe, P.N. Gbaruko, and R.C. Nwokeoma. "Gas Hydrates and Clathrates: Flow Assurance, Environmental and Economic Perspectives and the Nigerian Liquefied Natural Gas Project" (2007) 56 Journal of Petroleum Science and Engineering 192
- Gerwitz, Sharon, and Alan Cribb. "Plural Conceptions of Social Justice: Implications for Policy Sociology" (2002) 17:5 Journal of Education Policy 499
- Gibbons, Hugh. "The Relationship Between Law and Science (Part I)" (1982) 22 IDEA: The Journal of Law and Technology 43
- _____. "The Relationship Between Law and Science (Part II)" (1982) 22 IDEA: The Journal of Law and Technology 159
- _____. "The Relationship Between Law and Science (Part III)" (1982) 22 IDEA: The Journal of Law and Technology 227

_____. "The Relationship Between Law and Science (Part IV)" (1982) 22 IDEA: The Journal of Law and Technology 283

Giddings, Bob, Bill Hopwood, and Geoff O'Brien. "Environment, Economy and Society: Fitting Them Together Into Sustainable Development" (2002) 10 Sustainable Development 187

Gigli, Maurizio. "A New Species of Chrysodema From Mindoro, Philippines (Coleoptera, Buprestidae)" (2007) 39:2 Fragmenta entomologica 291

Gills, Barry K. "Democratizing Globalization and Globalizing Democracy" (2002) 581 Annals of the American Academy of Political and Social Science 158

Gladwin, Thomas N., James T. Kennelly, and Tara-Shelomith Krause. "Shifting Paradigms for Sustainable Development: Implications for Management Theory and Research" (1995) 20:4 The Academy of Management Review 874

Glasby, Geoffrey P. "Abiogenic Origin of Hydrocarbons: An Historical Overview" (2006) 56:1 Resource Geology 85

Glaser, Marion. "The Social Dimension in Ecosystem Management: Strengths and Weaknesses of Human-Nature Mind Maps" (2006) 13:2 Human Ecology Review 122

Godoe, Helge, and Stian Nygaard. "System Failure, Innovation Policy and Patents: Fuel Cells and Related Hydrogen Technology in Norway 1990-2002" (2006) 34 Energy Policy 1697

Goldman, Benjamin A. "What Is the Future of Environmental Justice?" (1996) 28:2 Antipode 122

Gore, Al. "My Turn: The Energy Electranet." *Newsweek* (18 December 2006), online <<http://www.newsweek.com/2006/12/17/my-turn-the-energy-electranet.html>>.

Guerrero III, Rafael D., "Eco-friendly fish farm management and production of safe aquaculture foods in the Philippines," Food & Fertilizer Technology Center for the Asian and Pacific Region online: <<http://www.agnet.org/library/bc/55003/>> Last updated: 12 March 2008 (Date accessed: 14 March 2010)

Hannon, Patrick J.F., and J. Wayne LeBlanc. "Artificial offshore islands." Presented at the *The Mining Society of Nova Scotia, Fall Meeting 1987*, Fall Meeting 1987.

Haque, M. Shamsul. "The Fate of Sustainable Development Under Neo-Liberal Regimes in Developing Countries" (1999) 20:2 International Political Science Review 197

Hardin, Garrett. "Lifeboat Ethics: The Case Against Helping the Poor" (1974) 8 Psychology Today 38-43

_____. "Living on a Lifeboat" (1974) 24 BioScience 10

Harrison, Jeremy, Kenton Miller, and Jeffrey McNeely. "The World Coverage of Protected Areas: Development Goals and Environmental Needs." (1982) 11:5 Ambio 238

Harten, Deborah. "The Public Participation Requirement in Environmental and Public Land Decision-Making: Politics Or Practice?" (1990) 11 Public Land Law Review 153

Hartwick, Elaine, and Richard Peet. "Neoliberalism and Nature: The Case of the Wto" (2003) 590 Annals of the American Academy of Political and Social Science 188

Henley, Paul, "In bloom: growing algae for biofuel," British Broadcasting Company online: <<http://news.bbc.co.uk/1/hi/sci/tech/7661975.stm>> Last updated: 09 October 2008 (Date accessed: 16 April)

Herbert, G.M. Joselin, S. Iniyan, E. Sreevalsan, and S. Rajapandian. "A Review of Wind Energy Technologies" (2007) 11 Renewable and Sustainable Energy Reviews 1117

Heymann, Matthias. "Signs of Hubris: The Shaping of Wind Technology Styles in Germany, Denmark and the United States, 1940-1990" (1998) 39:4 Technology and Culture 641

Hilario, Maricel H., and Robert C. Salazar. *Indigenous Peoples' Participation in the Environmental Impact Statement System: The Tagbanua of Northern Palawan*, Research Brief. Manila: De La Salle University Social Development Research Center, 2000.

Hinrichsen, Don. "At Last... A Plan to Save the World" (1980) 9:2 Ambio

Hocott, Claude R., and Paul E. Purser. "Energy and the Oceans" (1983) IEEE 1151

Holden, Erling, and Kristin Linnerud. "The Sustainable Development Area: Satisfying Basic Needs and Safeguarding Ecological Sustainability" (2007) 15 Sustainable Development 174

Holling, Crawford S. "Understanding the Complexity of Economic, Ecological and Social Systems" (2001) 4 Ecosystems 390

Hopwood, Bill, Mary Mellor, and Geoff O'Brien. "Sustainable Development: Mapping Different Approaches" (2005) 13 Sustainable Development 38, online: <www.interscience.wiley.com>

Huang, Joseph C., Hans J. Krock, and Stephen K. Oney. "Revisit Ocean Thermal Energy Conversion System" (2003) 8 Mitigation and Adaptation Strategies for Global Change 157

Hull, Jason, "Other governments adopt open source...Is the US government missing the boat?," OpenSourceConnections.com online:
<<http://www.opensourceconnections.com/2008/02/01/other-governments-adopt-open-sourceis-the-us-government-missing-the-boat/>> Last updated: 01 February 2008 (Date accessed: 08 March 2010)

Ilocos Norte Tourism Trade & Investment Council, "Ilocos Norte: Dominant Industries," Ilocos Norte Tourism, Trade & Investment Council online:
<<http://www.inttic.com/investment/investments.htm>> (Date accessed: 22 July 2008)

Imperial College London Centre for Energy Policy and Technology, and E4Tech Consulting, "The UK innovation systems for new and renewable energy technologies," Imperial College London Centre for Energy Policy and Technology online:
<<http://www.berr.gov.uk/energy/sources/renewables/policy/government/innovation-review/page15308.html>>

Ives, Jack D., and Bruno Messerli. "Stability and Instability of Mountain Ecosystems: Lessons Learned and Recommendations for the Future" (1984) 4:1 Mountain Research and Development 63

Iyer-Raniga, Usha, and Graham Treloar. "A Context for Participation in Sustainable Development" (2000) 26:4 Environmental Management 349

Jackson, Ben. "The Conceptual History of Social Justice" (2005) 3 Political Studies Review 356

Jackson, Peter. "A World Charter for Nature" (1983) 12:2 Ambio 133

Jones, A.T., and W. Finley. "Recent developments in salinity gradient power." Presented at the *Oceans 2003*, San Diego CA, 22-28 Sept.

Just, Raymond A. "Commnt, Intergenerational Standing Under the Endangered Species Act: Giving Back the Right to Biodiversity After Lujan V. Defenders of Wildlife" (1996) 71 Tulane Law Review 597

Kaiser, Mark J. "Modeling the Time and Cost to Drill an Offshore Well" (2009) 34:9 Energy 1

Kaldelis, J.K., and K.A. Kavadias. "Cost-Benefit Analysis of Remote Hybrid Wind-Diesel Power Stations: Case Study Aegean Sea Islands" (2007) 35 Energy Policy 1525

Kalyani, Jyoti, Karanjit Singh Kahlon, Harpal Singh, and Anu Kalyani. "Analysis of Virus Algorithms" (2006) 2:10 Journal of Computer Science 785

Kammen, Daniel M. "The Rise of Renewable Energy" (2006) Scientific American 85

Kelmers, A.D. "The recovery of uranium from seawater - status of technology and needed future research and development." Presented at the *The Recovery of Uranium from Seawater*, Cambridge MA, 1-2 December 1980.

Kenisarin, Murat, Vedat M. Karsli, and Mehmet Caglar. "Wind Power Engineering in the World and Perspectives of Its Development in Turkey" (2006) 10 *Renewable and Sustainable Energy Reviews* 341

Khan, J., and G. Bhuyan, "Ocean energy: global technology development status," Powertech Labs for the IEA-OES online: International Energy Agency – Oceans <http://www.iea-oceans.org/_fich/6/ANNEX_1_Doc_T0104.pdf> (Date accessed: 02 June)

Kheshgi, Haroon S., Roger C. Prince, and Gregg Marland. "The Potential of Biomass Fuels in the Context of Global Climate Change: Focus on Transportation Fuels" (2000) 25 *Annual Review of Energy and Environment* 199

Kraft, J., and A. Kraft. "On the Relationship Between Energy and Gnp" (1978) 3:401 *Journal of Energy and Development* 403

Krieg, Eric J., and Daniel R. Faber. "Not So Black and White: Environmental Justice and Cumulative Impact Assessments" (2004) 24 *Environmental Impact Assessment Review* 667

Laboratory, National RenewableEnergy, "Concentrating Photovoltaic Technology," National Renewable Energy Laboratory online: <http://www.nrel.gov/csp/concentrating_pv.html> Last updated: 30 December 2009 (Date accessed: 03 June 2010)

Lacson, Nonoy E. "Zambo Hosts Climate Change Summit." *Manila Bulletin* (01 February 2010), online <<http://www.mb.com.ph/articles/241500/zambo-hosts-climate-change-summit>>.

