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THE RISE OF ENVIRONMENTAL LAW IN THE ASIAN REGION

*Ben Boer**

I. INTRODUCTION

In the past three decades, the realm of environmental law in many Western countries, and internationally, has grown from a small baby crying for attention to a full-fledged, articulate adult, participating in a wide variety of international, regional, and national fora concerning the protection of the environment and the management of our natural resources. More recently, in many non-Western countries and especially in Asia, environmental law has begun to enter into adulthood, manifested by significant legislative initiatives, judicial activism and a resulting environmental jurisprudence, and the establishment and growth of environmental and resource management agencies.

The growth in the importance of environmental law is closely connected with the realization by the world community in the past few decades that humanity is facing an ecological crisis of unbounded proportions. The catalogue of issues is a familiar one: climate change and expected sea level rise caused by anthropogenic greenhouse gas emissions; the depletion of the world's biological diversity; marine, riverine, and terrestrial pollution; over-population by humans and motor vehicles; and over-consumption of natural resources by a growing percentage of the global population. In short, at the local, national, and international level, we are living beyond the ecological carrying capacity of our global and regional environments, and in many countries, beyond the carrying capacity of our local community environments.

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Put another way, the *ecological footprint* of the global human population is trampling the very resources on which both present and future generations depend. The incongruities between the need to protect the environment globally and locally, and national aspirations for development, are nowhere more acute and more increasingly manifest than in the Asian region. As the Asian Development Bank notes, "Asia's environmental performance has not matched its remarkable economic progress during the past [thirty] years."¹

The Worldwatch Institute, in discussing the future of growth in its 1998 *State of the World*² report, uses China as a paradigm example of these phenomena:

China is teaching us that the western model of industrial development is not viable for China or for the world as a whole, simply because there are not enough resources. Global land and water resources are not sufficient to satisfy the growing grain needs in China if it continues along its current development path. Nor will the oil resources be available . . . because world oil production is not projected to rise much above current levels in the years ahead as some of the older fields are depleted, largely offsetting output from newly discovered fields.

If carbon emissions per person in China ever reach the current U.S. level, this alone would roughly double global emissions, accelerating the rise in temperatures that now appears to be under way

If the western development model is not viable for China, then it is not viable for India's 960 million or for the other developing countries, home to another 2 billion people. And in an integrated global economy, it will not be viable for western industrial countries . . . over the long term. China is demonstrating that the world cannot remain for long on the current economic path. It is underlining the urgency of restructuring the global economy, including the economies of the industrial world.³

1. ANDRÉ DUA & DANIEL C. ESTY, SUSTAINING THE ASIA PACIFIC MIRACLE 54 (1997) (quoting ASIAN DEVELOPMENT BANK, EMERGING ASIA: CHANGES AND CHALLENGES 30 (1997)).

2. WORLDWATCH INSTITUTE, STATE OF THE WORLD (1998).

3. *Id.* at 13-16.

The story of environmental crisis that is unfolding in China is replicated to a greater or lesser extent in many countries in the region. As certain basic resources, such as agricultural land, food, and clean water become more scarce, and as environmental degradation at the national level increasingly begins to affect the territories and interests of other countries, the potential for political conflict over environmental matters may well increase. The need to promote development that is sustainable ecologically, culturally, and economically⁴ will, therefore, become increasingly important.

This article briefly charts the increasingly important role being played by environmental law in the delivery of adequate environmental management and regulatory mechanisms in the Asian region. The activities of relevant organizations as well as developments at a subregional and national level are examined. The developing jurisprudence in environmental matters in the courts of several countries is also referred to as one indicator of the increasing sophistication of environmental law in the region.

In this exercise, however, it is important to note that while many of the environmental problems are the same, the responses have varied from one country to another, both in terms of

4. The concept of sustainable development was defined by the World Commission on Environment and Development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, OUR COMMON FUTURE 87 (Australian ed. 1990). The World Conservation Union, in assisting many countries in developing strategies for sustainability, refines this approach:

Sustainable development means improving and maintaining the well-being of people and ecosystems This goal is far from being achieved. It entails integrating economic, social and environmental objectives, and making choices between them where integration is not possible. People need to improve their relationships with each other and with the ecosystems that support them, by changing or strengthening their values, knowledge, technologies and institutions.

JEREMY CAREW-REID ET AL., STRATEGIES FOR NATIONAL SUSTAINABLE DEVELOPMENT: A HANDBOOK FOR THEIR IMPLEMENTATION at xiii (1994). For a brief account of the events and instruments relating to sustainable development, see Ben Boer, *Institutionalising Ecologically Sustainable Development: The Roles of National, State and Local Governments in Translating Grand Strategy into Action*, 31 WILLAMETTE L. REV. 307, 307-35 (1995). For a fascinating analysis of the role and status of the concept of sustainable development in international law in a recent International Court of Justice case, see Judgment in Case Concerning the Gabčíkovo-Nagymaros Project (Hung. v. Slov.), 1997 I.C.J. 3 (Sept. 25) (separate opinion of Judge Weeramantry).

scope and time taken for the development of environmental law and the necessary administrative mechanisms. Major differences are found in the Asian subregions⁵ as well as in individual countries within the subregions. The reasons for these differences include the political stability of particular governments, their financial resources, the level of training and education of government officers, the capacities of regional and national organizations, the breadth and strength of regional environmental conventions and agreements, and the ability of individual countries to implement these instruments.

The article concludes with the argument that there is a need to actively coordinate the subregional efforts that are being made across the region by the relevant institutions and organizations to address environmental and natural resource degradation. It suggests that the establishment of an overarching environmental program is required.

II. THE RISE OF ENVIRONMENTAL LAW

Environmental law is increasingly recognized as playing an important role in the solution to global, regional, national, and local environmental problems, particularly through the concept of sustainable development.⁶ Agenda 21, the United Nations Programme of Action for Sustainable Development,⁷ places a great deal of emphasis on the provision of an effective legal and regulatory framework for environmental management to achieve sustainable development. It states:

8.13. Laws and regulations suited to country-specific conditions are among the most important instruments for

5. The subregions focused on in this article are South Asia, South East Asia, and the Mekong Region, with China being separately discussed. The points made are equally true of the South Pacific Island region, which is not dealt with here. *But see* BEN BOER ET AL., INTERNATIONAL ENVIRONMENTAL LAW IN THE ASIA PACIFIC 243-64 (1998); WORLD CONSERVATION UNION, ENVIRONMENTAL LAW IN THE SOUTH PACIFIC (Ben Boer ed., 1996).

6. *See, e.g.*, SUSTAINABLE DEVELOPMENT AND GOOD GOVERNANCE (Karl Ginther et al. eds., 1995); INTERNATIONAL LAW AND SUSTAINABLE DEVELOPMENT (Winfried Lang ed., 1995).

7. *United Nations Conference on Environment and Development*, Agenda Item 21, U.N. Doc.A/Conf.151/PC/100/Add.1 (1992).

transforming environment and development policies into action, not only through "command and control" methods, but also as a normative framework for economic planning and market instruments. Yet, although the volume of legal texts in this field is steadily increasing, much of the law-making in many countries seems to be ad hoc and piecemeal, or has not been endowed with the necessary institutional machinery and authority for enforcement and timely adjustment.

8.14. While there is continuous need for law improvement in all countries, many developing countries have been affected by shortcomings of laws and regulations. To effectively integrate environment and development in the policies and practices of each country, it is essential to develop and implement integrated, enforceable and effective laws and regulations that are based upon sound social, ecological, economic and scientific principles. It is equally critical to develop workable programs to review and enforce compliance with the laws, regulations and standards that are adopted. Technical support may be needed for many countries to accomplish these goals. Technical cooperation requirements in this field include legal information, advisory services and specialized training and institutional capacity-building.

8.15 The enactment and enforcement of laws and regulations (at the regional, national, state/provincial or local/municipal level) are also essential for the implementation of most international agreements in the field of environment and development, as illustrated by the frequent treaty obligation to report on legislative measures.⁸

There are, of course, substantial barriers of an economic, political, and sometimes cultural character that stand in the way of implementation of environmental law and the resolution of environmental and natural resource disputes. It is the task of environmental lawyers, working with experts from other disciplines, to develop the legal and policy mechanisms to ensure that those barriers are overcome, and in ways appropriate to the economic, political, and cultural contexts in which these mechanisms are intended to work.

8. *Id.* at 68.

To comprehend the nature of the evolution of environmental law over the past several decades, it seems useful to characterize that evolution in terms of three related processes: globalization, internationalization, and regionalization. These processes can be said to be a response to the increasingly obvious effects of degradation of the global and regional environment, and the increasing awareness of the need to address the issues at all levels, as recognized in Agenda 21 and the Rio Declaration on Environment and Development.⁹

Globalization means two things in the context of the development of environmental law. First, over the past two decades, an increasing number of conventions have been developed to address global environmental issues. Second, common approaches and principles are being developed and transferred from one convention to the next, including the concept of sustainable development, the precautionary principle, and the principle of intergenerational equity.¹⁰

The process of globalization in the second sense can be characterized as the horizontal transfer of concepts and approaches. The globalization of environmental law has been considerably promoted by the conduct of major United Nations conferences on the environment, from the Stockholm Conference on the Human Environment in 1972 to the United Nations Conference on Environment and Development of 1992, and the Rio+5 Conference of 1997, together with the successive annual meetings of the Commission on Sustainable Development since its establishment in 1993.¹¹ Other important meetings that have assisted the process of globalization and resulted in highly significant reports, such as *Caring for the Earth*,¹² include the regular in-

9. United Nations Conference on Environment and Development: Rio Declaration on Environment and Development, June 14, 1992, UNCED Doc. A/CONF.151/Rev.1, reprinted in 31 I.L.M. 874 [hereinafter Rio Declaration].

10. See, e.g., Framework Convention on Climate Change, May 9, 1992, 31 I.L.M. 849; Convention on Biological Diversity, June 5, 1992, 31 I.L.M. 818; Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, June 17, 1994, 33 I.L.M. 1328.

11. See Ben Boer, *The Globalisation of Environmental Law: The Role of the United Nations*, 20 MELB. U. L. REV. 101 (1995).

12. IUCN-THE WORLD CONSERVATION UNION ET AL., *CARING FOR THE EARTH: A STRATEGY FOR SUSTAINABLE LIVING* (1991). The report is viewed as the successor to IUCN ET AL., *WORLD CONSERVATION STRATEGY* (1980).

ternational congresses of the International Union for the Conservation of Nature and Natural Resources (IUCN—the World Conservation Union).¹³ While the resolutions of the IUCN do not result in binding agreements, they are clearly important in shaping environmental policy at a regional and national level. In addition, the ongoing efforts of United Nations institutions have resulted in the development of international environmental instruments and programs, the drafting of environmental laws at the national level, and training in environmental law.¹⁴ The various development banks, including the World Bank and the Asian Development Bank, have also been increasingly important players in the process of globalization.

“Internationalization” in this context is an aspect of globalization. As part of this process, many countries are now looking externally to environmental conventions and agreements to guide their own policies and laws, rather than remaining internally focused on developing their environmental management policies and regulatory systems. The principles and approaches found in these instruments are beginning to be absorbed into national and subnational legislation.

A further aspect of internationalization is the phenomenon of legislative cross-fertilization, where drafters of environmental legislation are directly borrowing concepts, approaches and language from countries where environmental management systems and legislation are already well developed.¹⁵ This is a common and generally beneficial phenomenon in legislative drafting in many areas of law. It can occur particularly where international consultants, often funded through organizations

13. See, e.g., Ben Boer, *1996 Montreal World Conservation Congress*, 2 ASIA PAC. J. OF ENVTL. L. 98 (1997).

14. These institutions include the United Nations Environment Programme and the United Nations Development Programme and, to a lesser extent, the United Nations Institute on Training and Research and the United Nations Industrial Development Organisation.

