INTERNATIONAL REGIME FOR FISHERIES

ON THE HIGH SEAS

The 1995 UN Agreement on Straddling Fish Stocks

And Highly Migratory Fish Stocks

by

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ABSTRACT

This thesis analyses the characteristics and legal implications of International Regime Theory with special focus on fisheries on the high seas on the basis of a critical examination of the 1995 UN Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks (SSA). The theoretical framework adopted in this investigation suggests that the emerging international regime for fisheries on the high seas relies on four interconnected elements: first, a scientific and diplomatic consensus about the nature of specific issues regarding fisheries; secondly, a core of informal and formalized principles, norms and rules contained mainly in the 1995 SSA, as well as in other related international legal instruments; thirdly, a set of organizations and decision-making procedures that constitute the operation of the international regime; and fourth, a set of compliance and enforcement mechanisms to help international society to manage the problem of fisheries as a global common.

These four elements characterise the continuous process of development and refinement of International Environmental Law to protect the environment in particular in relation to conservation of the living resources of the sea. The thesis also considers the way in which the regime can operate as an institution able to influence the behaviour of States and their subjects to manage the international problem of fisheries on the high seas.

The findings of this investigation yield both theoretical and pragmatic results. First, the application of the theoretical framework can enhance understanding of the problems and potentialities of the International Law for the protection and management of the global commons and, in particular, of fisheries on the high seas. Secondly, the theoretical framework offers explanations as to the manner in which the emerging new international regime for fisheries is limiting and reshaping the legal principle of freedom of fishing on the high seas. Further, as this thesis aims to demonstrate, state sovereignty is not incompatible with international progress in solving common problems.

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ABBREVIATIONS

General

ACP	African-Caribbean-Pacific
APEC	Asia Pacific Economic Co-operation
APFIC	Asia Pacific Fishery Commission
ASCEND	Agenda of Science for Environment and Development into the 21st Century
ASEAN	Association of South East Asian Nations
CARPAS	Regional Fisheries Advisory Commission for the Southwest Atlantic
CBD	Convention on Biological Diversity
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CECAF	Fishery Commission for the Eastern Central Atlantic
CEPTFA	Council of the Eastern Pacific Tuna Fishing Agreement
CFPA	Coastal Fisheries Protection Act - Canada
COFI	Committee on Fisheries of FAO
COP	Conference of the Parties
DOALOS	Division for Ocean Affairs and the Law of the Sea - UN Office of Legal Affairs
DWFN	Distant Water Fishing Nation(s)
EEZ	Exclusive Economic Zone
EFZ	Exclusive Fishing Zone
EU	European Union
FAO	Food and Agriculture Organization
FCCC	Framework Convention on Climate Change
FFA	South Pacific Forum Fisheries Agency
FIELD	Foundation for International Environmental Law and Development
GATT	General Agreement on Tariffs and Trade
GFCM	General Fishery Council for the Mediterranean
GESAMP	Group of Experts on the Scientific Aspects of Marine Pollution
GRT	Gross Registered Tons
HMFS	Highly Migratory Fish Stocks
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Seas
ICJ	International Court of Justice
ICNAF	International Convention for the Northwest Atlantic Fisheries
ICSEAF	International Commission for the Southeast Atlantic Fisheries
ICSU	International Council for Science
ICTSD	International Centre for Trade and Sustainable Development
IGO	Inter-governmental Organizations
IIASA	International Institute for Applied Systems Analysis
ILS	International Law of the Sea
INPFC	International North Pacific Fisheries Commission
IPOA	International Plan of Action – FAO (for the Management of Fisheries)
IOFC	Indian Ocean Fishery Commission
IOTC	Indian Ocean Tuna Commission
IPCC	Intergovernmental Panel on Climate Change (The Panel)
IPCF	Indo-Pacific Fishery Commission
IR	International Regime(s)
IRT	International Regimes Theory
ITLOS	International Tribunal for the Law of the Sea
ITQ	Individual Transferable Quotas
IUU	Illegal, Unreported and Unregulated (fishing)