Lacuarta, Gerald G. "Malampaya Gas Project Scores at World Summit." *Philippine Daily Inquirer* (03 September 2002), online <http://www.inq7.net/gbl/2002/sep/03/gbl_5-1.htm>.

Lake, Robert W. "Volunteers, Nimbys, and Environmental Justice: Dilemmas of Democratic Practice" (1996) 28:2 *Antipode* 160

Langhelle, Oluf. "Sustainable Development and Social Justice: Expanding the Rawlsian Framework of Global Justice" (2000) 9 *Environmental Values* 295

_____. "Sustainable Development: Exploring the Ethics of Our Common Future" (1999) 20:2 *International Political Science Review* 129

Lava, Jose. "Unwarranted Application of the Due Process Clause (Part I)" (1938) 18:3 Philippine Law Journal 113

_____. "Unwarranted Application of the Due Process Clause (Part IV)" (1938) 18:6 Philippine Law Journal 317

Le, Chien-Chiang, and Chun-Ping Chang. "Energy Consumption and Economic Growth in Asian Economies: A More Comprehensive Analysis Using Panel Data" (2008) 30 Resource and Energy Economics 50

Lee, Chien-Chang. "Energy Consumption and Gdp in Developing Countries: A Cointegrated Panel Analysis" (2005) 27 Energy Economics 415

Lee, Maria, and Carolyn Abbot. "The Usual Suspects? Public Participation Under the Aarhus Convention" (2003) 66 The Modern Law Review Limited 80

Liebowitz, S.J., and Stephen E. Margolis. "Path Dependence, Lock-In, and History" (1995) 11 Journal of Law, Economics and Organization 205

Livesey, Sharon M. "Eco-Identity As Discursive Struggle: Royal Dutch/shell, Brent Spar and Nigeria" (2001) 38:1 Journal of Business Communication 58

Lockhart, Charles. "Socially Constructed Conceptions of Distributive Justice: The Case of Affirmative Action" (1994) 56:1 The Review of Politics 24

Loftstedt, Ragnar E., and Ortwin Renn. "The Brent Spar Controversy: An Example of Risk Communication Gone Wrong" (2006) 17:2 Risk Analysis 131

Lotilla, Raphael P.M. , "Energy Programs and Policies, May 2006," Department of Energy - Philippines online: <<http://www.doe.gov.ph/seccorner/DOEPnPMay2006.pdf>>

Lowy, Daniel A., Leonard M. Tender, J. Gregory Zeikus, Doo Hyun Park, and Derek R. Lovley. "Harvesting Energy From the Marine Sediment-Water Interface II: Kinetic Activity of Anode Materials" (2006) 21 Biosensors and Bioelectronics 2058

Luke, Timothy W. "Neither Sustainable Nor Development: Reconsidering Sustainability in Development" (2005) 13 Sustainable Development 228

Lynch Jr., Owen J. "Invisible Peoples and a Hidden Agenda: The Origins of Contemporary Philippine Land Laws" (1988) 63:3 Philippine Law Journal 249

Macara, J.C. "Malampaya Deep Water Gas Pipeline and Flowlines: Technical and Engineering Challenged faced in the Execution of the Malampaya Pipeline Scope." Presented at the *2002 Offshore Technology Conference*, 06-09 May 2002.

Maggio, Gregory F. "Inter/intra-Generational Equity: Current Applications Under International Law for Promoting the Sustainable Development of Natural Resources" (1996) 4 Buff. Env'tl. L. J. 161

Magno, Francisco A. "The Growth of Philippine Environmentalism" (1993) 9:1 Kasarinlan 7

Malampaya Consortium and Department of Energy - Philippines. *Natural Gas: The Energy of Tomorrow*. Muntinlupa City, Philippines: Shell Philippines Exploration BV.

Managi, Shunsuke, James J. Opaluch, Di Jin, and Thomas A. Grigalunas. "Technological Change and Depletion of Offshore Oil and Gas" (2004) 47 Journal of Environmental Economics and Management 388

Mangyan Heritage Center, "Mangyan Heritage Center: About Us," Mangyan Heritage Center online: <<http://www.mangyan.org/aba/index.asp>> Last updated: 06 July 2010 (Date accessed: 06 July 2010)

Manheim, Frank T., "U.S. offshore oil industry: new perspectives on an old conflict," American Geological Institute online: <http://www.geotimes.org/dec04/feature_Norway.html> (Date accessed: 15 April 2009)

Mank, Bradford C. "Standing and Future Generations: Does Massachusetts V. Epa Open Standing for Generations to Come?" (2009) 34 Columbia Journal of Environmental Law 1

Maritime Industry Authority, "About Us - Organization," Maritime Industry Authority online: <<http://www.marina.gov.ph/about/organization.aspx>> Last updated: 27 June 2010 (Date accessed: 27 June 2010)

Markell, David L. "The North American Commission for Environmental Cooperation After Ten Years: Lessons About Institutional Structure and Public Participation in Governance" (2004) 26 Loyola of Los Angeles International & Comparative Law Review 341

Marks, Stephen. "Emerging Human Rights: A New Generation for the 1980s" (1981) 33 Rutgers Law Review 435

Marsh, George. "Energy From the Sea: Uk Positions Itself to Lead Marine Renewables" (2005) 6:6 Refocus 30

McCormas, Katherine A., and Clifford W. Scherer. "Reassessing Public Meetings As Participation in Risk Management Decisions" (1998) 9 Risk: Health, Safety & Environment 347

- Mebratu, Desta. "Sustainability and Sustainable Development: Historical and Conceptual Review" (1998) 18 *Environmental Impact Assessment Review* 493
- Mehrara, Moshen. "Energy Consumption and Economic Growth: The Case of Oil Exporting Countries" (2007) 35 *Energy Policy* 2939
- Melosi, Martin V. "Environmental Justice, Political Agenda Setting, and the Myths of History" (2000) 12:1 *Journal of Policy History* 43
- Merkel, Wolfgang. "Social Justice and the Three Worlds of Welfare Capitalism" (2002) 43:1 *European Journal of Sociology* 59
- Miller, Kenton. "Parks and Protected Areas: Considerations for the Future" (1982) 11:5 *Ambio* 315
- Millward, Hugh. "The Development, Decline, and Revival of Mining on the Sydney Coalfield" (1984) 28:2 *Canadian Geographer* 180
- Monsada, Zenaida Y., and DOE, "National Oil Emergency Preparedness Policy (Philippines)," International Energy Agency, Ministry of Energy - Thailand online: (Date accessed: 21 August 2008)
- Muetze, A., and J.G. Vining. "Ocean wave energy conversion - a survey." Presented at the *41st IAS Annual Meeting: Conference Record of the 2006 IEEE*, Tampa FL, 8-12 October.
- Munro, R.D. "Environmental Research and Management Priorities for the 1980s" (1983) 12:2 *Ambio* 60
- Murray, Robin, Philip Michael, and Aaron Stevens. *Review and Analysis of Ocean Energy Systems Development and Supporting Policies: A Report By Aea Energy & Environment on the Behalf of Sustainable Energy Ireland for the Iea's Implementing Agreement on Ocean Energy Systems*. Paris: International Energy Agency, 2006.
- Mushkat, Roda. "Public Participation in Environmental Law Making: A Comment on the International Legal Framework and the Asia-Pacific Perspective" (2002) *Chinese Journal of International Law* 185
- Muyot, Albert T. "Social Justice and the 1987 Constitution: Aiming for Utopia?" (1996) 70:2 *Philippine Law Journal* 310
- Nañola, Cleto Jr., Angel C. Alcala, Porfirio M. Aliño, Hazel O. Arceo, Wilfredo L. Campos, Edgardo D. Gomez, Wilfredo Y. Licuanan, Miedel C. Quibilan, Andre J. Uychiaoco, and Alan T. White. *Status Report on Coral Reefs in the Philippines (Poster)*. Quezon City: Coral Reef Information Network of the Philippines (Philreefs), 2004.

Narayan, Paresh Kumar, and Arti Prasad. "Electricity Consumption-Real Gdp Causality Nexus: Evidence From a Bootstrapped Causality Test From 30 Oecd Countries" (2008) 36:2 Energy Policy 910

National Mapping and Resource Information Authority. "Updates on the TWG Work on the ECS Project." Presented at the *Meeting of the Commission on Maritime and Ocean Affairs*, Manila, 12 December 2007.

National Renewable Energy Laboratory, "Learning about renewable energy: photovoltaics," National Renewable Energy Laboratory online: <http://www.nrel.gov/learning/re_photovoltaics.html> Last updated: 06 November 2008 (Date accessed: 22 June)

National Statistical Coordination Board, "2007 Census of Population," National Statistical Coordination Board online: <<http://www.census.gov.ph/data/census2007/index.html>> Last updated: 01 April 2008 (Date accessed: 22 July 2008)

_____, "Ilocos Norte: Least populated province in Ilocos Region," National Statistical Coordination Board online: <<http://www.census.gov.ph/data/pressrelease/2002/pr0219tx.html>> Last updated: 01 March 2002 (Date accessed: 22 July 2008)

National Statistics Office. "Philippines in Figures." (21 June 2010), online <<http://www.census.gov.ph/>>.