15. For a discussion of legislative cross-fertilization, see P.A. Memon, *Designing Institutional Arrangements for Environmental Policy: Implications for Asian Countries of Recent New Zealand Reforms*, 3 ASIAN J. ENVTL. MGMT. 147 (1995). Cross-fertilization also takes place at the level of institution building and policymaking, through the study of comparable systems. For example, the World Bank has urged China to adopt industrial pollution programs developed in Indonesia and the Philippines. See WORLD BANK, CHINA 2020, CLEAR WATER, BLUE SKIES: CHINA'S ENVIRONMENT IN THE NEW CENTURY 110-11 (1997).

such as the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), the World Bank, the Asian Development Bank, the World Conservation Union, or overseas development aid organizations, are hired to assist in legislative drafting. The danger in this process, however, is the adoption of legislative models and administrative mechanisms without adequate adaptation to the social, cultural, and economic context of the country concerned. Cross-fertilization is also occurring at the level of constitutional drafting, where drafters look to other countries to ensure the inclusion of variously constructed environmental guarantees or rights. It is also beginning to occur at the level of environmental litigation, with courts that are hearing environmental legal actions beginning to draw on the jurisprudence of other countries in a way that has not occurred as rapidly as in other areas of law. In contrast to globalization of environmental law, internationalization can be characterized as both vertical (from conventions to national legislation) and horizontal (between national legislative systems) transfers of concepts and approaches.

The process of regionalization is, in this context, the regional outcome of the combined processes of globalization and internationalization. It means that environmental programs and instruments are being developed through regional bodies to address terrestrial and marine environmental problems for groups of countries. It also includes the negotiation of regional versions of global conventions to address more specifically the circumstances of a particular region.¹⁶ The obligations and concepts of these conventions in turn gradually are translated into national environmental policies and reflected in legislation. As with internationalization, horizontal and vertical transfer of approaches and concepts are also characteristic of regionalization.

16. One example of this in the south Pacific region is the 1995 Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes Within the South Pacific Region (Waigani Convention). See *1995 Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes Within the South Pacific Region (Waigani Convention)* (visited May 3, 1999) <<http://www.forum.sec.org.fj/docs/wc.htm>>.

The need for a holistic approach that incorporates the processes of globalization and internationalization, with the aim of promoting sustainable development across the board, is neatly summed up by the IUCN Commission on Environmental Law:

Concern about the environment as our natural capital should be at the foundation of all local, regional and national development. At the same time, the environment demands global consideration for it is not compartmentalised into nation-states and certain problems can only be solved by cooperation at the global level.

The objective of sustainable development requires the improvement of legal and administrative systems, which have in the past often been sectoral and reactive. This entails the adoption of forward-looking legislation conducive to the integration of conservation and development. It calls for an integrated conceptual base for international and national law-making, as well as for a constant effort to implement and enforce existing conservation instruments.¹⁷

To this can be added the process of regionalization and the need for encouragement of its further development through the coordinating efforts and technical assistance of regional organizations to assist environmental mechanisms to take root at the national level.

III. THE ASIAN REGION

The Asian region is defined here to include China, Mongolia, North Korea, South Korea, Japan, Iran, Afghanistan, Pakistan, Nepal, Bhutan, Bangladesh, India, Sri Lanka, the Maldives, Indonesia, Malaysia, Singapore, the Philippines, Thailand, Vietnam, Myanmar, Laos, and Cambodia.¹⁸ The main environmental issues for Asia (and the Pacific), as identified by UNEP,¹⁹ include land degradation, deforestation, declining availability of

17. IUCN-THE WORLD CONSERVATION UNION, COMMISSION ON ENVIRONMENTAL LAW 1 (1999).

18. See U.N. ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC, STATE OF THE ENVIRONMENT IN ASIA AND THE PACIFIC 1990, at xiii (updated & revised 1992) [hereinafter ESCAP]; U.N. ENVIRONMENT PROGRAMME, GLOBAL ENVIRONMENTAL OUTLOOK 42 (1997); see also DUA & ESTY, *supra* note 1, at 7.

19. U.N. ENVIRONMENT PROGRAMME, *supra* note 18, at 42.

fresh water and deteriorating water quality, degradation of marine and coastal resources, and urban air pollution.

An important element of the environmental debate in the Asian region has been the high rate of economic growth. While the current financial crisis in many Asian economies slowed down this growth in 1997 and 1998,²⁰ many of these countries are likely to continue to be some of the faster growing economies in the world in the long-term. This phenomenal economic development in Asia in recent years is resulting in substantial environmental impact, particularly through the development of "megacities," as people leave rural areas for the cities seeking jobs. By 2000, it is estimated that the populations of all these areas will have grown by between 5% in the case of Tokyo to 47% in the case of Jakarta. Estimated populations by the year 2000 are: Tokyo-19 million; Shanghai-17 million; Seoul-12.7 million; Beijing-14 million; Tianjin-12.7 million; Jakarta-13.7 million; and Metro Manila-11 million.²¹

Meeting the desire for economic growth with long-term protection of the environment is one of the most fundamental challenges in attempting to achieve sustainable development into the next century in Asia as well as the rest of the world.

A. *The Role of International Organizations*

The development of environmental law in the Asian region has been promoted considerably by the involvement in recent years of a number of international and regional organizations, which have assisted in the generation of national environmental management strategies for government agencies and the review and reform of environmental legislation.²² A characteristic of these developments has been the partnering of international organizations and financial institutions with regional organiza-

20. See ASIAN DEVELOPMENT BANK, ASIAN DEVELOPMENT OUTLOOK 9 (1998); see also DUA & ESTY, *supra* note 1, at 11.

21. See *Managing Asia's Megacities*, 26 ENVTL. POL'Y & L. 23 (1996); see also Omar Saleem, *Be Fruitful, and Multiply, and Replenish the Earth, and Subdue It: Third World Population Growth and the Environment*, 8 GEO. INT'L ENVTL. L. REV. 1, 8 (1995).

22. See, e.g., STRATEGIES FOR SUSTAINABILITY: ASIA (Jeremy Carew-Reid ed., 1997); CAREW-REID ET AL., *supra* note 4.

tions to contribute to capacity-building programs, notably the United Nations Environment Programme (UNEP)²³ and the United Nations Development Programme (UNDP),²⁴ as well as the work of the World Conservation Union,²⁵ and other non-governmental organizations. Government aid agencies and bilateral donors are also engaged in these processes.²⁶

Various countries in Asia are also engaged in the process of environmental law reform in collaboration with international organizations. For example, UNEP has assisted over seventy countries in strengthening their environmental legislation through its Environmental Law and Institutions Programme Activity Centre in Nairobi, as well as the UNEP Regional Office for Asia and the Pacific in Bangkok. Activities include the conduct of global, regional, and national environmental law training programs and the publication of monographs relating to the

23. See Donald Kaniaru & Lal Kurukulasuriya, *Capacity Building in Environmental Law*, in UNEP'S NEW WAY FORWARD: ENVIRONMENTAL LAW AND SUSTAINABLE DEVELOPMENT 171, 172 (Sun Lin & Lal Kurukulasuriya eds., 1995); Donald Kaniaru, *Address*, in SACEP/UNEP/NORAD, REPORT OF THE REGIONAL SYMPOSIUM ON THE ROLE OF THE JUDICIARY IN PROMOTING THE RULE OF LAW IN THE AREA OF SUSTAINABLE DEVELOPMENT 11 (Donald Kaniaru et al. eds., 1997).

24. Through its capacity-building program, UNDP has also been involved in the development of environmental law and policy, particularly on a regional and national basis.

25. The Environmental Law Centre and the Commission on Environmental Law of the World Conservation Union have been active over the past two decades in assisting in the development of international environmental conventions, most notably the 1992 Convention on Biological Diversity. See generally Lylke Glowka et al., *A Guide to the Convention on Biological Diversity* (visited Apr. 8, 1999) <http://www.iucn.org/themes/law/elp_publications.htm.l>. In addition, the Environmental Law Centre has been involved in the preparation of environmental legislation in a wide range of countries. The Commission on Environmental Law, established in 1960, consists of over 576 environmental law specialists from 107 countries. See IUCN-THE WORLD CONSERVATION UNION, *supra* note 17, at 3. In recent years, it has been engaged in the preparation of a major document, the draft International Covenant on Environment and Development, IUCN-The World Conservation Union, *Envtl. Pol'y & L. Paper No. 31* (1995), which was presented to the United Nations Conference on Public International Law in March 1995. Negotiations for the completion of the covenant are ongoing.

26. See, e.g., DUA & ESTY, *supra* note 1, at 99 (discussing the Japan Fund for the Global Environment and the United States-Asia Environmental Partnership).

implementation of environmental law.²⁷ The Asian Development Bank has also become one of the players in this field.²⁸

In order for environmental law to continue to develop in the region, it is clear that the various international bodies, such as UNEP and UNDP, and the financial institutions, such as the Asian Development Bank and the World Bank, will need to synergize their efforts further to more efficiently address the processes of reform and implementation.²⁹

B. *The Asian Subregions*

This section gives a brief overview of four Asian subregions: the South Asian region, the Mekong region, the ASEAN region, and North Asia, the latter focusing on the People's Republic of China. In the present context, the first three regions are defined by the relevant regional organizations, each of which has generated some kind of action plan and work programs. Several have specific programs directed to promoting the use and development of environmental law. The capacity of these regional organizations to address the environmental management and legal issues has, to date, varied considerably.

1. The SAARC Region

The South Asian countries of Afghanistan, Bhutan, Bangladesh, Maldives, Nepal, Pakistan, India, Iran, and Sri Lanka and have formed the South Asian Association for Regional Cooperation, known as SAARC. The *State of the Environment in Asia and the Pacific*³⁰ states that "environmental degradation in South Asia is perhaps the most alarming in Asia."³¹ SAARC's environmental arm is the South Asian Cooperative Environment Program, known as SACEP. Its work program includes a range of initiatives that serve to strengthen envi-

27. See SACEP/UNEP/NORAD, COMPENDIUM OF SUMMARIES OF JUDICIAL DECISIONS IN ENVIRONMENT CASES at xiv-xv (Donald Kaniaru et al. eds., 1997) [hereinafter COMPENDIUM]; UNEP, TRAINING MANUAL ON ENVIRONMENTAL LAW (1997).

28. See *infra* notes 85-125 and accompanying text.

29. See DUA & ESTY, *supra* note 1, at 102-03.

30. ESCAP, *supra* note 18.

31. *Id.* at 181.

ronmental management in member countries. In particular, it incorporates a legislative element, which focuses on the publication of reports, the conduct of workshops for senior policymakers, and assistance in the drafting of legislation. In collaboration with UNEP, SACEP has also coordinated the Regional Seas Programme for the South Seas.³²

The countries of the SAARC region are at varying stages of development in terms of their national environmental laws. Many of them have in common ineffective environmental legislation and a lack of efficient administrative structures to adequately implement their environmental legislation. It is perhaps partly for this reason that several countries in South Asia are developing a lively jurisprudence in environmental law through innovative use of constitutional provisions, as well as on other legal bases, to fill the gap between these inadequacies and the need to address serious environmental problems.³³

A 1997 symposium held under the auspices of the United Nations Environment Programme and the South Asia Cooperative Environment Programme was at once a confirmation of these trends as well as a promotion of them. The introduction to the report of the symposium confirms the processes of internationalization and regionalization mentioned above:

The objective of the Symposium was to review the role played by the Courts of Law especially in the South Asian countries, in developing this new branch of jurisprudence, and to establish a regional network of, among others, Judges and Lawyers in the region for the expeditious and effective dissemination of legal information on environment and development, including judicial decisions.