IWC	International Whaling Commission
LME	Large Marine Ecosystem
LRP	Limit Reference Point
MCS	Monitoring, Control and Surveillance
MOU	Memorandum of Understanding
MSR	Marine Scientific Research
MSY	Maximum Sustainable Yield
FNAO	Northwest Atlantic Fisheries Organization
NAFO	North Atlantic Fisheries Organization
NASCO	North Atlantic Salmon Conservation Organization
NEAFC	North-East Atlantic Fisheries Commission
NGO	Non-governmental Organization
NPAFC	North Pacific Anadromous Fish Commission
NRA	NAFO Regulatory Area
OAPO	Eastern Pacific Tuna Fishing Organization
OECD	Organisation for Economic Co-operation and Development
OECS	Organization of Eastern Caribbean States
OLDEPESCA	Latin American Organization for the Development of Fisheries
PCSP	South Pacific Permanent Commission
PICES	North Pacific Marine Science Organization
PMU	Paris Memorandum of Understanding
RNT	Revised Negotiating Text at the UN Conference on Straddling Fish Stocks
RT	Regime Theory
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice-1992 CBD
SDR	Special Drawing Rights
SFS	Straddling Fish Stocks
SSA	Straddling Stock Agreement or 1995 UN Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks
TAC	Total Allowable Catch
TRP	Target Reference Point
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCLOS	United Nations Convention [Conference] on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNGA	United Nations General Assembly
UNICPOLOS	UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea
UNOALOS	United Nations Office for Ocean Affairs and the Law of the Sea
WECAFC	Western Central Atlantic Fishery Commission
WIOTO	Western Indian Ocean Tuna Organization
WMO	World Meteorological Organization
WTO	World Trade Organization

Journals and Yearbooks

ACDI	Annuaire Cannadien de Droit International
AFDI	Annuaire Français de Droit International
AIDI	Annuaire de l'Institut de Droit International
AJIL	American Journal of International Law
ASDI	Annuaire Suisse de Droit International
ASIL	American Society of International Law
BCICLJ	Boston College of International and Comparative Law Journal
BYIL	British Yearbook of International Law
CILJ	Cornell International Law Journal
CJTL	Columbia Journal of International Law
EELR	European Environmental Law Review
ELQ	Environmental Law Quarterly
EPL	Environmental Policy and Law
FNI	Fishing News International
FTP	Fisheries Technical Paper (FAO)
GIELR	Georgetown International Environmental Law Review
GJICL	Georgetown Journal of International and Comparative Law
GYIL	German Yearbook of International Law
HELR	Harvard Environmental Law Review
HILJ	Harvard International Law Journal
HYIL	Hague Yearbook of International Law
ICLQ	International and Comparative Law Quarterly
IJECL	International Journal of Estuarine and Coastal Law
IJMCL	International Journal of Marine and Coastal Law
ILM	International Legal Materials
IO	International Organizations
ISSJ	International Social Science Journal
JMLC	Journal of Maritime Law and Commerce
NILR	Netherlands International Law Review
ODIL	Ocean Development and International Law
Proc. ASIL	Proceedings of the American Society of International Law
RBDI	Revue Belge de Droit International
RCADI	Recueil des Cours de l'Academie de Droit International
RECIEL	Review of European Community and International Environmental Law
REDI	Revista Española de Derecho Internacional
RGDIP	Revue Générale de Droit International Public
RJE	Revue Juridique de l'Environnement
SJIL	Stanford Journal of International Law
TILJ	Texas International Law Journal
UNTS	United Nations Treaty Series
UNGAOR	United Nations General Assembly Official Records
VJTL	Vanderbilt Journal of Transnational Law
YIEL	Yearbook of International Environmental Law
YUN	Yearbook of the United Nations
ZAöRV	Zeitschrift für Ausländisches und Öfentliches Recht und Völkerrecht

Chapter 1

Introduction: a new international regime for fisheries on the high seas

1.1 The crisis of fisheries management

The considerable biological diversity of seas and oceans provides medicines, raw materials and highly nutritious food[1]. The world's fishery resources are an important source of protein as well as employment and economic revenue[2]. Since the 17th century, the principle of freedom of the seas dominated the use of the oceans and their resources. Beyond the 3 to 12 nautical miles narrow limits of national jurisdiction, the resources were open to all comers. With declining catches per vessel in the traditional grounds, the fishermen either moved to new areas or adopted more intensive techniques. In more recent years, the pace of exploration and exploitation was expedited by the development of automotive power, synthetic fibres in nets and refrigeration equipment[3].