Nayar, K.R. "Politics of 'Sustainable Development'" (1994) 29:22 Economic and Political Weekly 1327

Neale, A. "Organizational Learning in Contested Environments: Lessons From Brent Spar" (1998) 6:2 Business Strategy and the Environment 93

Northwind Power Development Corporation, "Milestones," Northwind Power Development Corporation online: <http://northwindpower.com/index.php?option=com_content&task=view&id=33&Itemid=52> Last updated: 26 May 2008 (Date accessed: 24 July 2008)

Novak, J.D., and A.J. Cañas. "The Theory Underlying Concept Maps and How to Construct Them." In *Technical Report IHMC Cmap Tools 2006-01*: Florida Institute for Human and Machine Cognition, 2006.

Obama, Barack, "Remarks of President Barack Obama - as prepared for delivery, address to Joint Session of Congress, Tuesday February 24th, 2009," White House Press Office online: <http://www.whitehouse.gov/the_press_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/> Last updated: 24 February 2009

Orts, Eric W. "A Reflexive Model of Environmental Regulation" (1995) 5:4 Business Ethics Quarterly 779

OSPAR Commission, "OSPAR Commission - Observers," OSPAR Commission online: <http://www.ospar.org/content/content.asp?menu=00390108120000_000000_000000>
Last updated: 01 June 2010 (Date accessed: 01 July 2010)

Owens, Jon. "Comparative Law and Standing to Sue: A Petition for Redress for the Environment" (2001) 7 Environmental Lawyer 321

Palawan NGO Network, "The Palawan NGO Network, Inc. (Homepage)," Angelfire online: <<http://www.angelfire.com/wi/pnni/>>

Palerm, Juan R. "Public Participation in EIA in Hungary: Analysis Through Three Case Studies" (1999) 19 Environmental Impact Assessment Review 201

Parente, Virginia, Doneivan Ferreira, Edmilson Moutinho dos Santos, and Estanislau Luczynski. "Offshore Decommissioning Issues: Deductibility and Transferability" (2006) 34 Energy Policy 1992

Pelc, Robert, and Rod M. Fujita. "Renewable Energy From the Ocean" (2002) 26 Marine Policy 471

Pontes, M. Teresa. "The International Energy Agency R&D Collaborative Programme on Ocean Energy Systems." Presented at the *World Renewable Energy Congress*, Barcelona,

Primavera, J. "Development and Conservation of Philippine Mangroves: Institutional Issues" (2000) 35 Ecological Economics 91

Primavera, Jurgenne H. "Mangroves and Brackishwater Pond Culture in the Philippines" (1995) 295 Hydrobiologica 303

_____. "Mangroves, Fishponds, and the Quest for Sustainability" (2005) 310:5745 Science 57

Prophet, Cliff. "Public Participation, Executive Discretion and Environmental Assessment: Confused Norms, Uncertain Limits" (1990) 48 University of Toronto Faculty of Law Review 279

Protected Areas and Wildlife Bureau, "Facts and Figures," Department of Environment and Natural Resources online: <<http://www.pawb.gov.ph/Facts%20&%20Figures.html>>
Last updated: 28 January 2010 (Date accessed: 10 March 2010)

Prout, Jerry. "Coming to Terms With Environmental Justice" (1999) 6:4 Corporate Environmental Strategy 399

Provincial Government of Palawan, "Official Website of the Province of Palawan: Environment," Provincial Government of Palawan online:
<<http://www.palawan.gov.ph/environment.html>> Last updated: 26 May 2009 (Date accessed: 29 June 2010)

Puno, Reynato. "Below one heaven, above one earth." Presented at the *Asian Justices Forum on the Environment: Sharing Experiences to Strengthen Environmental Adjudication in Asia*, Pasig City, 05 July.

_____. "No turning back on human rights." Presented at the *University Convocation*, Dumaguete City, 25 August.

Ramon Magsaysay Award Foundation, "Magsaysay Credo,"
<<http://www.rmaf.org.ph/Ramon-Magsaysay/credo.htm>> Last updated: 21 August 2009 (Date accessed: 21 December 2009)

Raustiala, Kal. "The "Participatory Revolution" in International Environmental Law" (1997) 21 *Harvard Environmental Law Review* 537.

Redclift, Michael. "Sustainable Development (1987-2005): An Oxymoron Comes of Age" (2005) 13 *Sustainable Development* 212

Remo, Amy R. "Pnoc Eyes Power Deal With Abu Dhabi, Italy Firms." *Philippine Daily Inquirer* (25 May 2010), online
<<http://business.inquirer.net/money/topstories/view/20100524-271868/PNOC-eyes-power-deal-with-Abu-Dhabi-Italy-firms>>.

Reyes, A. T. *Innovating a Climate-Friendly World - the Role of Technology and Its Dissemination*. Presented at the UN High-Level Meeting on Climate Change, New York, 24 September 2007.

_____. *Philippine Energy Sector Developments and Investment Opportunities*. Presented at the Visayas Energy Investment Forum, Crown Regency Hotel, Cebu City, 20 May 2009.

Rheman, S., I.M. El-Amin, F. Ahmad, S.M. Shaahid, A.M. Al-Shehri, J.M. Bakhashwain, and A. Shash. "Feasibility Study of Hybrid Retrofits to an Isolated Off-Grid Diesel Power Plant" (2007) 11 *Renewable and Sustainable Energy Reviews* 635

Richardson, Michael. "A Gas Grid for Asia's Southeast." *International Herald Tribune* (30 October 2001), online <<http://www.iht.com/articles/37316.html>>.

Roe, Emery. "Sustainable Development and the Local Justice Framework" (1997) 23:2 *Philosophy & Social Criticism* 97

- Rogers, Ben. "John Rawls." *The Guardian (online)* (27 November 2002), online <<http://www.guardian.co.uk/news/2002/nov/27/guardianobituaries.obituaries>>.
- Romeo, John, "Open source infiltrates government IT worldwide," LinuxWorld.com online: <<http://www.linuxworld.com/news/2008/030108-ossi.html?page=1>> Last updated: 03 January 2008 (Date accessed: 08 March 2010)
- Romero, Florida Ruth. "The Role of the Judiciary in Promoting the Rule of Law in the Area of Environmental Protection" (1999) Special Edition Court Systems Journal 94
- Sabbagh, Clara. "The Dimension of Social Solidarity in Distributive Justice" (2003) 42:2 Social Science Information 255
- Sachs, Wolfgang. "Technology As a Trojan Horse." *New Internationalist* (01 June 1992), online <<http://www.newint.org/issue232/trojan.htm>>.
- Salcido, Rachel E. "Rough Seas Ahead: Confronting Challenges to Jump-Start Wave Energy" (2009) 39 Environmental Law 1073
- Sand, Peter H. "Sovereignty Bounded: Public Trusteeship for Common Pool Resources?" (2004) 4:1 Global Environmental Politics 47
- Santos, J. B. F. "Firms Get Contracts, Perks to Develop Renewable Energy." *BusinessWorld* (24 October 2009), online <<http://www.bworldonline.com/BW102409/content.php?id=042>>.
- Sanwal, Mukul. "Trends in Global Environmental Governance: The Emergence of a Mutual Supportiveness Approach to Achieve Sustainable Development" (2004) 4:4 Global Environmental Politics 16
- Sarokin, David J., and Jay Schulkin. "Environmental Justice: Co-Evolution of Environmental Concerns and Social Justice" (1994) 14:2 The Environmentalist 121
- Sathirathai, Suthawan, and Edward B. Barbier. "Valuing Mangrove Conservation in Southern Thailand" (2001) 19:2 Contemporary Economic Policy 109
- Saxena, A K. "Experiments for Recovery of Uranium From Seawater By Harnessing Tidal Energy" (2004):249 BARC Newsletter 226
- Scharlin, Patricia. "The United Nations and the Environment: After Three Decades of Concern, Progress Is Still Slow" (1982) 11:1 Ambio 26
- Schively, Carissa. "Understanding the Nimby and Lulu Phenomena: Reassessing Our Knowledge Base and Informing Future Research" (2007) 21:3 Journal of Planning Literature 255

Schlosberg, David. "Reconceiving Environmental Justice: Global Movements and Political Theories" (2004) 13:3 *Environmental Politics* 517

Science and Environmental Health Network, and International Human Rights Clinic at Harvard Law School, "Models for protecting the environment for future generations," International Human Rights Clinic, Harvard Law School online: <<http://www.law.harvard.edu/programs/hrp>> (Date accessed: 28 January 2010)

Sea Shepherd Conservation Society, "Sea Shepherd News," Sea Shepherd Conservation Society online: <<http://www.seashepherd.org/news-and-media/sea-shepherd-news.html>> Last updated: 08 February 2010 (Date accessed: 10 February 2010)

Sethuraman, Dinakar. "Global Lng Supply to Exceed Demand in 2010, Bernstein Says." *Bloomberg.com* (23 November 2009), online <<http://www.bloomberg.com/apps/news?pid=20601072&sid=azP4pF14puRc>>.