The Courts of Law at both national and international levels, have served to illuminate the emerging norms and principles of law associated with the new concept of sustainable development, and have given direction to national and international efforts to promote sustainable development. It is widely recognised that Courts in South Asia have provided

32. See, e.g., COMPENDIUM, *supra* note 27, at xiv; ESCAP, *supra* note 18, at 181; BOER ET AL., *supra* note 5, at 44.

33. See discussion *infra*.

inspiring leadership to this process, and thus giving reassuring hopes to the public and individual citizens.³⁴

The following gives a small series of snapshots of developments in selected countries in South Asia, with examples of cases that illustrate the innovative actions in the courts in several of these countries. These cases represent examples of the processes of the internationalization and regionalization of environmental law mentioned above, particularly those which draw on concepts such as "sustainable development" and principles such as the "precautionary principle."³⁵

a. India

India has had environmental legislation in place for many years, but implementation has been weak, as indicated by the following:

We have in India a comprehensive body of laws, which have been formed with a view to protect all facets of environment without, in any way, hindering economic growth. While adhering and complying with the legal provisions relating to environmental protection, healthy development can be sustained. On the other hand, violation of the law can only lead to pollution and environmental degradation. Until very recently, environmental protection laws were regarded as ornamental, meant to be admired, but not used. The hapless public had to bear the brunt. The spreading of pollution over a long period of time has led to the raising of a new type of litigation relating to environmental disputes.³⁶

The Supreme Court of India has been very active in the environmental area. Most famous among the public interest environmental cases are those brought by the lawyer Mr. M.C.

34. Donald Kaniaru et al., *Introduction to COMPENDIUM, supra* note 27, at xi.

35. The cases mentioned are only a small sample of many innovative actions.

36. Justice B.N. Kirpal, *Country Presentation-India, in* SACEP/UNEP/NORAD, REPORT OF THE REGIONAL SYMPOSIUM ON THE ROLE OF THE JUDICIARY IN PROMOTING THE RULE OF LAW IN THE AREA OF SUSTAINABLE DEVELOPMENT 73, 73 (Donald Kaniaru et al. eds., 1997). It can also be noted that a National Environmental Appellate Tribunal was recently established in India to promote the speedier disposition of environmental matters.

Mehta, who has used provisions of the Indian Constitution very effectively, particularly in cases concerning various forms of pollution. Well-known among these is *Mehta v. Union of India*.³⁷ The case, which was the culmination of a series of previous cases over the same subject matter, concerned the effect of air pollution on the Taj Mahal, a World Heritage site, and the "King Emperor amongst the world wonders,"³⁸ situated in Agra, in the State of Rajasthan. The petition alleged that 292 foundries, chemical and other hazardous industries, an oil refinery (which was dealt with in a separate case), and mobile sources were the main sources of air pollution damage to the Taj. The acid rain generated by these activities caused the white marble to corrode. The petitioner argued that the Taj was "on its way to degradation due to atmospheric pollution and it is imperative that preventive steps are taken and soon."³⁹ The case was brought on the basis of constitutional provisions relating to the protection of life and personal property, and to the protection and improvement of the environment.⁴⁰ In addition, the court cited the relevant pollution legislation. In its analysis, the court found that the precautionary principle,⁴¹ as well as the "polluter pays principle," were both part of the environmental law of India.⁴² The court ordered, inter alia, named industries to change over to natural gas as an industrial fuel and, for those that could not do so, to stop functioning and relocate from the area of the Taj. Those that did neither would have their coal and coke supplies stopped forthwith. The court also ordered the State Government of Uttar Pradesh to "render all assistance to the industries in the process of relocation" and detailed how this assistance should be afforded by the State Government.⁴³

37. A.I.R. 1997 S.C. 734.

38. *Id.* at 736.

39. *Id.*

40. See INDIA CONST. arts. 47, 48A, 51A(g), 221.

41. Principle 15 of the 1992 Rio Declaration on Environment and Development states: "In order to protect the environment, the precautionary principle 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." Rio Declaration, *supra* note 9.

42. See *Mehta*, A.I.R. 1997 S.C. at 761.

43. *Id.* at 762-63. For further comment on the development of Indian environmen-

b. Pakistan

In Pakistan, while an Environmental Ordinance has been in place since 1983,⁴⁴ its enforcement has been weak. In 1997, the Pakistan Environmental Protection Ordinance was passed, and is now awaiting implementation.⁴⁵ In Pakistan, there have also been a series of cases based, *inter alia*, on the right to life provision of the Pakistan Constitution.⁴⁶ The best known of these is *Shehla Zia v. WAPDA*,⁴⁷ which concerned the construction of an electricity grid station in a residential area. The plaintiffs alleged that the electromagnetic field from the high voltage transmission threatened nearby residents with a serious health risk. The action was based in part on Article 9 of the Pakistan Constitution, which states that [n]o person shall be deprived of life or liberty save in accordance with law.⁴⁸ The court held that the word "life" did not mean, nor could it be restricted to, "the vegetative or animal life or mere existence from conception to death."⁴⁹ Rather, the court ruled that "life" should be given a wide meaning, stating that the term covered all facets and aspects of human existence, and that it included "such amenities and facilities to which a person born in a free society is entitled."⁵⁰ The court concluded that the building of a grid station or transmission line near a populated area may expose the residents to the hazards of electromagnetic fields and, therefore, violated Article 9 of the Constitution.⁵¹ The court did not make any order in the case, due to the inconclu-

tal jurisprudence, see Michael R. Anderson, *International Environmental Law in Indian Courts*, 7 REV. EUR. COMMUNITY & INT'L ENVTL. L. 21 (1998).

44. Environmental Protection Ordinance (1983) (Pak.).

45. Environmental Protection Ordinance (1997) (Pak.); see Justice Raja Afrasiab, *Country Presentation-Pakistan*, in SACEP/UNEP/NORAD, REPORT OF THE REGIONAL SYMPOSIUM ON THE ROLE OF THE JUDICIARY IN PROMOTING THE RULE OF LAW IN THE AREA OF SUSTAINABLE DEVELOPMENT 99, 100 (Donald Kaniaru et al. eds., 1997); see also Zahid Hamid, *Pakistan Environmental Problems and Issues* 1 ASIA PAC. J. ENVTL. L. 105 (1996).

46. See PAK. CONST. art. 9.

47. *Zia v. WAPDA*, Human Rights Case No. 15-K (Pak. S.C. 1992), summarized in COMPENDIUM, *supra* note 27, at 82-84.

48. PAK. CONST. art. 9.

49. *Zia*, *supra* note 27, at 83.

50. Afrasiab, *supra* note 45, at 103.

51. See *id.*

sive nature of the evidence. Significantly however, the court stated that the legal system should respond to situations of scientific uncertainty by applying the precautionary principle, thus drawing directly on Principle 15 of the Rio Declaration.⁵²

c. Nepal

Nepal had no specific environmental protection legislation until 1996, although like many other countries in the region, it had sectoral legislation in areas such as natural resources and cultural heritage. The Nepal Environment Protection Act of 1996⁵³ was drafted with the assistance of the Nepal office and the Environmental Law Centre of the World Conservation Union.⁵⁴

Innovative legal actions have also been taken in Nepal on the basis of Article 88, the "public interest" provision of the 1990 Nepal Constitution, which allows the Supreme Court of Nepal to exercise an "extraordinary jurisdiction" and to issue orders for the enforcement of fundamental rights under the Constitution.⁵⁵ A significant case is the *Godavari Marble* case which concerned the impact of a large marble quarry on the local environment and community.⁵⁶ The action was taken, in part, on the basis of Article 26(4) of the Constitution, which provides:

52. See *supra* note 9.

53. Environment Protection Act (1996) (Nepal) (in force June 1997); see also Narayan Balbase, *The Environment Protection Act of 1996 of Nepal*, 3 ASIA PAC. J. ENVTL. L. 65 (1998).

54. The process from initial drafting to final enactment took approximately six years, occurring through several changes of government. The legislation is summarized in Justice Trilok Pratap Rana, *Country Presentation-Nepal*, in SACEP/UNEP/NORAD, REPORT OF THE REGIONAL SYMPOSIUM ON THE ROLE OF THE JUDICIARY IN PROMOTING THE RULE OF LAW IN THE AREA OF SUSTAINABLE DEVELOPMENT 87, 91-93 (Donald Kaniaru et al., eds., 1997). For the earlier legislative schema, see generally BEN RICHARDSON ET AL., A LEGISLATIVE AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT IN NEPAL, (1991); Narayan Balbase, *The Environment Protection Act 1996 of Nepal*, 3 ASIA PAC. J. OF ENVTL. L. 65 (1998).

55. See NEPAL CONST. art. 88.

56. LEADERS, Inc. v. Godavari Marble Indus. (1995) (Nepal) (report not officially available in English; unofficial translation by Narayan Balbase, Legal Counsel, IUCN-The World Conservation Union Country Office, Kathmandu, Nepal (on file with the Faculty of Law, University of Sydney)).

The State shall give priority to the protection of the environment and also to the prevention of its further damage due to physical development activities by increasing the awareness of the general public about environmental cleanliness, and the State shall also make arrangements for the special protection of the rare wildlife, the forests and the vegetation.⁵⁷

The *Godavari* case is unusual for a number of reasons. The action was based in part on Article 11 (1) of the 1962 Constitution of Nepal, which provided that “[n]o person shall be deprived of his life or liberty save in accordance with the law.”⁵⁸ By the time the case was heard, Nepal had enacted a new Constitution. Whilst the new Constitution, dating from 1990, did not include a specific provision of this kind, the Court, by rather strained judicial reasoning, interpreted the present Article 11(1), relating to the right to equality and equal protection of the laws, to include the right to life as guaranteed by the previous Constitution. It went on to argue that life is threatened by a polluted environment, and that it is the legitimate right of an individual to be free from a polluted environment. The Court further held that the plaintiff group, whose objects included conservation of the environment, had standing to bring the action, on the basis of Article 88 of the 1990 Constitution, given that the right to life was held to be a fundamental right under Article 11(1).⁵⁹ As explained by the Chief Justice of Nepal (one of the judges in the case) in a subsequent comment:

The Court went to the extent of saying that as it is one of the policies of the State as envisaged in the Constitution under the “Directive Principles and Policies of the State” that the State shall give priority to the protection of the environment and also to the prevention of further damage to the environment due to physical development activities, the writ petitioner has *locus standi* in this case.

The Court gave directives to the industry to “employ effective means” to protect the environment of the area and

57. NEPAL CONST. art. 26(4) (1990).

58. NEPAL CONST. art. 11(1) (1962). Article 11(1) of the 1990 Constitution states “All Citizens shall be equal before the law. No person shall be denied equal protection of the laws.” NEPAL CONST. art. 11(1) (1990).

59. See *LEADERS*, *supra* note 56.

also directed His Majesty's Government to take necessary measures towards the enactment of the necessary laws and enforce the Mines and Minerals Act, 1985.⁶⁰

Given the directives made in this case to enact the necessary environmental legislation (an extraordinary measure in itself), it is significant to note that the Nepal Environment Protection Act was enacted within a year of the case being decided.⁶¹

d. Sri Lanka

Sri Lanka has had a National Environment Act⁶² since 1980. In recent years it has been engaged in reform of this legislation. Environmental responsibilities at both the local and national level are distributed to several governmental agencies. Recently, there have been efforts to improve cooperation for environmental management. In 1997, a draft National Environmental Protection Act emerged, which included a range of new provisions, including the polluter pays principle, the establishment of an environmental tribunal, and administrative penalties.⁶³

Public interest litigation in environmental matters has been an important aspect of recent developments in Sri Lanka's environmental law. Although the constitution does not contain a specific "right to life" provision, various constitutional provisions have been used as a basis for environmental actions. For example, in *Environmental Foundation Ltd. v. Attorney General*,⁶⁴ the plaintiffs relied on three articles of the Sri Lankan Constitution in filing an action for serious physical and mental injuries caused by a rock quarry blasting operation. Specifically, plaintiffs relied on Article 11 of the constitution, which provides that no person shall be subjected to cruel, inhuman or degrad-

60. Rana, *supra* note 54, at 95-96.

61. *See supra* note 54.