This evolution had three major consequences. First, the generalised depletion of conventional stocks; second, the global extension of fishing efforts to new, less conventional species as well as to far distant waters and species found at greater depths (lower trophic levels), and third, the increased conflict between the local fishermen of

[1] It is widely accepted that diversity at higher taxonomic levels is much greater in the sea than on land or in freshwater. Most of the fundamental patterns of organization and body plan, i.e. the different basic kinds of organism that are distinguished as phyla, originated in the sea and remain there, but only a subset of them have spread to the land and into freshwaters. See Elliot A. Norse, *Global Marine Biological Diversity* (Washington, Island Press, 1993), pp. 9-11. See also B. Groombridge and M.D. Jenkins (ed.), *The Diversity of the Seas: A Regional Approach*, (Cambridge, World Conservation Press, 1996), pp. 4-13.

[2] Fisheries operations have been identified as the first of the five activities, which are seen as the most important agents of present and potential change in marine biodiversity at genetic, species and economic levels. The others are: chemical pollution and eutrophication; alteration of physical habitat; invasion of exotic species; and global climate change. See National Research Council, *Understanding Marine Biodiversity* (Washington, National Academy Press, 1995), pp. 8-15. See also A. Charlotte de Fontaubert et al., *Biodiversity in the Seas: Implementing the Convention on Biological Diversity in Marine and Coastal Habitats*, (Gland and Cambridge, IUCN, 1996), at 6.

[3] Fishing methods known from remote prehistory, however, still coexist with the dominant and sophisticated methods developed in the industrial age. After the Second World War, the fisheries saw their greatest ever rate of expansion on the world scale. See James R. Coull, *World Fisheries Resources* (London, Routledge, 1993), 50-53.

the coastal states and the distant water fishermen from foreign states fishing close to shore. This led to increasing claims by coastal states to extended jurisdiction[4].

The major maritime powers generally succeeded in maintaining the principle of freedom of the seas, which benefited their military and fishery interests, during the First United Nations Conferences on the Law of the Sea[5] and the Second United Nations Conferences on the Law of the Sea[6] held in 1958 and 1960 respectively. But the pressure for extended jurisdiction was inexorable and, even while the negotiations at the Third United Nations Conference on the Law of the Sea[7] were still under way in the 1970's, a regime of a 200 mile extended fisheries zones was widely established resulting in a redistribution of access to the seas' wealth[8].

The choice of 200 miles, obviously, has no relevance to the habits of fish. Some species are sedentary like oyster and clams, while others, like tuna and salmon, swim vast distances and are found both inside and outside a 200-mile limit. Given the wide diversity of the resource, there is also no direct connection between the size of a fisheries zone and wealth of resources. Among the most fertile areas are the continental shelves rich in demersal stocks or ground fish such as cod and haddock and the up welling currents inhabited by pelagic species, for instance, those feeding on the surface such as herrings and sardines. Temperate zone waters tend to contain relatively large

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[4] One unfortunate and unforeseen result of extending jurisdiction over fisheries to 200 nautical miles is the emergence of conflicts between States and within States, the latter involving fishers of all types, fisheries administrations and scientists. See J. R. McGoodwin, *Crisis in World's Fisheries. People, Problems, and Politics* (Stanford, Stanford University Press, 1993), p. 106.

[5] UNCLOS I at Geneva adopted in 1958 the four conventions which form the core of generally accepted rules of the law of the sea concerning maritime zones: the Convention on the Territorial Sea and the Contiguous Zone; the Convention on the High Seas; the Convention on the Continental Shelf; and the Convention on Fishing and Conservation of the Living Resources of the High Seas.

[6] UNCLOS II was convened to discuss the problem of the breath of the territorial sea. By only one vote the Conference failed to adopt a compromise formula providing for a six-mile territorial sea plus a six-mile fishery zone.

[7] UNCLOS III had its beginning in the Sea Bed Committee established in 1967 by the United Nations General Assembly following a proposal by Arvid Pardo, in order to examine the issue of the deep sea bed lying beyond the limits of national jurisdiction over the continental shelf.

[8] Although the real leader was Canada, the EEZ was developed largely to further the aspiration of developing countries for economic development and control over their natural resources, particularly fish stocks, which in many cases were largely exploited by the distant-water fleets of developed states. R. R. Churchill and A. V. Lowe, *The Law of the Sea*, (Manchester, Manchester University Press, 1999).

populations of few individual species; while outside up welling areas like those found in Peru, tropical waters have large numbers of species though small populations of each[9].