Shah, Syed Imran, "Soaring oil prices make wind energy competitive," Findarticles.com online: <http://findarticles.com/p/articles/mi_hb092/is_5-6_37/ai_n29292981/> Last updated: 01 May 2006 (Date accessed: 14 April 2009)

Sharma, Prasad. "Restoring Participatory Democracy: Why the United States Should Listen to Citizen Voices While Engaging in International Environmental Lawmaking" (1998) 12 *Emory International Law Review* 1215

Shell Philippines Exploration, "Malampaya Deepwater Gas to Power Project," *Shell Malampaya* online: [Malampaya.com](http://www.malampaya.com) <http://www.malampaya.com/web/H_project5.htm> (Date accessed: 04 April 2004)

Shuwen, Jolene Lin. "Assessing the Dragon's Choice: The Use of Market-Based Instruments in Chinese Environmental Policy" (2004) 16 *Georgetown International Environmental Law Review* 617

Silver, Beverly J., and Giovanni Arrighi. "Polanyi's "Double Movement": The Belle Epoque of British and U.s. Hegemony Compared" (2003) 31:2 *Politics & Society* 325

Silverthorne, Sean, "Microsoft vs Open Source: Who Will Win?," Harvard Business School online: <<http://hbswk.hbs.edu/item/4834.html>> Last updated: 06 June 2005 (Date accessed: 06 March 2010)

Simon, David R. "Corporate Environmental Crimes and Social Inequality: New Directions for Environmental Justice Research" (2000) 43:4 *American Behavioral Scientist* 633

Sinclair, Lani. "Contribution of Biotechnology to Sustainable Development in the Third World" (1986) 15:5 *Ambio* 290

_____. "World Economy Can Expand Without Destroying Natural Resources" (1986) 15:1 *Ambio* 45

Singh, R.N., and A.S. Atkins. "Design Considerations for Mine Workings Under Accumulations of Water" (1982) 1:4 *Mine Water and the Environment* 35

SINTEF. "Seaweed Farming for Sustainable Bio Fuel." In *SINTEF Fisheries and Aquaculture Newsletter*. Trondheim, Norway: Stiftelsen for industriell og teknisk forskning, 2008.

Skjærseth, Jon Birger, Olav Schram Stokke, and Jørgen Wettestad. "Soft Law, Hard Law, and Effective Implementation of International Environmental Norms" (2006) 6:3 *Global Environmental Politics* 104

Smith, Nancy DuVergne. "Gas and Renewable Fuels May Edge Out Oil By 2025, Shell Chair Says." *MIT Tech Talk* (04 December 2002), online
<<http://web.mit.edu/newsoffice/2002/watt-1204.html>>.

Soderholm, Patrik, Kristina Ek, and Maria Pettersson. "Wind Power Development in Sweden: Global Policies and Local Obstacles" (2007) 11 *Renewable and Sustainable Energy Reviews* 365

Sohn, Louis B. "New International Law: Protection of the Rights of Individuals Rather Than States" (1982) 32:1 *American University Law Review* 1

Sorensen, Jens. "The International Proliferation of Integrated Coastal Zone Management Efforts" (1993) 21:1-3 *Oceans & Coastal Management* 45

Sors, Julie Catherine. "Public Participation in Local Agenda 21: A Review of Traditional and Innovative Tools." In : *Fondazione Eni Enrico Mattei*, 2001.

Spalding-Fecher, Randall, Harald Winkler, and Stanford Mwakasonda. "Energy and the World Summit on Sustainable Development: What Next?" (2005) 33 *Energy Policy* 99

Spaulding, Mark J.D. "Transparency of Environmental Regulation and Public Participation in the Resolution of International Environmental Disputes" (1995) 35 *Santa Clara Law Review* 1127

Spyke, Nancy Perkins. "Public Participation in Environmental Decisionmaking at the New Millennium: Structuring New Spheres of Public Influence" (1998) 26 *B.C. Env'tl.Aff. L. Rev.* 263

Stavins, Robert N. "Policy Instruments for Climate Change: How Can National Governments Address a Global Problem?" (1997) *University of Chicago Legal Forum* 293

Steele, Brian C.H., and Angelika Heinzl. "Materials for Fuel-Cell Technologies" (2001) 414 *Nature* 345

Stewart, Richard B. "Environmental Regulation and International Competitiveness" (1993) 102 *Yale Law Journal* 2039

Stine, Jeffery K., and Joel A. Tarr. "At the Intersection of Histories: Technology and the Environment" (1998) 39:4 *Technology and Culture* 601, online: <http://muse.jhu.edu/journals/technology_and_culture/v039/39.4stine.html>

Stivers, Robert L. "The Sustainable Society: Religious and Social Implications" (1979) 21:1 *Review of Religious Research* 71

Strong, Maurice F. "Mountain Development 2000: Challenges and Opportunities" (1984) 4:1 *Mountain Research and Development* 83

Sunnevåg, Kjell J. "Designing Auctions for Offshore Petroleum Lease Allocation" (2000) 26 *Resources Policy* 3

Svedin, Uno. "One Year Until the 1979 UN Conference on "Science and Technology for Development"" (1978) 7:4 *Ambio* 180

Symposium, Global Judges, "The Johannesburg Principles on the Role of Law and Sustainable Development," United Nations Environment Program online: <<http://www.unep.org/law/symposium/Principles.htm>> Last updated: 20 February 2007 (Date accessed: 01 March 2010)

Synnestvedt, Terje. "Debates Over Environmental Information to Stakeholders As a Policy Instrument" (2001) 8 *Eco-Management and Auditing* 165

Szasz, A., and M. Meuser. "Environmental Inequalities: Literature Review and Proposals for New Direction in Research and Theory" (1997) 45:3 *Current Sociology* 99

Sze, Julie, and Jonathan K. London. "Environmental Justice at the Crossroads" (2008) 2:4 *Sociology Compass* 1331

Taylor, Dorceta E. "The Rise of the Environmental Justice Paradigm: Injustice Framing and the Social Construction of Environmental Discourses" (2000) 43:4 *American Behavioral Scientist* 508

Terdiman, Richard. "Translator's Introduction to "The Force of Law: Toward a Sociology of the Juridical Field"" (1987) 38 *Hastings Law Journal* 805

The Province of Oriental Mindoro, "Official Website of Oriental Mindoro," Province of Oriental Mindoro online: <<http://www.ormindoro.gov.ph/index.asp>> Last updated: 01 September 2008 (Date accessed: 03 September 2008)

TheFishSite News Desk, "500 marine protected areas established in Philippines," TheFishSite online: <<http://www.thefishsite.com/fishnews/7343/500-marine-protected-areas-established-in-philippines>> Last updated: 04 July 2008 (Date accessed: 30 March 2010)

Thompson, Michael, and Michael Warburton. "Knowing Where to Hit It: A Conceptual Framework for the Sustainable Development of the Himalaya" (1985) 5:3 Mountain Research and Development 203

Thomson, Barton H. "The Trouble With Time: Influencing the Conservation Choices of Future Generations" (2004) 44 Natural Resources Journal 601

Tomlinson, Shane. "Technology Action Plans and Funding Complement Legally Binding Climate Agreement." , 2009/12/14 2009.

Tubb, Rita, "Shell drills world's deepest offshore well," Allbusiness.com online: <<http://www.allbusiness.com/transportation/pipeline-transportation-oil-gas/11770252-1.html>> (Date accessed: 15 April 2009)

Turaga, Rama Mohana. "Public Participation in Environmental Decision Making: What Process Factors Affect Acceptability of Decisions?" In , 1-12: School of Public Policy, Georgia Institute of Technology, .

Tushnet, Mark. "State Action, Social Welfare Rights, and the Judicial Role: Some Comparative Observations" (2002) 3 Chicago Journal of International Law 435

Ubac, Michael L. "Arroyo Orders Study on Use of Nuclear Energy for Power." *Philippine Daily Inquirer* (20 August 2008), online <http://newsinfo.inquirer.net/breakingnews/nation/view/20070820-83681/Arroyo_orders_study_on_use_of_nuclear_energy_for_power>.

UK, Department of Trade and Industry, and The Carbon Trust, "The renewables innovation review," Department of Trade and Industry UK; The Carbon Trust online: <<http://www.berr.gov.uk/energy/sources/renewables/policy/government/innovation-review/page15308.html>> (Date accessed: 15 June)

UN FCCC, "Fact sheet: Why technology is so important," <http://unfccc.int/press/fact_sheets/items/4989.php> Last updated: 23 November 2009 (Date accessed: 27 June 2010)

UNECE Secretariat, "Environmental rights not a luxury: Aarhus Convention enters into force (Press release, 29 October 2001)," United Nations Economic Commission for Europe online: <<http://www.unece.org/env/pp/press.releases/01env15e.html>> (Date accessed: 15 February 2010)

UNECE Secretariat, "European Community ratifies pollutant right-to-know treaty (Press release, 3 March 2006)," United Nations Economic Commission for Europe online: <<http://www.unece.org/env/pp/press.releases/01env15e.html>> (Date accessed: 15 February 2010)

Union of Concerned Scientists, "Clean energy: how solar energy works," Union of Concerned Scientists online: (Date accessed: 10 June 2009)

Updegraff, Trevor R. "Morals on Stilts: Assessing the Value of Intergenerational Environmental Ethics" (2009) 20 Colorado Journal of International Environmental Law & Policy 367

US Department of Energy, "Geothermal Basics," US Department of Energy online: <http://www1.eere.energy.gov/geothermal/geothermal_basics.html> Last updated: 03 October 2008 (Date accessed: 03 June 2010)

Vasak, Karel. "Human Rights: A Thirty Year Struggle. The Sustained Efforts to Give Force of Law to the Universal Declaration of Human Rights" (1977) 30 UNESCO Courier 11

Vanderzwaag, David , Susanna D. Fuller, and Ransom A. Myers, "Canada and the Precautionary Principle/Approach in Ocean and Coastal Management: Wading and Wandering in Tricky Currents" (2002) 34 Ottawa L. Rev. 117.