62. National Environment Act No. 47 (1980) (Sri Lanka), *amended by* Act. No. 56 (1988).

63. *See* Justice Mark Fernando, *Country Presentation-Sri Lanka*, in SACEP/UNEP/NORAD, REPORT OF THE REGIONAL SYMPOSIUM ON THE ROLE OF THE JUDICIARY IN PROMOTING THE RULE OF LAW IN THE AREA OF SUSTAINABLE DEVELOPMENT 105, 106 (Donald Kaniaru et al. eds., 1997).

64. No. 128/91 (Sri Lanka) (*summarized in* COMPENDIUM, *supra* note 27, at 99-101).

ing treatment; Article 14(1)(g), which provides that every citizen is entitled to engage in any lawful occupation; and Article 14(1)(h), which provides that every citizen is entitled to freedom of movement and choice of residence.⁶⁵ After negotiations, the case was settled, with the terms of settlement restricting the operating times and other detailed requirements to allow the quarry to continue in operation.⁶⁶

2. The Mekong Region

The Mekong region is defined by the countries through which the Mekong River flows. This region includes China, Myanmar, Cambodia, Laos, Vietnam, and Thailand. Four of these countries have a history of cooperation under the auspices of the Mekong River Commission. This Commission had its antecedent in the Mekong River Committee established in 1957. After years of intermittent activity, the initiative was revived in 1991. With the assistance of the United Nations Development Program, a new instrument, the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin was negotiated.⁶⁷ The agreement currently has four signatories: Cambodia, Laos, Thailand, and Vietnam. It is hoped that China and Myanmar will eventually become signatories.

The signatory countries are at different stages of legislative sophistication concerning the protection of the environment and the management of natural resources. Thailand has had specific environmental legislation since the 1970s, and introduced more comprehensive legislation in 1992.⁶⁸ Vietnam enacted its first environmental legislation in 1993,⁶⁹ although it has had sectoral natural resources legislation since the 1980s.⁷⁰ Cambodia and Laos have recently introduced environmental protection legislation, but both countries are still at an early stage in the development of their environmental management systems.⁷¹

65. See SRI LANKA CONST. arts. 11, 14(1)(g), 14(1)(h).

66. See *Environmental Foundation, Ltd.*, *supra* note 64, at 100-01.

67. Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, Apr. 5, 1995, 34 I.L.M. 864 [hereinafter Mekong River Basin Agreement].

68. See discussion *infra* notes 78-115 and accompanying text.

69. See *id.*

70. See BOER ET AL., *supra* note 5, at 208.

71. The legislative situation in the Mekong countries is further dealt with under

Article 1 of the agreement provides for cooperation in the areas of irrigation, hydro-power, navigation, flood control, fisheries, timber floating, recreation, and tourism.⁷² Article 2 of the agreement supports preparation of a joint and/or basin-wide development plan to promote the "development of the full potential of sustainable benefits to all riparian States."⁷³ In Article 3 of the agreement, the parties also agree "[t]o protect the environment, natural resources, aquatic life and conditions, and ecological balance of the Mekong River basin from pollution and other harmful effects resulting from any development plans and uses of water and related resources in the Basin."⁷⁴ However, the agreement lacks sufficient detail for the adequate planning that is necessary to achieve a coherent approach. It is too general in its terms and is not specifically enforceable. The ecological impacts of the dams being planned for the Mekong River and its tributaries will require a good deal more planning and detailed cooperative mechanisms than presently exist under the agreement.⁷⁵ A major inadequacy of the agreement is the non-participation of China as an upstream state.⁷⁶ It cannot, therefore, be seen as an instrument providing for general regional environmental protection,⁷⁷ nor, for that matter, as a guideline for detailed legislative instruments at a national level. Nevertheless, as a cooperative program based on an ecosystem, there is little doubt that with further investment of effort in planning, it can be the basis for a measured and rational approach to development of the Mekong basin in the long term. However, it is likely that the membership of these four Mekong region countries in the Association of South East Asian Nations (ASEAN) will in fact have greater significance in terms of the development of environmental management frameworks than their membership of the Mekong River Basin Agreement.

ASEAN, *infra* notes 78-115 and accompanying text.

72. See Mekong River Basin Agreement, *supra* note 67, at 868.

73. *Id.*

74. *Id.*

75. See WORLD RESOURCES INSTITUTE ET AL., WORLD RESOURCES 1998-1999, at 191 (1998) (recording the vulnerability of fish populations in the Mekong and its tributaries in the context of dam building).

76. See BOER ET AL., *supra* note 5, at 201-03; Ed Lee, *The Mekong River Basin Agreement*, 1 ASIA PAC. J. ENVTL. L. 134, 134-39 (1996).

77. See BOER ET AL., *supra* note 5, at 202-03.

3. The ASEAN Region

The countries making up the Association of South East Asian Nations overlap to an extent with the countries of the Mekong Region. ASEAN consists of Brunei, Indonesia, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Vietnam, and Laos. Vietnam did not become a member until 1995, and Laos and Myanmar were admitted in 1997. Cambodia is expected to join ASEAN when political circumstances permit (but is, in any case, dealt with below). Malaysia, Brunei, Indonesia, the Philippines, and Singapore have each introduced environmental legislation over a period of years, but, as with the younger ASEAN members, the commitment and capacity to implement the legislation varies considerably.⁷⁸

78. The situation with environmental legislation in these countries is as follows. Malaysia has the Environmental Quality Act (1974), see Alan K.J. Tan, *Preliminary Assessment of Malaysia's Environmental Law* (last modified Sept. 15, 1998) <<http://sunsite.nus.edu.sg/apcel/dbase/malaysia/reportma.html>>. Indonesia has the Law Concerning Environmental Management, (Law No. 23, 1997) (amending the Basic Provisions for the Management of the Living Environment Act of 1982), see *Environmental Management, Law Concerning (Law No. 23, 1997)* (last modified Aug. 1, 1998) <<http://sunsite.nus.edu.sg/apcel/dbase/indonesia/primary/inaem.html>>. Singapore has no framework environmental law but does have effective and well implemented sectoral and specific laws, see Alan K.J. Tan, *Preliminary Assessment of Singapore's Environmental Law* (last modified Sept. 15, 1998) <<http://sunsite.nus.edu.sg/apcel/dbase/singapore/reports.html>>; Heidrun Luelf, *A Brief Survey of Singapore's Environmental Legislation*, 1 ENVTL. L. DIG. 5 (1998) (Regional Inst. for Env'tl. Tech., Singapore). The Philippines has no omnibus legislation but does have a range of sectoral environmental laws, see *Philippines: Primary Legislation* (last modified Aug. 1, 1998) <<http://sunsite.nus.edu.sg/apcel/dbase/filipino/primary.html>>. Brunei does not have any framework environmental legislation, but does have a range of sectoral laws, see Alan K.J. Tan, *Preliminary Assessment of Brunei's Environmental Law* (last modified Sept. 15, 1998) <<http://sunsite.nus.edu.sg/apcel/dbase/brunei/reportb.html>>. Cambodia (not yet admitted to ASEAN) has the Law on Environmental Protection and Natural Resource Management (1996), see *Cambodia: Primary Legislation* (last modified Aug. 1, 1998) <<http://sunsite.nus.edu.sg/apcel/dbase/cambodia/primary.html>>. Laos has no framework environmental law enacted as yet, but does have some sectoral environmental laws, see *Laos: Primary Legislation* (last modified Aug. 1, 1998) <<http://sunsite.nus.edu.sg/apcel/dbase/laos/primary.html>>. Vietnam has the Law on Environmental Protection (1993), see *Law on Environmental Protection (1993)* (last modified July 20, 1998) <<http://sunsite.nus.edu.sg/apcel/dbase/vietnam/primary/viaenv.html>>. Myanmar has no umbrella environmental legislation but has a range of sectoral environmental laws, see *Myanmar: Primary Legislation* (last modified Aug. 1, 1998) <<http://sunsite.nus.edu.sg/apcel/dbase/myanmar/primary.html>>. Thailand has the Enhancement and Conservation of National Environmental Quality Act (1992), see Alan K.J. Tan, *Preliminary Assessment of Thailand's Environmental Law* (last modified Sept. 15, 1998)

There has, however, been a long-term political commitment to environmental management across the ASEAN region. Although the 1967 ASEAN Declaration,⁷⁹ establishing ASEAN as an organization, contains no reference to environmental matters, a range of instruments generated in successive meetings of the ASEAN Ministers have clearly recognized the role of ASEAN in addressing environmental management on a regional basis. Together, the ASEAN Declaration and the subsequent instruments represent an impressive record of formal achievement and awareness building. However, in terms of making a substantial contribution to a consistent framework for regional environmental management and for the resolution of present or anticipated transboundary environmental disputes, their influence does not appear to have been as strong as might be expected from their language. The instruments include: the Manila Declaration on the ASEAN Environment 1981; the ASEAN Declaration on Heritage Parks and Reserves 1984; the Bangkok Declaration on the ASEAN Environment 1984; the ASEAN Agreement on the Conservation of Nature and Natural Resources 1985; the Jakarta Resolution on Sustainable Development 1987; the Manila Declaration of 1987; the Kuala Lumpur Accord on the Environment and Development 1990; the Singapore Resolution on Environment and Development and its Annex, the ASEAN Common Stand on Environment and Development 1992; the Bandar Seri Begawan Resolution on Environment and Development 1994,⁸⁰ and the Treaty on the Southeast Asia Nuclear Weapon-Free Zone 1995.⁸¹

The objective of the first instrument, the 1981 Manila Declaration on the Environment, was "[t]o ensure the protection of the ASEAN environment and the sustainability of its natural resources so that it can sustain continued development with the aim of eradicating poverty and attaining the highest possible quality of life for the people of the ASEAN countries."⁸² The Manila Declaration contained policy guidelines which would

<<http://sunsite.nus.edu.sg/apcel/dbase/thailand/reportt.html>>.

79. *The ASEAN Declaration (Bangkok Declaration)* (visited Apr. 6, 1999) <<http://www.asean.or.id/history/leader67.htm>>.

80. See SELECTED ASEAN DOCUMENTS ON THE ENVIRONMENT (Kheng Lian Koh ed., 1996) [hereinafter ASEAN DOCUMENTS].

81. Dec. 15, 1995, 35 I.L.M. 635 (not yet in force).

82. ASEAN DOCUMENTS, *supra* note 80, at 4.

“[e]ncourage the enactment and enforcement of environmental protection measures in the ASEAN countries.”⁸³ It also recommended the establishment of an ASEAN Committee on the Environment. This declaration, and the subsequent declarations, resolutions, and accords, have underlined the idea of a regional cooperative approach to environmental and resource conservation matters.

a. The ASEAN Environment Programme

The ASEAN Environment Programme (ASEP) was established in 1978, prior to any of the political accords listed above. Plans of Action have been published on a regular basis. The *ASEAN Strategic Plan of Action on the Environment 1994-1998*⁸⁴ was drawn up by the Fourth Meeting of ASEAN Senior Officials on the Environment (known as ASOEN, see further discussion below) in 1993. The new Plan of Action was initiated to take into account developments arising out of the 1992 United Nations Conference on Environment and Development.⁸⁵

The objectives of the Plan of Action include:

1. [T]o respond to specific recommendations of Agenda 21 requiring priority action in ASEAN;
2. to introduce policy measures and promote institutional development that encourage the integration of environmental factors in all developmental processes both at the national and regional levels;
3. to establish long term goals on environmental quality and work towards harmonised environmental quality standards for the ASEAN region;
4. to harmonise policy directions and enhance operational and technical cooperation in environmental matters, and undertake joint actions to address common environmental problems; and
5. to study the implications of AFTA [Asian Free Trade

83. *Id.*

84. *Strategic Plan of Action on the Environment* (visited Apr. 8, 1999) <<http://www.asean.or.id/function/paenu1.htm>> [hereinafter Plan of Action]; see also BOER ET AL., *supra* note 5, at 229-32.