Fishing grounds represent the best-known example of a potentially open-access resource. In the open ocean, the stocks are diffused. Some high seas species have schooling habits but their locations entail high search costs. Others seldom aggregate and can only be taken by gear that filters great quantities of water. Taking into account the fact that if more fish are caught by one party this implies that less fish are available for all others, all fishers have an incentive to increase their fishing effort beyond the point where the market price for the fish equals the marginal cost of harvesting[10]. Effort is expended to the level where market price equals the average cost of production. The scarcity value of the resource is ignored. The potential result is over fishing and such depletion of the stock that it can no longer sustain itself. A recent example is the 1992 declaration of a moratorium on fishing for endangered species and straddling stocks such as cod and flounder off the Canada's Grand Banks in the North Atlantic, once one of the richest fishing grounds. The moratorium put nearly 30,000 Newfoundland's workers out of work, and has incited a conflict between Canada and Spain, whose fleets continued to fish just beyond Canada's 200-mile limit[11]. The Black Sea, the Mediterranean, the Eastern Indian Ocean, and the Southeast Atlantic are other examples of commons that have been severely affected by the uncoordinated economic activity of several countries[12]. Nearly 1 billion people depend on fish for their primary source of protein and demand for food fish is projected to increase from about 75 million tonnes in 1994/95, to 110-120 million tonnes in 2010[13]. According to FAO, the marine catch

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[9] E. S. Iversen, *Living Marine Resources. Their Utilisation and Management*, (New York, Chapman and Hall, 1996), at 105

[10] Tom Tietenberg, *Environmental and Natural Resource Economics* (New York, Harper Collins, 1996), at 277.

[11] Jean-Pierre Revéret, *La Pratique des Peches*, (Paris, L'Harmattan, 1991), pp. 51-53; Russell and McConnell, 'After the Collapse', *Dalhousie Law Review*, 18 (1995), pp. 5-28, at 11; L. O'Reilly Hinds, 'Crisis in Canada's Atlantic Fisheries', *Marine Policy*, 18 (1995), pp. 271-283; J. Ruitenbeek, 'The Great Canadian Fishery Collapse: Some Policy Lesson', *Ecological Economics*, 19 (1996), pp. 103-126.

[12] M. J. Peterson, 'International Fisheries Management', in P. M. Haas, R. O. Keohane and M. Levy (ed.), *Institutions for the Earth: Sources of Effective International Environmental Protection* (Cambridge, Massachusetts Institute of Technology, 1995), pp. 249-307, at 267.

[13] UNEP's Millennium Report on the Environment, *Global Environmental Outlook*, (London, UNEP and Earthscan, 1999), p. 45.

could be sustainably increased by about 10 million tonnes a year but only through careful management and continued increases in aquaculture[14].

The total world production of fish increased at a rate of about 6 percent per year from the 1950s until the collapse of the Peruvian anchoveta fishery in the early 1970s. After that setback, with some minor fluctuations, production continued to grow until it reached a peak of 100 million tonnes in 1989. However, the overall growth rate declined to 2.5 percent per annum. World production fell to 97 million tonnes in 1990 and has remained at that level for both 1991 and 1992. During the past two decades, the catch of a large number of demersal stocks like Atlantic cod, Cape hakes, saithe, haddock and Atlantic red fishes, has declined significantly, due largely to continued, heavy over fishing[15].

Although there are instances of stock rehabilitation through the adoption of conservation measures, these are relatively scarce in most areas of the world. By contrast, production of oceanic pelagics like tuna, cephalopods and other shellfish has shown a steady increase. While the overall marine catch has successively decreased from the peak year of 1989 (86.4 million tonnes), the productivity of fisheries of inland species rose dramatically during the 1980s, to 15 million tonnes in 1991 (15 percent of total production). Much of this rise is accounted for by nine major species the catch of which was less than 500,000 tonnes in 1970 but over 5.5 million tonnes in 1990. These species have been produced almost entirely by aquaculture and most of the growth has occurred in China[16].

A significant aspect of these developments is the change in the value of a catch. Except for tuna, the species whose catch has been growing are relatively low priced. Most of

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[14] FAO, *Yearbook of Fishery Statistics*, FAO, Rome, 1997, p. 11

[15] J. Chaussade, *La Mer Nourriciere: Enjeu du XXIe Siecle*, (Paris, Université de Nantes et CNRS, 1994), p. 31.