Wallace, Perry. "Global Climate Change and the Challenge to Modern American Corporate Governance" (2002) 55 Southern Methodist University Law Review 493

Walters, Bradley B. "Local Management of Mangrove Forests in the Philippines: Successful Conservation Or Efficient Resource Exploitation" (2004) 32:2 Human Ecology 177

_____. "People and Mangroves in the Philippines: Fifty Years of Coastal Environmental Change" (2003) 30:3 Environmental Conservation 293

Walters, William, and Jens Henrick Haahr. "Governmentality and Political Studies" (2005) 4 European Political Science 288

Weeks, Rebecca, Garry R. Russ, Angel C. Alcala, and Alan T. White. "Effectiveness of Marine Protected Areas in the Philippines for Biodiversity Conservation" (2009) 24:2 Conservation Biology 531

Weiss, Edith Brown. "A Reply to Barresi's "Beyond Fairness to Future Generations"" (1997) 11 Tulane Environmental Law Journal 89

_____. "What Obligation Does Our Generation Owe to the Next? an Approach to Global Environmental Responsibility: Our Rights and Obligations to Future Generations for the Environment" (1990) 84 *American Journal of International Law* 198

Wellman, Carl. "Solidarity, the Individual and Human Rights" (2000) 22 *Human Rights Quarterly* 639

West, Charles. "Justice Within the Limits of the Created World" (1976) 27:1 *Ecumenical Review* 57

Wheeler, David, Rene Rechtman, Heike Fabig, and Richard Boele. "Shell, Nigeria and the Ogoni. A Study in Unsustainable Development. Iii. Analysis and Implications of Royal Dutch/shell Group Strategy" (2001) 9 *Sustainable Development* 177

White, Alan T., Evelyn Deguit, William Jatulan, and Liza Eisma-Osorio. "Integrated Coastal Management in Philippine Local Governance: Evolution and Benefits" (2006) 34 *Coastal Management* 287

White, Lynn Jr. "Technology and Invention in the Middle Ages" (1940) 15:2 *Speculum* 145

_____. "The Historical Roots of Our Ecologic Crisis" (1967) 155:3767 *Science* 1203

Wiener, Jonathan B. "Something Borrowed for Something Blue: Legal Transplants and the Evolution of Global Environmental Law" (2001) 27 *Ecology Law Quarterly* 1295

_____. "Radiative Forcing: Climate Policy to Break the Logjam in Environmental Law" (2008) 17 *New York University Environmental Law Journal* 210

_____. "Global Environmental Regulation: Instrument Choice in Legal Context" (1999) 108 *Yale Law Journal* 667

Willers, Bill. "Sustainable Development: A New World Deception" (1994) 8:4 *Conservation Biology* 1146

Williams, Colin C., and Andrew C. Millington. "The Diverse and Contested Meanings of Sustainable Development" (2004) 170:2 *The Geographical Journal* 99

Wiltshire, JC. "Methand Hydrates: A Future Ocean Energy Resource?" (2003) 36:4 *Marine Technology Society Journal* 8

Wirth, David A. "Public Participation in International Processes: Environmental Case Studies at the National and International Levels" (1996) 7 *Colorado Journal of International Environmental Law & Policy* 1

Wolfe, Amy K., Nichole Kerchner, and Tom Wilbanks. "Public Involvement on a Regional Scale" (2001) *Environmental Impact Assessment Review* 431

Wolsink, Maarten. "Wind Power Implementation: The Nature of Public Attitudes: Equity and Fairness Instead of 'Backyard Motives'" (2007) 11 *Renewable and Sustainable Energy Reviews* 1188

Wong, Peter. "Solar photovoltaic cell/module manufacturing activities," *Energy Information Administration* online:
<<http://www.eia.doe.gov/cneaf/solar.renewables/page/solarphotv/solarpv.html>> Last updated: 01 December 2008 (Date accessed: 15 April 2009)

_____. "Solar thermal collector manufacturing activities 2007," *Energy Information Administration* online:
<<http://www.eia.doe.gov/cneaf/solar.renewables/page/solarreport/solar.html>> Last updated: 01 October 2008 (Date accessed: 15 April 2009)

Wood, Mary Christina. "Advancing the Sovereign Trust of Government to Safeguard the Environment for Present and Future Generations (Part 2): Instilling a Fiduciary Obligation in Governance" (2009) 39 *Environmental Law* 91

World Intellectual Property Organization IP Services, "Open Source," *World Intellectual Property Organization* online: <http://www.wipo.int/patent-law/en/developments/open_source.html> Last updated: 24 March 2009 (Date accessed: 08 March 2010)

World Nuclear Association, "Advanced nuclear power reactors," *World Nuclear Association* online: <<http://www.world-nuclear.org/info/inf08.html>> Last updated: 01 March 2009 (Date accessed: 16 April)

World Nuclear Association, "Generation IV nuclear reactors," *World Nuclear Association* online: <<http://www.world-nuclear.org/info/inf77.html>> Last updated: 01 March 2009 (Date accessed: 16 April)

_____, "Glossary: Deuterium," *World Nuclear Association* online:
<<http://www.world-nuclear.org/info/inf51.html#D>> Last updated: 01 December 2005 (Date accessed: 16 April)

_____, "Nuclear fusion power," *World Nuclear Association* online:
<<http://www.world-nuclear.org/info/inf66.html>> Last updated: 01 May 2007 (Date accessed: 16 April)

World Wildlife Fund - Philippines, "Wendy the windmill save by WWF Philippines," *WWF Philippines* online:
<http://www.panda.org/about_wwf/where_we_work/asia_pacific/where/philippines/news>

/index.cfm?uNewsID=58600> Last updated: 07 February 2006 (Date accessed: 22 July 2008)

World Wildlife Fund - UK, "How we're tackling climate change," World Wildlife Fund - UK online:

<http://www.wwf.org.uk/what_we_do/tackling_climate_change/how_we_re_tackling_climate_change/> (Date accessed: 26 January 2010)

World Wildlife Fund , and McGinley, Mark, "Mindoro rain forests," Environmental Information Coalition, National Council for Science and the Environment online: <http://www.eoearth.org/article/Mindoro_rain_forests> (Date accessed: 03 September 2008)

Worldwatch Institute, "Energy and Climate Change Program," Worldwatch Institute online: <http://www.worldwatch.org/programs/energy_climate> Last updated: 26 January 2010 (Date accessed: 26 January 2010)

Yamin, Farhana. "Ngos and International Environmental Law: A Critical Evaluation of Their Roles and Responsibilities" (2001) 10:2 Review of European Community & International Environmental Law 149

Yates, Edward E. "Public Participation in Economic and Environmental Planning: A Case Study of the Philippines" (1994) 22:1 Denver Journal of International Law and Policy 107

Young, Iris Marion. "Between Liberalism and Social Democracy: A Comment on Tushnet" (2002) 3:2 Chicago Journal of International Law 471

Zachariadis, Theodorus. "Exploring the Relationship Between Energy Use and Economic Growth With Bivariate Models: New Evidence From the G-7 Countries" (2007) 29:6 Energy economics 1233

E. News Reports

"20% Bahagi Ang Para Sa Palawan [20% Share for Palawan]." *Bandillo ng Palawan* (25 March 2002), at 1

"Anti-Whaling Activists Accuse Japan Fleet of Attack." *BBC News* (06 January 2010), online <<http://news.bbc.co.uk/2/hi/8442808.stm>>.

"Bagong Negosasyon at MOA Para Sa Kita Ng Malampaya Iminungkahi [New Negotiation and Moa for Malampaya Profits Proposed]." *Bandillo ng Palawan* (01 April 2002), at 1

"Bahagi Ng Palawan Sa Kita Mula Sa Malampaya Inilalayo Na? [Palawan's Share From Malampaya's Profits Being Taken Away?]." *Bandillo ng Palawan* (22 October 2001), at 8

"Climate Change Behind Twin Disasters in Rp - Un Official." *GMA News.TV* (13 October 2009), online <<http://www.gmanews.tv/story/174489/climate-change-behind-twin-disasters-in-rp-un-official>>.

"Copenhagen deal: Key points," British Broadcasting Company online: <<http://news.bbc.co.uk/2/hi/science/nature/8422307.stm>> Last updated: 19 December 2009 (Date accessed: 12 June 2010)

"Copenhagen summit urged to take climate change action," British Broadcasting Company online: <<http://news.bbc.co.uk/2/hi/8398510.stm>> Last updated: 07 December 2009 (Date accessed: 12 June 2010)

"ECC Ng Malampaya Natural Gas Project Tatalakayin Sa Meeting Ng PCSD (ECC of Malampaya Natural Gas Project to Be Taken Up at PCSD Meeting)." *Bandillo ng Palawan* (23 August 1999), at 5

"Energy Dept. Approves EDC's Wind Farm Projects." *GMA News.TV* (06 June 2010), online <<http://www.gmanews.tv/story/192785/energy-dept-approves-edcs-wind-farm-projects>>.

"Energy fuels new 'Great Game' in Europe," British Broadcasting Company online: <<http://news.bbc.co.uk/2/hi/europe/8090104.stm>> Last updated: 09 June 2009 (Date accessed: 12 June 2010)

"ERC Finds Inec Overcharged Consumers By P123M." *Ilocos Times* (11 April 2005), at 1

"ERC Orders Inec to Refund P102M." *Ilocos Times* (30 August 2005), at 3

"European gas supplies disrupted," British Broadcasting Company online: <<http://news.bbc.co.uk/2/hi/europe/7812860.stm>> Last updated: 06 January 2009 (Date accessed: 12 June 2010)

"Europe's pipeline politics," British Broadcasting Company online: <<http://news.bbc.co.uk/2/hi/europe/8083511.stm>> Last updated: 07 June 2009 (Date accessed: 12 June 2010)

"Forum Energy Given Palawan Oil Service Contract." *Businessworld* (18 February 2010), online <<http://www.abs-cbnnews.com/business/02/17/10/forum-energy-given-palawan-oil-service-contract>>.