85. See ASEAN DOCUMENTS, *supra* note 80, at 182.

Area] on the environment and take steps to integrate sound trade policies with sound environmental policies.⁸⁶

The strategies in the Plan of Action include: the strengthening of institutional and legal capacities to implement international agreements on the environment, the promotion of regional activities that strengthen the role of major groups in sustainable development, and the strengthening of cooperative mechanisms for the implementation and management of regional environmental programs.⁸⁷

The Plan of Action can clearly act as the basis for a wide range of initiatives. However, there remain a number of obstacles to its full realization on a consistent basis in the ASEAN region as it is now constituted. These obstacles include lack of political will, inadequate administrative mechanisms and lack of properly trained governmental officers. The financial impediments are specifically recognized in the executive summary of the Plan of Action, where a cooperative regional and international approach is contemplated for the generation of the necessary funds:

To implement the Plan of Action, various funding sources and schemes should be explored. These include: cost-sharing arrangements among participating ASEAN member countries for selected priority projects; the ASEAN Fund which gives priority to urgent, short-term projects of strategic or confidential nature and which are considered fundamental in building a stronger cooperative ASEAN infrastructure; the ASEAN Sub-regional Environment Trust (ASSET); and other project-related sources of funding such as ASEAN's Dialogue Partners, the Global Environment Facility (GEF) and the Asia Sustainable Development Fund.⁸⁸

Perhaps the main difficulty with the Plan of Action is that it is only binding politically. As Tay states:

The effectiveness of such measures however suffer[s] from weakness in monitoring, assisting and ensuring state compliance. This is because of the "ASEAN way" and its prefer-

86. Plan of Action, *supra* note 84; *see also* BOER ET AL., *supra* note 5, at 230.

87. See Plan of Action, *supra* note 84; BOER ET AL., *supra* note 5, at 230-32.

88. ASEAN DOCUMENTS, *supra* note 80, at 189.

ence for non-interference in the domestic affairs of member states; for non-binding plans, instead of treaties; and for centralized institutions with relatively little initiative and resources. As such, the ASEAN environmental undertakings may be characterized as plans for co-operation between national institutions, rather than the creation or strengthening of any regional institutions as a central hub for policy-making or implementation.⁸⁹

However, even if the Plan of Action were to be made under a legally binding regional agreement, its actual enforcement between ASEAN members would nevertheless still depend on the political will of the signatory states. Given that political will, it could be a useful basis for the achievement of sustainable development and for addressing and resolving the wide range of environmental issues facing the ASEAN region.

b. ASOEN

The ASEAN Senior Officials on the Environment, known as ASOEN, comprised of representatives of all the ASEAN countries, was established in 1990.⁹⁰ It brings together senior environmental officers from each member government on a regular basis. ASOEN is directed toward the enhancement of regional planning and decision-making, and the acceleration of regional programs. Under ASOEN, a number of working groups have been established in relation to major aspects of the environment in the ASEAN region.⁹¹ For example, the Working Group on Environmental Management focuses on the development of legal responses, environmental impact assessment, monitoring and training.

89. Simon S.C. Tay, *South East Asian Forest Fires: Haze over ASEAN and International Environmental Law*, 7 REV. EUR. COMMUNITY & INT'L ENVTL. L. 202, 204 (1998).

90. ASOEN was based on an earlier initiative, the ASEAN Experts Group on the Environment, which met annually from 1978.

91. These working groups are on Nature Conservation, ASEAN Seas and Marine Environment, Transboundary Pollution, Environmental Management, Environmental Economics and Environmental Information, Public Awareness and Education. See Joint Press Release, *Ninth Meeting of the ASEAN Senior Officials on the Environment (Sept. 23-25, 1998)* (last modified Oct. 30, 1998) <<http://www.aseansec.org>> [hereinafter Ninth Meeting Joint Press Release]; see also BOER ET AL., *supra* note 5, at 226-27.

c. The ASEAN Agreement on the Conservation of Nature and Natural Resources

Among the ASEAN environmental instruments, only two contain provisions which could be regarded as containing hard obligations, if they were in force. They are the 1985 ASEAN Agreement on the Conservation of Nature and Natural Resources (ASEAN Agreement)⁹² and the 1995 Treaty on the South-east Asia Nuclear Weapon-Free Zone.⁹³ The ASEAN Agreement is briefly canvassed here. It is a clear manifestation of the processes of globalization, internationalization and regionalization outlined in Part II. At the close of this section, the 1997 Indonesian forest fires will be used to illustrate some of the agreement's weaknesses.

The then six-member countries of ASEAN drew up the ASEAN Agreement in 1985. It was not until 1995, however, that ASEAN began to seriously contemplate the implementation of the agreement. The agreement requires six instruments of ratification to come into force. To date, only Thailand, Indonesia, and the Philippines have ratified it. While it is not in force, it nevertheless has considerable potential to influence environmental management at a regional level, and to promote legislative reform at a national level. As Koh recognizes, the strategies that have been developed under the Strategic Plan of Action 1994-1998⁹⁴ are relevant to the "implementation" of the agreement.⁹⁵

Article 1 of the agreement states:

1. The Contracting Parties, within the framework of their respective national laws, undertake to adopt singly, or where necessary and appropriate through concerted action, the measures necessary to maintain essential ecological processes and life-support systems, to preserve genetic diversity, and to ensure the sustainable utilization of harvest-

92. See ESCAP, *supra* note 18, at 180.

93. See *supra* note 81 and accompanying text.

94. See Plan of Action, *supra* note 84.

95. See K.L. Koh, ASEAN Agreement on the Conservation of Nature and Natural Resources, 1985: A Question of Ratification and Implementation (July 21, 1995) (unpublished paper, on file with the Faculty of Law, University of Sydney).

ed natural resources under their jurisdiction in accordance with scientific principles and with a view to attaining the goal of sustainable development.

2. To this end they shall develop national conservation strategies, and shall co-ordinate such strategies within the framework of a conservation strategy for the Region.⁹⁶

The language of Article 6, entitled "Vegetation Cover and Forest Resources," gives the flavor of the agreement's commitments. It states in part:

1. The Contracting Parties shall, in view of the role of vegetation and forest cover in the functioning of natural ecosystems, take all necessary measures to ensure the conservation of the vegetation cover and in particular of the forest cover on lands under their jurisdiction.

2. They shall, in particular, endeavor to:

(a)—control clearance of vegetation;

—endeavour to prevent bush and forest fires;

—prevent overgrazing by, *inter alia*, limiting grazing activities to periods and intensities that will not prevent regeneration of the vegetation.⁹⁷

Article 10, entitled "Environmental Degradation," states:

The Contracting Parties, with a view to maintaining the proper functioning of ecological processes, undertake, wherever possible, to prevent, reduce and control degradation of the natural environment and, to this end, shall endeavour to undertake . . .

(a) to promote environmentally sound agricultural practices by, *inter alia*, controlling the application of pesticides, fertilizers and other chemical products for agricultural use, and by ensuring that agricultural development schemes, in particular for wetland drainage or forest clearance, pay due regard to the need to protect critical habitats as well as endangered and economically important species;

(b) to promote pollution control and the development of

96. ASEAN Agreement on the Conservation of Nature and Natural Resources, July 9, 1985, reprinted in U.N. ENVIRONMENT PROGRAMME, 2 MULTILATERAL TREATIES IN THE FIELD OF THE ENVIRONMENT 343, 343 (Iwona Rummel-Bulska & Seth Osafa eds., 1991).

97. *Id.* at 344.

environmentally sound industrial processes and products⁹⁸

Article 11 concerns pollution, and subsection (a) places obligations on the contracting parties to control "activities likely to cause pollution of the air, sea, freshwater, or the marine environment," and to take into consideration the "cumulative effects of the pollutants."⁹⁹ Under Article 11(c), the contracting parties are to "[establish] national environmental quality monitoring programmes, particular attention being paid to the effects of pollution on natural ecosystems," and to regional cooperation in such programs.¹⁰⁰

Article 20 focuses on transfrontier environmental effects and reflects the language of Principle 21 of the 1972 Stockholm Declaration,¹⁰¹ and Principle 2 of the Rio Declaration on Environment and Development.¹⁰² Article 20(1) states:

Contracting Parties have in accordance with generally accepted principles of international law the responsibility of ensuring that activities under their jurisdiction or control do not cause damage to the environment or the natural resources under the jurisdiction of other Contracting Parties or of areas beyond the limits of national jurisdiction.¹⁰³

The language in Article 20(2) is mandatory: "In order to fulfil this responsibility, Contracting Parties shall avoid to the maximum extent possible and reduce to the minimum extent possible adverse environmental effects of activities under their jurisdiction or control, including effects on natural resources, beyond the limits of their national jurisdiction."¹⁰⁴

98. *Id.* at 345.

99. *Id.*

100. *Id.*

101. The Stockholm Declaration was issued by the United Nations Conference on the Human Environment in Stockholm, Sweden in 1972. See Declaration of the United Nations Conference on the Human Environment, June 16, 1972, U.N. Doc.A/Conf.48/14 and Corr.1, reprinted in 11 I.L.M. 1416.

102. The Rio Declaration was finalized at the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil, in 1992. See Rio Declaration, *supra* note 9.

103. ASEAN Agreement on the Conservation of Nature and Natural Resources, *supra* note 96, at 348.

104. *Id.*

Provisions relating to international supporting measures are also included under Article 21, Meeting of the Contracting Parties. Under subsection (2)(a), the contracting parties are to "keep under review the implementation of this Agreement and the need for other measures."¹⁰⁵ Protocols to the agreement, which can prescribe agreed measures, procedures, and standards for its implementation, are also provided for under subsection (2)(d).¹⁰⁶

Article 30, which focuses on the settlement of disputes, underlines the weakness of the agreement in terms of its legal enforceability: "Any disputes between the Contracting Parties arising out of the interpretation or implementation of this Agreement shall be settled amicably by consultation or negotiation."¹⁰⁷ This provision is consistent with the way in which ASEAN operates as a political organization. There is little basis for individual countries to enforce provisions of the agreement. Unlike many other environmental conventions, it does not refer to the International Court of Justice or to other tribunals or dispute resolution mechanisms.

The Indonesian forest fires of 1997 serve to demonstrate the weaknesses of the ASEAN Agreement. Forest fires in Southeast Asia have been a long-standing problem; a range of meetings have been held and a number of task forces have been established over the years in an attempt to resolve the problem.¹⁰⁸ The 1997 fires, however, have been the worst to date. The fires covered a good deal of Southeast Asia with thick smoke, euphemistically called "haze,"¹⁰⁹ over a period of months, causing a

105. *Id.* at 349.

106. *See id.*

107. *Id.* at 351.

108. *See* Tay, *supra* note 89, at 202. Various instruments have attempted to address the problem, including the 1990 *Kuala Lumpur Accord on Environment and Development* and the 1995 *ASEAN Cooperation Plan on Transboundary Pollution*. *See* ASEAN DOCUMENTS, *supra* note 80, at 65, 231.