"Gore and UN Panel Win Nobel Prize." *BBC News* (12 October 2007), online
<<http://news.bbc.co.uk/2/hi/europe/7041082.stm>>.

"Hiwalay Na Departamentong Hahawak Sa Kikitain Sa Camago-Malampaya Hiniling (Separate Department to Handle Revenue From Camago-Malampaya Proposed)." *Bandillo ng Palawan* (24 April 2000), at 1

"Hurricane Katrina: In Depth," British Broadcasting Company online:
<http://news.bbc.co.uk/2/hi/in_depth/americas/2005/hurricane_katrina/default.stm> Last updated: 22 April 2008 (Date accessed: 12 June 2010)

"Japan Sets Sights on Whaling Activists." *BBC News* (20 August 2008), online
<<http://news.bbc.co.uk/2/hi/7573074.stm>>.

"JTR Humingi Ng Tulong Sa IBP Ukol Sa Malampaya [JTR Seeks Help From IBP Regarding Malampaya]." *Bandillo ng Palawan* (14 January 2002), at 1

"Kita Ng Palawan Mula Sa Malampaya Muling Tiniyak [Palawan's Share From Malampaya Ascertained Again]." *Bandillo ng Palawan* (24 September 2001), at 4

"KLM Magsasampa Ng Demanda [KLM to File Suit]." *Bandillo ng Palawan* (07 June 2004), at 1

"Konsultasyon Para Sa Moa Palalawigin Pa - Gob. Reyes [Consultations on Moa to Be Expanded - Gov. Reyes]." *Bandillo ng Palawan* (17 June 2002), at 1

"Maaring Makasira Ng Karagatan Ang Pipeline (The Pipeline May Damage the Sea)." *Bandillo ng Palawan* (12 June 1999)

"Malampaya Sound Gagawing Protected Area (Malampaya Sound to Be Made a Protected Area)." *Bandillo ng Palawan* (13 September 1999), at 8-5

"Marcos II: Inec Overcharged Consumers By P10M." *Ilocos Times* (28 March 2005), at 1

"May Red Tide Pa Rin Sa Malampaya Sound (There Is Still Red Tide in Malampaya Sound)." *Bandillo ng Palawan* (01 December 1998), at 8

"Mga Lampasut Sa Malampaya Marami Pero Nanganganib (There Are Many Irrawady Dolphin in Malampaya But They Are in Danger)." *Bandillo ng Palawan* (16 February 1999), at 1-3

"Mitra Tiyak Sa Bahaging Makukuha Ng Palawan Mula Sa Malampaya [Mitra Sure of Palawan's Share From Malampaya]." *Bandillo ng Palawan* (31 December 2001), at 5

"MOA Baka Isnabin Ni Gma [MOA May Be Ignored By Gma]." *Bandillo ng Palawan* (25 November 2002), at 8

"MOA Isinangguni Kay Gma [MOA Sent to Gma]." *Bandillo ng Palawan* (11 November 2002), at 1

"MOA Muling Tinutulan [MOA Opposed Again]." *Bandillo ng Palawan* (28 October 2002), at 1

"MOA Ng Palawan Aprubado Na [Palawan's MOA Approved]." *Bandillo ng Palawan* (07 October 2002), at 1

"MOA Sa Malampaya Naantala [MOA for Malampaya Delayed]." *Bandillo ng Palawan* (27 May 2002), at 1

"MOA Tuluyan Nang Naglaho [MOA Completely Gone]." *Bandillo ng Palawan* (10 March 2003), at 1

"More Wind Energy Projects Planned in Ilocos Norte." *Businessworld* (04 May 2008), online <<http://www.gmanews.tv/story/93262/More-wind-energy-projects-planned-in-Ilocos-Norte>>.

"P22M Extension Ng Adventist Hospital Sinimulan Na." *Bandillo ng Palawan* (12 June 2000), at 8

"P36M Pondo Para Sa Malaria Nanganganib Bawiin Ng Spex (P36m Fund for Malaria in Danger of Being Taken Back By Spex)." *Bandillo ng Palawan* (17 January 2000), at 1-6

"Paghahabla Ng Palawan Sa Gobyernong Nasyunal Umani Ng Malawakang Suporta Sa Palaweno [Palawan Suit Against National Government Gains Wide Support From Palawenos]." *Bandillo ng Palawan* (12 May 2003), at 1

"Palawan Entitled to \$2-B Gas Share, Court Rules." *Manila Bulletin* (19 December 2005), online <<http://www.mb.com.ph/node/151787>>.

"Palawan Leaders Agree on Malampaya Sharing." *Philippine Daily Inquirer* (30 November 2007), online <http://newsinfo.inquirer.net/breakingnews/regions/view/20071130-104107/Palawan_leaders_agree_on_Malampaya_sharing>.

"Pangulong Arroyo Nanindinggang Hindi Sakop Ng Palawan Ang Malampaya [President Arroyo Firm That Malampaya Is Outside Palawan]." *Bandillo ng Palawan* (12 April 2002), at 1

"Petisyon Ng KLM Nasa Korte Na [Petition of KLM Now in Court]." *Bandillo ng Palawan* (21 June 2004), at 1

"Philippines Raises Climate Change Awareness." *The Manila Times* (20 November 2009), online <<http://www.manilatimes.net/index.php/lifestyle/6276-philippines-raises-climate-change-awareness>>.

"Platts Top 250 global energy company rankings," The McGraw-Hill Companies online: <<http://www.platts.com/top250/index.xml>> Last updated: 17 June 2009 (Date accessed: 17 June)

"Prov'l Dad Chides INEC for Overcharging." *Ilocos Times* (21 February 2005), at 1

"Prov'l Dad Hits INEC for Steep Power Rate Hike." *Ilocos Times* (17 January 2005), at 1

"Ramon Magsaysay Man of the People: Inaugural Address As President on December 30, 1953." *The Philippine Star* (17 March 1992), at 13

"Review of Environment-Development" (1979) 8:2/3 *Ambio* 114

"Sa Kinukuwestiyong Ecc Ng Spex, Sinabi Ni Cerilles Na 'Dapat Igalang Ng Pcsd and Denr' (On the Questioned Ecc of Spex, Ceriles Says 'Pcsd Should Respect Denr')." *Bandillo ng Palawan* (22 November 1999), at 1

"Sa Unang Public Hearing, Bagong Moa Binusisi [At First Public Hearing, New Moa Questioned]." *Bandillo ng Palawan* (10 June 2002), at 1

"Shell drills world's deepest offshore well," Oil & Gas Eurasia online: <<http://www.oilandgaseurasia.com/news/p/2/news/3352>> (Date accessed: 2 June)

"Shell Ipinagtanggol and Kanilang Proyeklong Pipeline (Shell Defends Their Pipeline Project)." *Bandillo ng Palawan* (09 August 1999)

"SP Set to Ask ERC Intervention in INEC's Alleged Overcharging." *Ilocos Times* (14 March 2005), at 4

"SPEX Aprubado Na Ng PCSD (SPEX Approved By the PCSD)." *Bandillo ng Palawan* (19 June 2000), at 1-4

"SPEX Magbibigay Ng P68M Sa Palawan Adventist Hospital (SPEX to Give P68M to Palawan Adventist Hospital)." *Bandillo ng Palawan* (17 January 2000), at 1-5

"Strong Emotions Stirred By 'Whale Wars'." *Euronews.net* (21 June 2010), online <<http://www.euronews.net/2010/06/21/strong-emotions-stirred-by-whale-wars/>>.

"Thousands Protest in Copenhagen, Demand 'Climate Justice'." *GMA News.TV* (12 December 2009), online <<http://www.gmanews.tv/story/179218/thousands-protest-in-copenhagen-demand-climate-justice>>.

"Tutol at Pabor Sa MOA Nagtuos [Opposed and in Favor of Moa Clash]." *Bandillo ng Palawan* (04 November 2002), at 1

"Ukraine warns EU of gas 'problem'," British Broadcasting Company online: <<http://news.bbc.co.uk/2/hi/europe/7809450.stm>> Last updated: 03 January 2009 (Date accessed: 12 June 2010)

"UN Names Salceda 'Champion' of Climate Change Adaptation." *Philstar.com* (06 June 2010), online <<http://www.philstar.com/Article.aspx?articleId=581657&publicationSubCategoryId=77>>.

"UN Team to Review Bataan Nuclear Plant." *Philippine Daily Inquirer* (29 January 2008), online <http://services.inquirer.net/print/print.php?article_id=20080129-115396>.

"Working Paper on Development and International Economic Co-Operation Submitted By the Group of 77, 04 September 1975" (1975) 14:6 International Legal Materials 1553

Adriano, Leilanie G. "Bangui Wind Farm Pays P3.9M in Real Estate Tax." *The Ilocos Times* (09 October 2006), at 1-2

Alexander's Oil and Gas Connections, "Trans-ASEAN Gas Pipeline Project takes shape," Alexander's Oil and Gas Connections Online online: <<http://www.gasandoil.com/goc/news/nts20615.htm>> (Date accessed: 30 March 2004)

_____, "Work on Trans-ASEAN Gas Pipeline Project on schedule," Alexander's Oil and Gas Connections Online online: <<http://www.gasandoil.com/goc/news/nts32874.htm>> (Date accessed: 30 March 2004)

Anonuevo, E. P. C. "DOE Awards Renewable Energy Deals." *The Manila Times* (24 October 2009), online <<http://www.manilatimes.net/index.php/business/4532-doe-awards-renewable-energy-deals>>.

Arzadon, Cristina. "INEC Not Keen on Reducing Power Rates." *Ilocos Times* (28 February 2005), at 3

Arzadon, Cristina. "Southeast Asia's First Wind Power Plant Is in Ilocos Norte." *The Ilocos Times* (26 February 2007), at 3

_____. "Wind Blows Ilocos Norte Onto Power Map." *Ilocos Times* (20 June 2005), at 11

Bennagen, Ma. Eugenia, "Philippine mining disaster: Counting the cost of a ruined river," IDRC.ca online: <http://www.idrc.ca/en/ev-8276-201-1-DO_TOPIC.html> Last updated: 24 April 2003 (Date accessed: 29 June 2010)

Biello, David, "Biofuel of the future: oil from algae," Scientific American online: <<http://www.sciam.com/article.cfm?id=biofuel-of-the-future>> (Date accessed: 16 April)

Bordadora, Norman. "SC Eyes New Writ to Speed Up Environmental Cases." *Philippine Daily Inquirer* (31 January 2010)

British Broadcasting Corporation, "Gulf of Mexico oil leak 'worst US environment disaster'," BBC News online: <http://news.bbc.co.uk/2/hi/world/us_and_canada/10194335.stm> Last updated: 30 May 2010 (Date accessed: 30 May 2010)

_____, "What do we know about the Deepwater Horizon disaster?," BBC News online: <http://news.bbc.co.uk/2/hi/world/us_and_canada/10370479.stm> Last updated: 22 June 2010 (Date accessed: 29 June 2010)

Bulambot, Jolene. "Marine Mammals Are Petitioners in Case Vs Oil Exploration." *Philippine Daily Inquirer* (18 December 2007), online <http://globalnation.inquirer.net/news/breakingnews/view/20071218-107585/Marine_mammals_are_petitioners_in_case_vs_oil_exploration>.

Burgonio, T.J. "Arroyo Signs Climate Change Law." *Philippine Daily Inquirer* (23 October 2009), online <<http://globalnation.inquirer.net/news/breakingnews/view/20091023-231825/Arroyo-signs-climate-change-law>>.

Cable News Network, "Timeline: Oil spill in the Gulf," CNN online: <<http://edition.cnn.com/2010/US/05/03/timeline.gulf.spill/index.html>> Last updated: 22 June 2010 (Date accessed: 29 June 2010)

Carrell, Severin, "Kelp-fuel cars on the horizon in Scotland," Guardian News and Media Limited online: <<http://www.guardian.co.uk/environment/2008/dec/17/biofuels-scotland>> Last updated: 17 December 2008 (Date accessed: 15 April)

CBC News. "Climate Talks End With Sketchy Deal." *CBC News* (19 December 2009), online <<http://www.cbc.ca/world/story/2009/12/19/copenhagen-accord.html>>.

Climaco, Nonette. "Oh, Gas! Malampaya Promises Reduction in Oil Dependence From 47% to 9%." *Philippine Business Magazine* 2001.

Council, Swedish Research, "Marine bacteria can create environmentally friendly energy source," <<http://www.sciencedaily.com/releases/2007/01/070115102154.htm>> Last updated: 15 January 2007 (Date accessed: 22 June)

del Mundo, Fernando. "Nuke Energy Key to Stem Climate Change." *Philippine Daily Inquirer* (02 March 2009), online

<<http://newsinfo.inquirer.net/inquirerheadlines/nation/view/20090302-191783/Nuke-energy-key-to-stem-climate-change>>.

Department of Energy. "DOE to Award More Petroleum and Coal Contracts." *Press Release* (28 August 2008), online <<http://www.doe.gov.ph/News/Press2008.asp?Q=3Q>>.

Department of Environment and Natural Resources, "RP's natural gas project wins World Business Summit award," Department of Environment and Natural Resources online: <<http://www.denr.gov.ph/article/view/400/1/139>> (Date accessed: 04 April 2004)

Dy, Erika T., and Abigail T. Sze, "Chief Justice, United States Ambassador among the speakers; High Court convenes Forum on Environmental Justice," Supreme Court online: <<http://sc.judiciary.gov.ph/publications/benchmark/2009/03/030901.php>> Last updated: 31 March 2009 (Date accessed: 10 March 2010)

Eilperin, Juliet. "Protesters Demand 'Climate Justice'." *Washington Post* (13 December 2009), online <<http://www.washingtonpost.com/wp-dyn/content/article/2009/12/12/AR2009121200641.html>>.

Flores, Alena May S. "Ilocos windfarm readies expansion" *Manila Standard Today* (20 June 2005).

Formoso, Celeste Anna. "Bond Flotation Plan Shelved." *Bandillo ng Palawan*, 1998/01/01 1998, 18-18.

Frialde, Mike. "Protected Marine Life Go to Court." *Philippine Star* (25 December 2007), online <<http://www.philstar.com/Article.aspx?articleId=35113>>.

Galang, John Paul, "SC hosts Asian Justices Forum on Environment," Supreme Court online: <<http://sc.judiciary.gov.ph/publications/benchmark/2007/07/070703.php>> Last updated: 31 July 2007 (Date accessed: 10 March 2010)

Gatdula, Donnabelle L. "RP Seeks Investors in Wind Power Sector." *The Philippine Star* (14 March 2005), online <<http://www.philstar.com/Article.aspx?articleId=270316&publicationSubCategoryId=66>>.

_____. "ADB to Fund Study on Wind Power Project in Ilocos Norte." *The Philippine Star* (13 July 2008), online <<http://www.philstar.com/archives.php?&aid=2008071217&type=2&>>.

_____. "Bidders Swarm DOE Auction for Geothermal Energy Deals." *The Philippine Star* (26 November 2009), online <<http://www.philstar.com/Article.aspx?articleId=526689&publicationSubCategoryId=66>>.

_____. "DOE Awards 11 Contracts." *The Philippine Star* (17 September 2009), online
<<http://www.philstar.com/Article.aspx?articleId=505794&publicationSubCategoryId=66>>.

_____. "DOE Mulls Inclusion of Renewable Energy Projects in Bidding Rounds." *The Philippine Star* (16 May 2009), online
<<http://www.philstar.com/Article.aspx?articleId=467936&publicationSubCategoryId=66>>.

_____. "DOE Opens Contracting Round for Coal Exploration." *The Philippine Star* (10 May 2009), online
<<http://www.philstar.com/Article.aspx?articleId=465958&publicationSubCategoryId=66>>.

_____. "Wind Power Projects Seen to Secure \$1-B Investment." *The Philippine Star* (05 May 2008), online
<<http://www.philstar.com/archives.php?&aid=200805047&type=2&>>.

GMA News.TV, "Mindoro fruit bat makes it to top 10 new species of '08," GMA News and Public Affairs online: <<http://www.gmanews.tv/story/99445/Mindoro-fruit-bat-makes-it-to-top-10-new-species-of-08>> Last updated: 05 June 2008 (Date accessed: 03 September 2008)

_____, "Monte Oro wins Transco with \$3.95-billion offer," GMA News and Public Affairs online: <<http://www.gmanews.tv/story/72552/Monte-Oro-wins-Transco-concession-with-395B-bid>> Last updated: 12 December 2007 (Date accessed: 15 March 2010)

_____. "Mindoro Fruit Bat Makes It to Top 10 New Species of '08." *GMA News.TV* (05 June 2008), online <<http://www.gmanews.tv/story/99445/mindoro-fruit-bat-makes-it-to-top-10-new-species-of-08>>.

Gray, Louise. "Copenhagen Climate Summit: Desmond Tutu Calls for Climate Justice." *Telegraph.co.uk* (15 December 2009), online
<<http://www.telegraph.co.uk/news/6817258/Copenhagen-climate-summit-Desmond-Tutu-calls-for-climate-justice.html>>.

Greenpeace, "Energy [R]evolution: A Sustainable World Energy Outlook," Greenpeace online: <<http://www.greenpeace.org/seasia/en/news/energy-r-evolution>> Last updated: 25 January 2007 (Date accessed: 22 July 2008)

_____, "Philippine wind power potential highest in Southeast Asia," Greenpeace online: <<http://www.greenpeace.org/seasia/en/news/philippine-wind-power-potentia>> Last updated: 21 September 2006 (Date accessed: 22 July 2008)

Harris, Lauren Carroll. "Copenhagen Eyewitness: The Rising Tide of Climate Justice." *The Asia-Europe People's Forum* (14 December 2009), online <<http://www.aepf.info/news/news/85-copenhagen-eyewitness-the-rising-tide-of-climate-justice.html>>.

Ingham, Richard, and Agence France Presse. "Copenhagen Conference Fails." *Manila Times.net* (20 December 2009), online <<http://www.manilatimes.net/index.php/component/content/article/86-special-reports/8168-copenhagen-conference-fails>>.

International Chamber of Commerce, "Shell wins major international Sustainable Development award," <http://www.shell.com/home/content/ph-en/news_and_library/press_releases/2002/malampaya_award_0830.html> Last updated: 30 August 2002

Isla, Paul Anthony A. "DOE Signs 7 Contracts for Renewable Energy Projects." *BusinessMirror* (14 September 2009), online <<http://www.businessmirror.com.ph/home/economy/16002-doe-signs-7-contracts-for-renewable-energy-projects.html>>.