109. *See* Tay, *supra* note 89, at 202; Simon S.C. Tay, *The South-East Asian Fires and Sustainable Development: What Should Be Done?* 3 ASIA PAC. J. ENVTL. L. 205, 207 (1998); *see also* Joint Press Statement, *The Third ASEAN Ministerial Meeting on Haze (Apr. 4, 1998)* (last modified Oct. 30, 1998) <<http://www.aseansec.org>> (discussing the Regional Haze Action Plan, 1997, funded in part by the Asian Development Bank (ADB) through a Letter of Agreement between ASEAN and ADB for the Regional Technical Assistance) [hereinafter *Third ASEAN Ministerial Meeting*]. The project will focus on fire management policy and enforcement, operational monitoring

range of environmental impacts, major effects on human health, and the disruption of the region's economy.¹¹⁰ A large part of the pollution was directly caused by deliberate burning off of native forests in Indonesia for further cultivation in post-logging activities, combined with the effects of El Niño.

While Indonesia had made it illegal in 1993 to use fire to clear land, with new penalties being imposed in 1997,¹¹¹ there was a clear reluctance on the part of the Indonesian government to directly address the issues.¹¹²

While the ASEAN Agreement would impose a range of obligations on contracting parties if it were in force, there is little that members could do in any direct way under the agreement to address issues such as the transboundary pollution caused by forest fires. The agreement contains no seriously binding commitments or liability regime to give redress to affected countries, or mechanisms to curtail inappropriate forestry and land clearing practices, which would effectively reduce the hazards emanating from the forest fires.¹¹³

Despite these shortcomings, ASEAN has addressed the issue very seriously in recent years. In 1995, ASEAN drew up a Cooperation Plan on Transboundary Pollution to try to avoid similar events in the future. However, the actions it envisaged were generally not carried out. In December 1997, as a result

mechanisms, and enhancing firefighting capability and other mitigation measures. See *Third ASEAN Ministerial Meeting, supra*.

110. See ASIAN DEVELOPMENT BANK, ASIAN DEVELOPMENT OUTLOOK (1998). The effects of the forest fires are seen as both environmental and economic. See *id.* at 16.

111. See Tay, *supra* note 89, at 203.

112. The use of controlled burning to clear land, both as part of post-logging practices as well as for agricultural purposes, has been a feature of economic development in a number of Asian countries for many years. Tay notes that clearing land by fire has been a tradition among indigenous farmers since pre-colonial times. See *id.* at 202. In Indonesia, permits are required for burning areas larger than three hectares. There is, however, a high incidence of uncontrolled and unrecorded fires. See Government of Indonesia, Indonesia Forest Sector Support Program-Forest Fire Prevention and Control Project Palembang, Jan. 1998, in *Green News Indonesia* No. 2 (1998) (Indonesian Centre for Environmental Law, E-mail Newsletter: icel@indo.net.id, derived from Ministry of Forest, Government of Indonesia, Ministry of Forestry—The Government of Indonesia; *The Introduction of Burning Permits to Reduce Wild Fire Danger and Smoke Pollution*, Jan. 1998).

113. In this sense, the agreement is no different from the Strategic Plan of Action commented upon above. See *supra* notes 86-89 and accompanying text.

of the most recent fires, a Regional Haze Action Plan was negotiated with the assistance of the Asian Development Bank. This plan focused on fire management policy and enforcement, operational monitoring mechanisms, and enhancing firefighting capability and other mitigation measures.¹¹⁴ For these kinds of instruments to work, it seems to be clear that more cohesive political and institutional action needs to be taken. As Tay argues:

At the regional level, ASEAN may have to reconsider and adapt the "ASEAN way" if it is to be relevant and effective in situations of transboundary harm. Non-interference cannot be maintained as an icon in the face of ecological disaster that knows no border. A regional treaty setting thresholds for transboundary harm and creating sufficiently strong institutions to monitor and assist with compliance would be a step towards guarding against future fires.¹¹⁵

Despite the problems of ratification, implementation and enforcement, the ASEAN Agreement nevertheless represents a broad approach to the conservation and environmental management of the ASEAN region. By reason of successive meetings, the building of cooperative programs, and the carrying out of detailed strategies, this approach may, in the long-term, serve to strengthen the legislative and administrative capacities of individual national environmental regimes, and therefore, those of the region as a whole. However, it seems clear that without a stronger institutional structure to implement the agreement, the "long-term" may prove to be very long indeed.

d. Environmental Litigation in ASEAN Countries: The *Oposa* Case

A small number of significant public interest environmental cases have been brought in recent years in several ASEAN countries, notably in Malaysia and the Philippines. One example, from the Philippines, is briefly sketched here.¹¹⁶

114. See Ninth Meeting Joint Press Release, *supra* note 91; see also *supra* note 109.

115. Tay, *supra* note 89, at 205.

116. The most significant Malaysian case concerns the development of the Bakun

The innovative case of *Oposa v. Factoran*¹¹⁷ was brought by Antonio Oposa and others on behalf 43 minors represented by their parents, against the Secretary of the Department of Environment and Natural Resources (DENR). On behalf of the minors it was asserted that they represent their generation as well as generations as yet unborn. The petition alleged, in summary, that:

- 25 years before the case began, “the Philippines had some sixteen (16) million hectares of rainforests constituting roughly 53% of the . . . landmass”;
- recent surveys indicated that “a mere 850,000 hectares of virgin old-growth rainforests” and some “3.0 million hectares of immature and uneconomical secondary growth forests” were left;
- the DENR had “granted timber licence agreements to various corporations to cut an aggregate area of 3.89 million hectares for commercial logging purposes”;
- “[a]t the present rate of deforestation, i.e. about 200,000 hectares per annum, or 25 hectares an hour,” the forest resources of the Philippines will have disappeared by the end of the decade;
- “[t]he adverse effects, disastrous consequences, serious injury and irreparable damage of this continued trend of deforestation to the plaintiff minors’ generation and to generations yet unborn [were] evident and incontrovertible,” and constituted “a misappropriation and/or impairment of the natural resource property [the defendant held] in trust for the benefit of plaintiff minors and succeeding generations”;
- the plaintiffs had “a clear and constitutional right to a balanced and healthful ecology and [were] entitled to protection by the State in its capacity as *parens patriae*”;
- the defendant’s refusal to cancel the Timber Licence Agreements violated the rights of the plaintiffs, was contrary to

Dam; for comment, see Meenakshi Raman, *The Malaysian High Court Decision Concerning the Bakan Hydro-Electric Dam Project*, 2 ASIA PAC. J. ENVTL. L. 93 (1997).

117. G.R. No. 101083 (1993) (Phil.), reprinted in 1999 Ct. Sys. J. 84.

public policy, and contradicted the constitutional policy of the State to, *inter alia*:

“effect ‘a more equitable distribution of opportunities, income and wealth’ and ‘make full and efficient use of natural resources’”; and

“protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature”; and

- the “defendant's act [was] contrary to the highest law of humankind—the natural law—and violative of plaintiffs' right to self-preservation and perpetuation.”¹¹⁸

The court focused particularly on what it referred to as a specific fundamental legal right, embodied in section 16 of Article II of the 1987 Philippines Constitution, which states: “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.”¹¹⁹ The Court noted that this right unites with the right to health provided for in section 15 of Article II: “The State shall protect and promote the right to health of the people and instill health consciousness among them.”¹²⁰ The Court then made a statement that has the potential to become a classic in environmental jurisprudence:

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 expressed in the fundamental charter, it is because of the well-founded fear of its framers that unless the rights

118. *Id.* at 87-89.

119. PHIL. CONST. art. II, § 16 (1987).

120. *Id.* art. II, § 15.

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.¹²¹

The Court went on to hold, *inter alia*, that the right to a balanced and healthful ecology carries with it the correlative duty to refrain from impairing the environment, and granted the petition.¹²²

This case is likely to become something of a landmark in the jurisprudence of sustainable development, by recognizing in domestic law the rights of future generations, known in the modern environmental debate as intergenerational equity, a concept embodied in the Rio Declaration.¹²³

4. North Asia—China

This section focuses on the development of various aspects of environmental and natural resources law in the People's Republic of China. The North Asian region, which is comprised of China, Mongolia, North Korea, South Korea, and Japan, is not served by a regional environmentally-oriented organization such as SACEP in South Asia, or regional instruments such as those for the Mekong region, the ASEAN region, and the South Pacific countries.¹²⁴ However, it should be noted that efforts towards environmental cooperation are emerging with environmental protection agreements being signed between China and other countries in the region on a bi-lateral basis, including

121. *Oposa*, 1999 Ct. Sys. J. at 93.

122. *See id.* at 95-100.

123. Principle 3 of the Rio Declaration states: "The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations." Rio Declaration, *supra* note 9, at 877.

124. *See* Agreement Establishing the South Pacific Regional Environment Programme 1993, 1995 Austl. T.S. No. 24, available at *Environmental Treaties and Resource Indicators (ENTRI)—Full Text File* (visited Apr. 8, 1999) <<http://sedac.ciesin.org/pidb/texts/acrc/SPEnviro.txt.html>>.

Japan, Mongolia, North Korea, Russia, and South Korea. A China-Korea Joint Committee on Environmental Cooperation has been established, and a Center for Northeast Asia Environmental Project Cooperation was established in Dalian City, China, in 1995.¹²⁵ Several other agreements and cooperative projects have been negotiated over the past several years.¹²⁶ China has, with 1.2 billion people, twenty-three percent of the world's population, and this population is increasing on average by 17 million per year.¹²⁷ With the combination of a relatively healthy economy, characterized by high economic growth¹²⁸ and a steadily increasing per capita income in the past few years,¹²⁹ the burden on the Chinese ecosystem presents challenges that both China and the rest of the world must face and resolve for some time to come. As noted by the former Australian Prime Minister, Paul Keating:

The way that China responds to its problems will shape the whole East Asian environment. All the available evidence suggests that the environmental difficulties we face in the Asia Pacific over the next twenty-five years will become more pressing and difficult to manage. If we can help China resolve its problems, we are also helping to resolve our own.¹³⁰

The government of China has made many positive efforts to address the country's environmental problems in the past decade. It has participated fully in international environmental fora, notably at the United Nations Conference on Environment and Development. Since 1992, the Chinese government has developed its own Agenda 21, which is now being implemented. It has signed on to all major international treaties, and became

125. See Wang Xi & Brian Bachner, *China*, 6 Y.B. INT'L ENVTL. L. 490 (1995).

126. See CHINA NATIONAL ENVIRONMENTAL PROTECTION AGENCY, REPORT ON THE STATE OF THE ENVIRONMENT 1995, at 20-21 (1996).

127. Paul Keating, *The Environment in the Asia Pacific 2*, Speech Before the 1997 China Environment Forum, Beijing, China (Nov. 19, 1997) (unpublished) (on file with the Faculty of Law, University of Sydney).

128. In 1997, China's economy grew by 8.8 percent, with an expected slowdown to seven percent in 1998-1999 associated with the Asian economic turmoil. See ASIAN DEVELOPMENT BANK, *supra* note 110, at 59-60.

129. See EAST ASIA ANALYTICAL UNIT, DEP'T OF FOREIGN AFFAIRS AND TRADE, CHINA EMBRACES THE MARKET 23 (1997).

130. Keating, *supra* note 127, at 4.

a member of the World Conservation Union in 1996. In late 1997, at a major international gathering in Beijing, the China Environment Forum, President Jiang Zemin, and other Chinese leaders made a number of major commitments which indicated the seriousness with which the Chinese leadership is attempting to address China's environmental problems. Nationally, the Chinese leadership established its National Environment Protection Agency, which has recently been strengthened, and which was renamed in 1998 as the State Environmental Protection Administration.

China enacted its first broad-ranging environmental protection law in 1979,¹³¹ which was revised and expanded in 1989. Over the past two decades, China has enacted a range of sectoral legislation directed to pollution, wildlife conservation and natural resources management. The five-year legislative plan published by the National People's Congress in 1993 presaged the creation or amendment by 1998 of a range of environmental and natural resources legislation.¹³² The Asian Development Bank has been closely involved in these developments in recent years, with major reforms of land law and natural resources legislation being addressed in 1998 and 1999.¹³³

Nevertheless, China continues to face a number of serious environmental challenges, which are slowly being addressed through legal and policy mechanisms. These relate to such matters as resource and energy consumption, transport, pollution, water availability and quality, land, the growing of food, and biodiversity. Some of these challenges are discussed below.

a. Resources and Energy

Increased levels of consumption in China in the past few decades have been accompanied by a massive waste of resources through inefficient exploitation, misuse of land, denudation

131. The State Council commenced this process in 1973, with the convening of the first national environmental protection meeting, resulting in Provisions Concerning Environmental Protection and Improvement. See Bie Tao, *Country Reports: China*, 2 ASIA PAC. J. ENVTL. L. 319 (1997).

132. See WORLD RESOURCES INSTITUTE ET AL., *supra* note 75, at 123.

133. See generally ASIAN DEVELOPMENT BANK, CAPACITY-BUILDING FOR NATURAL RESOURCES LEGISLATION PROJECT 1997, TA No. 2735 (1997).

of forests, hunting, inappropriate use of grasslands and wild animals, and the indiscriminate use of mineral resources. This has resulted in the reduction of the available land resources, soil erosion, desertification, species reduction, and the exhaustion of minerals.¹³⁴

In order to meet its growth targets, China may need to double its coal consumption by 2020, unless alternative sources of energy can be promoted. This amounts to the consumption of 1.3 billion tons of coal,¹³⁵ which pumps millions of tons of greenhouse gases into the globe's atmosphere. The International Energy Agency states the following:

China's demand for high-grade energy such as oil and natural gas will increase rapidly, although coal will continue to dominate the energy structure, accounting for more than 75 percent of total energy production. From 1990 to 1995, China's oil demand grew at 4.3 percent annually, while oil production increased only 1.2 percent per year. As a result, China has become a net oil importer.¹³⁶

As a result of concern over energy consumption, the Energy Conservation Law was passed in November 1997. As noted in *World Resources 1998-1999*:

The scope of this law extends to energy from coal, crude oil, natural gas, electric power, coke, coal gas, thermal power, biomass power, and other energy sources. This law may be the harbinger of strengthened efforts by the Chinese Government to prohibit certain new industrial products that seriously waste energy and employ outmoded technologies.¹³⁷

134. See ENVIRONMENT PROTECTION AND RESOURCES CONSERVATION COMMITTEE, CHINA'S RESOURCES 190-92 (1997).

135. See WORLD BANK, *supra* note 15, at 45.

136. International Energy Agency, *Energy Statistics and Balances: Non-OECD Countries, 1971-1995*, in WORLD RESOURCES INSTITUTE ET AL., *supra* note 75, at 116.

137. WORLD RESOURCES INSTITUTE ET AL., *supra* note 74, at 123.

b. Transport and Pollution

Every year, about 300,000 motor vehicles are added to China's still relatively modest car population, with an increase of some 12-14% of motor vehicle registrations every year since the 1970s. The World Bank states: "If income continues to rise, urban densities fall, and public transit worsens, urban automobile ownership could reach 85-130 vehicles per 1000 people by 2010, and possibly twice this range by 2020."¹³⁸ The significance of this figure is underlined by the fact that the 1994 rate of motor vehicle ownership was approximately eight vehicles per 1000 people.¹³⁹ Because of the inefficiency of fuel consumption, the use of leaded fuel, and the slowness of traffic in major cities, emissions from vehicles in use are between ten to fifty times those of vehicles in the United States and Japan.¹⁴⁰ Traffic problems in many Chinese cities are very serious because the roads have not been designed for large volumes of motorized traffic. Air pollution legislation has been in force since 1987, with substantial amendments in 1995, which addressed, *inter alia*, non-point sources and the phasing out of leaded gasoline.¹⁴¹ It is intended that unleaded gasoline will be phased out by the year 2000,¹⁴² however, the standards for emissions are set very low and are not well enforced.¹⁴³ As stated by the World Bank:

Since the number of automobiles is growing at twice the rate of urban road systems and average driving speeds are slowing, only better planning can channel urban transportation into efficient growth patterns. Planning should be linked to planned relocation of urban industries from downtown areas to industrial parks, away from urban concentra-

138. WORLD BANK, *supra* note 15, at 73.

139. *See id.* at 74.

140. *See id.* at 75.

141. *See* Law of the People's Republic of China on the Prevention and Control of Air Pollution, ch. IV, arts. 37, 38 (1995) (on file with the Faculty of Law, University of Sydney).

142. *See* WORLD BANK, *supra* note 15, at 83 (commenting that this will be a challenging task).

143. *See id.* at 75.

tions. This move would do much to reduce the exposure of Chinese people to damaging air pollution.¹⁴⁴

c. Water

Water access is a serious problem in the drier parts of China, with some 300 cities out of 600 facing water shortages.¹⁴⁵ China has just under a quarter of the world's population, but only seven percent of its fresh water resources.¹⁴⁶ The total amount of water resources in China measures approximately 2.8 trillion cubic meters, ranking sixth in the world. However, China's water resources per capita are 2632 cubic meters, accounting for only twenty-five percent of the world's average per capita, ranking it number 110 in the world¹⁴⁷ (about one fifth of the level of the United States). There are also major problems with the quality of available water, related mainly to pollutant discharges. The question of water quality has been partially addressed through the enactment of new water pollution legislation in 1996, amending the previous law introduced in 1984.¹⁴⁸

d. Land

China must support its huge population with only seven percent of the world's arable land.¹⁴⁹ At present, China's per capita area of cultivated land and grassland is less than half of the global per capita average,¹⁵⁰ with a decrease in cultivated land from year to year.¹⁵¹

Rural land degradation is an increasing problem because of salinization, soil erosion, deforestation, and conversion of land from agricultural to urban use. These issues have been a mat-

144. *Id.* at 110.

145. *See id.* at 87.

146. *See* ENVIRONMENT PROTECTION AND RESOURCES CONSERVATION COMMITTEE, *supra* note 125, at 41.

147. *See id.* at 56.

148. *See* Law of the People's Republic of China on the Prevention and Control of Water Pollution (1996) (on file with the Faculty of Law, University of Sydney).

149. *See* WORLD BANK, *supra* note 15, at 6.

150. *See* ENVIRONMENT PROTECTION AND RESOURCES CONSERVATION COMMITTEE, *supra* note 134, at 49.

151. *See id.* at 52.

ter of great concern in recent years, and were specifically mentioned in the 1986 Land Administration Law.¹⁵² Considerable gains have been made in the reform of this law in 1998.¹⁵³ The recent reforms focus particularly on the protection of cultivated land, and include provisions directed at ensuring that the total amount of cultivated land within the jurisdiction of provinces, autonomous regions, and municipalities is not being reduced. Where there is a reduction within one jurisdiction, the State Council is able to approve the reclamation of land in another territory as an offset.¹⁵⁴ These provisions represent a marked change in approach, in line with a professed adherence to sustainable development. Article 1 of the new law states:

In order to strengthen land administration, maintain socialist public land ownership, protect and develop land resources, make proper use of land, effectively protect cultivated land and promote sustainable development of society and economy, this statute is formulated in accordance with the Constitution.¹⁵⁵

The actual implementation of these new provisions will no doubt vary from province to province, but the overall intention to administer tightly the use and transfer of land is certainly clear from the new law, and is underlined by the expanded provisions on supervision and inspection, criminal offenses, and legal liability.¹⁵⁶

The need to preserve cultivated land is underlined by the prediction, made by the Worldwatch Institute, that China is on the brink of importing rice in order to feed its still-burgeoning population. China shifted from being a net grain exporter of eight million tons in 1994 to a net grain importer of sixteen million tons in 1995.¹⁵⁷ While this trend may be reversed in

152. See Land Administration Law of the People's Republic of China, art. 20 (1986) (on file with the Faculty of Law, University of Sydney).

153. See Land Administration Law of the People's Republic of China (1998) (unofficial English translation) (on file with the Faculty of Law, University of Sydney).

154. See *id.* arts. 31-42.

155. *Id.* art. 1.

156. See *id.* arts. 66-84.

157. See LESTER R. BROWN ET AL., STATE OF THE WORLD 1996, at 8 (1996); see also ENVIRONMENT PROTECTION AND RESOURCES CONSERVATION COMMITTEE, *supra* note 134, at 151 (referring to the Worldwatch Institute's prediction).

the future, it is an indication of the need to ensure greater productivity through keeping land under cultivation.

One of the obstacles to change is the question of environmental awareness and opportunities for public participation. While many Chinese intellectuals and students are cognizant of the problems, programs for environmental education are not yet widespread. With relatively few nongovernmental associations gaining official sanction, and public opposition to governmental policy generally being expressed in muted terms, the pressure required for change most often comes through official channels and from bodies outside China itself. Nevertheless, the recent programs for reform of environmental and natural resources legislation evidence both an enthusiasm and a real source of pressure for change. As stated by the World Bank:

China's environment can improve dramatically if assertive policies are adopted promptly and systematically. These policies must encourage conservation and efficiency in resource use while eliciting the investments needed to achieve China's environmental objectives. If they do, China's environment should be as livable as its per capita income suggests

China can turn its assets—an increasing market orientation, rapid economic growth, and strong administrative capacity—into advantages for preserving and improving its environment for future generations. To do so, China must harness the market to preserve the environment by ensuring that prices reflect environmental costs. It must harness growth by creating incentives for private investments and by making wise public investments. And it must harness its formidable administrative capacity through better regulations at the national level, new regional initiatives for water basins and sulfur control, and enhanced urban planning and enforcement at the local level

These efforts will require some sacrifices in the near term. Investments in the environment will have to be somewhat more than is currently planned, and policy efforts will have to be intensified. But these costs are small relative . . . to the enormous improvements in the quality of life that will accrue to future generations.¹⁵⁸

158. WORLD BANK, *supra* note 15, at 111.

IV. BUILDING A NEW FRAMEWORK FOR REGIONAL COOPERATION

As this survey of the development of environmental law in the Asian region makes clear, there is little consistency in approach from one subregion to another, and, in many cases, there is little correspondence in terms of legislative and administrative mechanisms within the subregions. Yet many of the environmental problems in the region are similar, and require similar approaches to their resolution. The question then arises as to whether an overarching organizational framework is required, and, if so, what form it should take.

Dua and Esty, in considering these issues, and in arguing for a broadly based environment program for the countries comprising the Asia Pacific Regional Cooperation forum (APEC),¹⁵⁹ state:

Environmental problems matter. They detract from the gains of growth; they reduce the allocative efficiency of the economic system; and they threaten the prospects of continuing trade and investment liberalization and economic integration. What, if anything, can APEC do? And why should APEC act rather than national governments or existing international organizations?

First, as a regional grouping of Pacific Rim nations, APEC represents the optimal . . . response to regional-scale pollution and resource management problems—no other forum covers all the relevant actors in this geographic space. Second, the environmental performance of national governments and international organizations frequently falls so short of the mark that APEC has an important role to play in strengthening the results at other levels in the multitiered environmental governance structure. APEC's economic and political clout, its diverse membership, and its flexible modes of decision making, in particular, create important opportunities for intervention by APEC to compensate for the deficiencies at the local/national and global scales.¹⁶⁰

159. APEC presently consists of 18 members (referred to within the APEC forum as "economies" in deference to Chinese sensitivities in relation to Taiwan): Australia; Brunei Darussalam; Canada; Chile; Chinese Taipei; China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Mexico; New Zealand; Papua New Guinea; Republic of the Philippines; Singapore; Thailand; and the United States of America.