_____. "EDC Can Pursue Wind-Power Projects in Mindanao -DOE." *BusinessMirror* (07 June 2010), online <http://www.businessmirror.com.ph/index.php?option=com_content&view=article&id=26157:edc-can-pursue-wind-power-projects-in-mindanaodoe&catid=45:regions&Itemid=71>.

_____. "Northwind to Expand Its Wind Farm." *The Manila Times* (20 June 2005)

Llanto, Jesus F. "Palace, Palawan Face Off Over Malampaya's \$10 Billion." *Newsbreak* (30 August 2009), online <http://newsbreak.com.ph/index.php?option=com_content&task=view&id=6675&Itemid=88889066>.

Llanto, Jesus F., "Oil exploration in RP active, shows promise," ABS-CBNnews.com online: <<http://news.abs-cbn.com/special-report/10/07/08/oil-exploration-rp-active-shows-promise>> Last updated: 07 October 2008 (Date accessed: 30 April 2010)

Lopez, Antonio, "Manila hopes to cut power bills with deregulation and offshore gas," *Asiaweek* online: <<http://www.asiaweek.com/asiaweek/magazine/99/1224/biz.philippines.gas.html>> (Date accessed: 03 April 2004)

Luci, Charissa M. "Arroyo Signs Climate Change Act of 2009." *Manila Bulletin* (23 October 2009), online <<http://www.mb.com.ph/node/226143/arroyo->>.

Morales, Izah. "184 House Endorsers of BNPP Bared." *Philippine Daily Inquirer* (04 March 2009), online <http://services.inquirer.net/print/print.php?article_id=20090304-192305>.

Mouawad, Jad. "Exxon to Invest Millions to Make Fuel From Algae." *The Seattle Times (Online)* (14 June 2009), online <http://seattletimes.nwsources.com/html/businesstechnology/2009465938_exxonalgae14.html>.

Philippine Information Agency, "Monte Oro wins TransCo concession bidding," Philippine Information Agency online: <<http://www.pia.gov.ph/Default.asp?m=12&sec=reader&rp=2&fi=p071213.htm&no=16&date=12/13/2007>> Last updated: 13 December 2007 (Date accessed: 15 March 2010)

Reuters. "RP Targets \$2.5B Geothermal Dev't." *Malaya* (09 November 2009), online <<http://www.malaya.com.ph/11062009/business/busi6.html>>.

Salvarria, Leila. "SC Identifies 117 Environmental Courts." *Philippine Daily Inquirer* (13 January 2008)

Tan, Michael. "How We Think of Human Rights." *Philippine Daily Inquirer* (10 December 1997) at 8.

Tesorio, Jofelle B. "Palawan Asks Court to Freeze Malampaya Share." *Philippine Daily Inquirer* (09 January 2006), at A16.

University of Virginia, "Algae: Biofuel of the future?," Science Daily online: <<http://www.sciencedaily.com/releases/2008/08/080818184434.htm>> Last updated: 12 August 2008 (Date accessed: 16 April)

Velasco, Myrna. "DOE No Longer Accepts Exploration Proposals Beyond Contracting Round." *Manila Bulletin* (08 May 2009), online <<http://www.mb.com.ph/articles/205263/doe-no-longer-accepts-exploration-proposals-beyond-contracting-round>>.

_____. "Thailand Keen on Gas Pipeline Venture." *Manila Bulletin* (20 February 2004)

Vidal, John, Allegra Stratton, and Suzanne Goldenberg. "Low Targets, Goals Dropped: Copenhagen Ends in Failure." *Guardian.co.uk* (19 December 2009), online <<http://www.guardian.co.uk/environment/2009/dec/18/copenhagen-deal>>.

Villanueva, Ruffy. "Developed Countries Reluctant to Take Lead vs Climate Change." *GMA News.TV* (13 March 2008), online <<http://www.gmanews.tv/story/84681/developed-countries-reluctant-to-take-lead-vs-climate-change>>.

Watts, Jonathan. "China Recruits Algae to Combat Climate Change." *The Guardian (online)* (29 June 2009), online
<<http://www.guardian.co.uk/environment/2009/jun/28/china-algae-carbon-capture-plan>>.

F. Electronic Databases

CD Asia Technologies, *Lex Libris: Jurisprudence 1901 to 1985*. Pasig City: (CD Asia Technologies, 2006.

_____, *Lex Libris: Jurisprudence 1986 to 2006*. Pasig City: (CD Asia Technologies, 2006.

Center for Energy & Environmental Security, "International energy treaties database," University of Colorado Law School Online: <<http://cees.colorado.edu/isea/Browse>> (Date accessed: 15 March 2008)

United Nations, "United Nations Treaty Collection (Online Database)," online: United Nations Bibliographic Information System
<<http://treaties.un.org/Pages/AdvanceSearch.aspx?tab=UNTS>> Last updated: 19 February 2010 (Date accessed: 19 February 2010)

G. Video Materials

Benioff, D. and Homer, *Troy*. Directed by Wolfgang Petersen. [Movie on DVD-ROM] Hollywood: Warner Brothers Pictures, 2004.

Burke, James. *Connections*. Directed by Mick Jackson. [Video Documentary on DVD-ROM] London: British Broadcasting Corporation, 1978. Re-released by Ambrose Video Publishing, 2007.

Shell Philippines Exploration. *Sustainable Development in the Midst of Industrialization: The Malampaya Story and Fueling Dreams* [Video Documentary on DVD-ROM]. Makati: Shell Philippines Exploration, 2003.

von Harbou, Thea, and Fritz Lang. *Metropolis*. Directed by Fritz Lang. Berlin, 1927. [Movie on DVD-ROM] Re-released by Paramount Pictures, 2003.

H. Geographic Data

Department of Energy. Petroleum Service Contract Map. Taguig: Department of Energy, 2008.

Department of Energy. Renewable Energy Resource Maps. Taguig: Department of Energy, 2009. Graphics available at DOE Online:
<<http://www.doe.gov.ph/ER/Renenergy.htm>> . Last updated 21 November 2007. Date accessed: 10 June 2010.

Department of Environment and Natural Resources, Bureau of Fisheries and Aquatic Resources, Conservation International Philippines and Haribon Foundation. Priority Sites for Conservation in the Philippines: Marine Key Biodiversity Areas (CD-ROM and Poster). Quezon City: (Department of Environment and Natural Resources, 2002).

Inter-governmental Oceanographic Commission, International Hydrographic Organization, and British Oceanographic Data Center. Centenary Edition of the General Bathymetric Chart of the Oceans (GEBCO Digital Atlas). Liverpool: British Oceanographic Data Center, 2009. Dataset available at <https://www.bodc.ac.uk/data/online_delivery/gebco/>.

National Center for Ecological Analysis and Synthesis. A Global Map of Human Impacts to Marine Ecosystems: Commercial Activity (Shipping). Santa Barbara: National Center for Ecological Analysis and Synthesis, 2004. Dataset available at <<http://www.nceas.ucsb.edu/globalmarine/impacts>>.

National Fisheries Research and Development Institute and Fisheries for Sustainable Harvest Project. Proposed Fishery Management Units. Pasig City: FISH Project, 2009. (Dataset unpublished).

National Geospatial Intelligence Agency. World Vector Shoreline. Washington DC: National Oceanic and Atmospheric Administration, 1995. Dataset available at <<http://shoreline.noaa.gov/data/datasheets/wvs.html>>.

National Mapping and Resource Information Authority. Chart Nos. 4200, 4305, 4315, 4716, 4723. Taguig: National Mapping and Resource Information Authority, 2008.

_____. Malampaya Deepwater Gas-to-Power Project Pipeline Route. Manila: Coast and Geodetic Survey Division, 2007.

National Oceanic and Atmospheric Administration and National Geophysical Data Center. Global DMSP-OLS Nighttime Lights Time Series 1992-2008 (Version 4). Boulder: Defense Meteorological Satellite Program Archive, National Geophysical Data Center, 2009. Dataset available at <<http://www.ngdc.noaa.gov/dmsp/download.html>>.

United Nations Development Program. Human Development Index (2004). New York: United Nations Development Program, 2004. Dataset available at UNEP Global Environmental Outlook Data Portal Online: <<http://geodata.grid.unep.ch/>>.

World Health Organization. World Administrative Boundaries. Geneva: World Health Organization, 2001. Dataset available at UNEP Global Environmental Outlook Data Portal Online: <<http://geodata.grid.unep.ch/>>.

I. Software

ArcGIS, Version 9.2 [Software on DVD-ROM] (Toronto: ESRI Canada, 2004).

Compendium Institute. Compendium, Version 1.5.2 [Software].(Online: Compendium Institute, 2010) Available from
<<http://compendium.open.ac.uk/institute/download/download.htm>>.

Global Mapper Software. Global Mapper, Version 11 [Software]. Parker CO: Global Mapper Software, 2009. Available from <<http://www.globalmapper.com/>>.

Muhr, Thomas. Atlas.TI, Version 5.0 [Software]. Berlin: Scientific Software Development, 2004. Available from <<http://www.atlasti.com/>>.

Müller, Jörg *et al.* Freemind, Version 0.9 [Software]. Online: Freemind, 2010. Available from <http://freemind.sourceforge.net/wiki/index.php/Main_Page>.

Paint.NET, Version 3.5.5 [Software]. Online: Paint.net, 2010. Available from <<http://www.getpaint.net/>>.