160. DUA & ESTY, *supra* note 1, at 95.

Dua and Esty go on to argue that economic integration cannot be achieved without attention to social issues, including environmental protection. Their arguments, in terms of efficiency, economies of scale in carrying out environmental analyses, and the provision of institutional structures, present a powerful rationale for an APEC-wide approach. They state that such an approach would not only compensate for the lack of a global environmental organization, but would also provide a "testing ground" for future global collaborative environmental action.¹⁶¹

Their proposal should be seen in the context of the statements that have emanated from the various meetings of APEC over the past few years. For example, a Declaration of Common Resolve, issued by the APEC nations prior to the Bogor Summit of 1994, stated:

We set our vision for the community of Asia Pacific economies based on a recognition of the growing interdependence of our economically diverse region, which comprises developed, newly industrialising and developing economies. The Asia Pacific industrialised economies will provide opportunities for developing economies to increase further their economic growth and their level of development. At the same time, developing economies will strive to maintain high growth rates with the aim of attaining the level of prosperity now enjoyed by the newly industrializing economies. The approach will be coherent and comprehensive, embracing the three pillars of sustainable growth, equitable development and national stability

Effective cooperation will also be developed on environmental issues, with the aim of contributing to sustainable development.¹⁶²

161. See *id.* at 96-97. This summary does not do justice to the comprehensive arguments put forward by the authors, but is intended merely as an indication of the breadth of their proposals.

162. Sun Lin, *Implementation of Environmental Conventions: A Regional Perspective*, in UNEP'S NEW WAY FORWARD: ENVIRONMENTAL LAW AND SUSTAINABLE DEVELOPMENT 23, 25 (Sun Lin & Lal Kurukalasureiya eds., 1995) (quoting APEC *Declaration of Common Resolve*).

The APEC Ministers for the Environment also issued an APEC Environmental Vision Statement,¹⁶³ in which they reiterated the commitment of APEC to sustainable development, recognizing that environmental protection and economic growth were inseparably linked.¹⁶⁴ It supported the integration of "environmental considerations into relevant policy development and economic decisions throughout the region."¹⁶⁵ The potential for regional approaches to address global environmental problems was also recognized. They urged APEC to take the lead in addressing these problems and developing solutions consistent with the Rio Declaration. The Ministerial meeting also issued The Framework of Principles for Integrating Economy and Environment in APEC, which promoted regional cooperation for the achievement of sustainable development.¹⁶⁶ APEC subsequently agreed to integrate environmental concerns into the work of the APEC working groups as well as APEC committees.

Establishing an APEC-wide environment program clearly has its attractions. In the absence of another mechanism, however, it seems to make a good deal of sense to use the grouping of APEC, based, as evidenced by its name, on economic cooperation, to promote environmental ends. Establishing an APEC environment program would represent a tangible recognition of the need for integration of economic aspirations with environmental concerns. It would also provide the necessary institutional framework for the inevitable questions of trade and environment within the grouping to be discussed and resolved. In passing, it can be noted that Dua and Esty include a mediation function to resolve trade-environment tensions in their list of functions of an APEC environment program.¹⁶⁷ Such a program would also provide a mechanism for the transfer of expertise and technology from wealthier countries of APEC to the poorer countries, and provide a broad trans-Pacific framework for the resolution of transboundary problems.

163. See DUA & ESTY, *supra* note 1, app. A.

164. See *id.* at 169

165. *Id.* at 170.

166. See Lin *supra* note 162, at 26. For the full text, see DUA & ESTY, *supra* note 1, app. B, at 173.

167. See DUA & ESTY, *supra* note 1, at 162-64.

While there is at present no overarching mechanism capable of providing a coherent approach for the Asian region, there seems little doubt that greater regional coordination is required to assist the processes of environmental management. The South Pacific Regional Environment Programme (SPREP), established in the early 1980s to provide a region-wide framework for the environmental management of the South Pacific Island countries, could provide a model for a coordinating mechanism. The Preamble to the 1993 Agreement Establishing the South Pacific Regional Environment Programme¹⁶⁸ covering fifteen South Pacific island countries, recognizes "the need for cooperation within the region and with competent international, regional and sub-regional organizations in order to ensure coordination and cooperation in efforts to protect the environment and use of natural resources of the region on a sustainable basis."¹⁶⁹ The purposes of SPREP, as stated in Article 2, are:

[T]o promote cooperation in the South Pacific region and to provide assistance in order to protect and improve its environment and to ensure sustainable development for present and future generations. SPREP shall achieve these purposes through the Action Plan adopted from time to time by the SPREP meeting, setting the strategies and objectives of SPREP.¹⁷⁰

As with many countries in the Asian region, the South Pacific island countries face great difficulties in addressing their environmental and resource management problems. These island countries require assistance from other agencies and from developed countries. Those developed countries are generally ones with which they have had a colonial association.

The almost accidental grouping of countries that APEC represents does not naturally fall into one geographic or ecosystemic framework in the way that the specific Asian or Pacific regions can be categorized as doing. Even in the case of Asia, as here defined, the concept of geographic congruity could be regarded as somewhat strained. Further, an environment program based

168. Agreement Establishing the South Pacific Regional Environment Programme, *supra* note 121.

169. *Id.*

170. *Id.*

on the APEC grouping would be limited by the fact that, as presently constituted, many of the countries that might benefit most from the program would be excluded because they are not members of APEC at this time. In particular, these are the South Asian countries, whose South Asian Cooperative Environment Programme could clearly use a good deal of assistance, as well as the Mekong countries of Vietnam, Laos, and Cambodia. The need for further technical assistance and resources in the Pacific Island developing countries covered by SPREP also would not be provided through this mechanism, as, with the exception of Papua New Guinea, they are not members of APEC. With some innovative diplomacy however, the excluded countries and subregions could possibly be brought into an APEC environment program through partnering arrangements. This would ensure a more coherent approach to environmental management in both the Asian and Pacific regions. The possibility that APEC could expand considerably in the future to bring more countries into its fold may meet these difficulties, but might be just as likely to create further geographic confusion.¹⁷¹

Without detracting from the proposal put forward by Dua and Esty, a mechanism that would draw together the relevant regional environmental programs on the western side of the Pacific would seem to make ultimate geographic sense. A regional environmental program for Asia and the Pacific could act as a coordinating body for the organizations already in existence, including the South Asian Cooperative Environment Programme, the ASEAN Environment Programme (including the Mekong countries), and the South Pacific Regional Environment Programme. China, Mongolia, Japan, North Korea and South Korea could also be part of such a program.

Ideally, the program would be brought together by the United Nations Environment Programme (UNEP) operating through its Regional Office for Asia and the Pacific. Indeed, as the major United Nations body concerning the environment, UNEP is the

171. This point is underlined by the fact that Peru, Russia, and Vietnam became new members in November 1998. See *APEC Secretariat Press Release 35/98, Nov. 6, 1998* (visited Apr. 8, 1999) <<http://www.apecsec.org.sg/whatsnew/press/rel03598.htm1>>. A number of non-member countries do have observer status at the APEC meetings.

most appropriate body to play such a regional role. It has recently begun to do so in a limited way in relation to the South East Asian forest fires. Tay comments in this respect: "The role of UNEP in responding to the fires in 1998 has not been fully played out. What happens in South East Asia, in this sense, may have wider implications on UNEP's perceived effectiveness as a catalyst and co-ordinator for international community efforts" ¹⁷²

Other bodies operating in the region, such as the United Nations Development Programme (UNDP), the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), and the Asian Development Bank, would also need to be partners, as would APEC itself, in order to ensure that their activities were complementary to the work of the program. Another body that could be involved would be the World Conservation Union, representing both intergovernmental and non-governmental interests. ¹⁷³

An Asian-based environment program could function to promote a more consistent approach to environmental management and conservation of natural resources in the region. Clearly, a greater degree of cooperation is required in the region, particularly in assisting with the development of environmental legislation and institutional capacity-building. ¹⁷⁴

V. TRAINING IN ENVIRONMENTAL LAW

Fundamental to the adequate functioning of environmental management systems is the question of training of government regulators and policymakers, scientists, lawyers and judges, as well as workers in the private sector. In the environmental law area in recent years, a number of major training programs have been conducted in the Asian region, as well as elsewhere. UNEP, through its Environmental Law and Institutions Programme Activity Centre in Nairobi, and through its Regional Office for Asia and the Pacific in Bangkok, has conducted or

172. Tay, *supra* note 89, at 206.

173. The World Conservation Union has both governmental and nongovernmental membership categories.

174. See BOER ET AL., *supra* note 5, at 321-22.

assisted with several major programs, which included a range of governmental officials from the Asian region.¹⁷⁵ The United Nations Institute for Training and Research (UNITAR) has also been involved in a range of programs. Its most recent initiative is the Programme of Training for the Application of Environmental Law.¹⁷⁶

The World Conservation Union, in collaboration with the Asia Pacific Centre for Environmental Law at the University of Singapore, was instrumental in initiating and coordinating a "Training the Trainers Programme" for environmental law lecturers in 1996 and 1997. The four-week residential program was funded by the Asian Development Bank, and the National University of Singapore, with UNEP and UNITAR supplying resource persons and training materials. The main objective of the program was to build capacity for the teaching of environmental law in the Asia Pacific region. It covered all major aspects of international and national environmental law. The program also included a number of sessions relating to economics, scientific foundations of environmental law, environmental management systems and ISO 14000, and remote sensing, together with several field trips. In each course there was a heavy emphasis on teaching methodology directed specifically at the area of environmental law. Some thirty environmental law lecturers were trained in each program. The philosophy behind this program is essentially that by intensively educating the environmental law lecturers (the "trainers") in a wide variety of national tertiary institutions, the knowledge acquired will economically and efficiently filter to a large number of students, lawyers, and government administrators through in-country training programs and the regular tertiary education system.

The effects of the Singapore program are already being felt in India. Based in part on the initiative of the Singapore program,

175. See, e.g., UNEP/UNITAR/UNCHS (Habitat), TRAINING PROGRAMME IN ENVIRONMENTAL LAW AND POLICY (1995); UNEP, ENVIRONMENTAL LAW TRAINING MANUAL (1997).

176. See ALEXANDRE KISS, UNITAR, INTRODUCTION TO INTERNATIONAL ENVIRONMENTAL LAW (1997); PETER H. SAND, UNITAR, THE ROLE OF INTERNATIONAL ORGANIZATIONS IN THE EVOLUTION OF ENVIRONMENTAL LAW (1997). These courses are part of the UNITAR's Programme of Training for the Application of Environmental Law, supported by UNEP and IUCN—The World Conservation Union.

the World Bank has recently funded a major initiative for the training of university lecturers and government officials in environmental law.¹⁷⁷ The decision to fund the program was made in light of the decision by Indian legal education authorities to make the study of environmental law compulsory in all Indian law schools. Given the fact that there are over 400 law schools in India, this is indeed an ambitious undertaking.

VI. CONCLUSION

The great revolution of environmental law has only just begun, particularly in the countries of the Asian region. The task of ensuring that the environmental problems generated in the nineteenth and twentieth centuries are adequately addressed in the twenty-first century lies at the door of environmental law. Many countries in the Asian region have begun to realize that environmental law can be part of the answer to their regional and national environmental problems. However, there are still vast gaps remaining in the capacities of these countries to negotiate regional and global environmental instruments and to adequately implement any laws that they enact. Through the institutional strengthening and training initiatives mentioned above, together with legislative improvement, regional institutional frameworks, and further innovative legal actions, a stronger basis for environmental management and environmental dispute resolution will emerge at both the regional and national levels.

The challenge for the universities and other teaching institutions, both in developed and developing countries, is to promote teaching, research, and learning in the environmental law field, to ensure that our human systems of governance mesh with the needs of our global, national, and local ecosystems. In short, the task of environmental lawyers, collaborating closely with workers in related disciplines, is to ensure that the laws governing human behavior are consistent with the natural laws that govern our ecosystems. When that occurs, environmental law can

177. This project is being carried out by the Centre for Environmental Education, Research and Advocacy (CEERA), National Law School of India University in Bangalore.

be truly said to have emerged, both in Asia and in the rest of the world.