[16] The collapse of several fish stocks and the absence of a comprehensive global legal regime for fishing together with the controversy surrounding the principle of freedom of the high seas, have resulted in conflicts over marine living resources. See FAO, The State of World Fisheries and Aquaculture, Rome, 1995. See also B. Holmes, 'The Rape of the Sea', *New Scientist*, 14 February 1998, at 4; P. Weber, *Abandoned Seas: Reserving the Decline of the Oceans*, Worldwatch Paper 116, (Washington, Worldwatch 1995); A. P. McGinn, *Rocking the Boat: Conserving Fisheries and Protecting Jobs*, Worldwatch Paper 142, (Washington, Worldwatch Institute, 1998).

the shoaling pelagics, for example, are used for fishmeal. On the other hand, the species whose catch has been falling are mostly high valued. The net result is that the increase in total quantity of catch has not been matched by a commensurate increase in economic value. Over fishing of the high-valued stocks has lead to their depletion and, with decreased supplies, to price increases[17].

It is relevant that a very small number of countries have an extraordinary influence on total world production. The effectiveness or lack of effectiveness of a management regime, to which the fishery operations of these countries are subjected, can have a major impact on global production. According to the FAO, in 1993, twenty countries accounted for 80 percent of the total world marine catch: China, Peru, Japan, Chile, United States of America, Russian Federation, Thailand, Indonesia, Korea Republic, Norway, India, Iceland, Philippines, Korea Democratic Popular Republic, Denmark, Spain, Taiwan, Canada, Mexico, and Vietnam, the first six of these identified above accounted for more than 50 percent[18]. The clustering by countries and by species is interrelated. For the three major developed countries, most of the increases were due to two species: Alaska pollock and Japanese pilchard. There has been an even greater dominance of individual species in the catch of two of the three major developing countries: for Peru, 90 percent of the catch in 1991 was from anchoveta and South American pilchard; for Chile, 81 percent was from those two species and Chilean jack mackerel[19]. These are all species whose abundance tends to fluctuate widely.

Estimating future production levels is an exercise subject to many uncertainties. Past estimates of the annual potential supply of fish from all sources have ranged from 100 to 120 million tonnes. It is now evident that the marine capture fisheries are adversely affected at extraction levels in excess of roughly 80 million tonnes. The greatest prospects for increasing fish supplies for food are to be found in the use of small shoaling pelagics for direct human consumption. Presently these species are used for

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[17] 'Overfishing. Causes and Consequences', *The Ecologist*, Special Issue, 25 (1995) FAO, n. 16 above, at 7-26; The Marine Ecosystems Index shows that the average change in population of 102 species of marine fish, reptiles birds, and mammals from all around the world has declined by about 35 percent since 1970. See also Jonathan Loh, Jorgen Randers et al., *Living Planet Report – 1999*, (Gland, WWF International, 1999), p. 8.

[18] FAO, supra, note 16, pp. 7-26.

[19] Ibid, p. 26

producing fishmeal, for pig and poultry production as well as for aquaculture. The remaining option for an increase in fish supplies would be that the present condition of over fishing prevails and that the majority of the marine catches increases would come from fishing further and further down the "food chain". The limit of exhaustion, as has occurred in one or two areas, is a fishery that is almost entirely a "trash" fishery of mixed juveniles and other small-sized species, which provide direct feed for larger species. That is to say that the wild production from the marine areas could end up being nearly all utilised to grow two or three species in captivity. The impact of this would be the loss of the present wide spectrum of food items that the existing 1,000 commercial species now provide and their replacement mostly by a few species differentiated only by their flesh colour and their texture[20].

Beyond the issues related to the food and nutrition problems, which are likely to emerge from the supply constraints of the fisheries' sector, those related to resource and environmental management also require urgent and adequate policy responses. The most important impact of the likely supply-demand gap and the consequent projected increases in the real price of fish is the stimulation such price effects will provide in maintaining the excessive levels of fishing intensity and the continuation of over fishing[21]. It is clear that, without directed government intervention to protect and manage fisheries, the resource base will continue to degenerate at a rate corresponding to the increases in real prices of fish. This will continue to occur until governments establish effective controls over the rate and the type of exploitation of the fishery resources. A number of leading economists agree that market mechanisms alone cannot solve the environmental problem, which is one of the most serious problems in the world[22]. The problems of fisheries management illustrate well this assumption.

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[20] C. Safina, 'The World's Imperilled Fish', *Scientific American*, November 1995.

[21] T.H. Tietenberg, 'Economic Instruments for Environmental Regulations', in A. Markandya and J. Richardson (ed.), *Environmental Economics*, (London, Earthcan, 1993), pp. 271.

[22] See Chapter 3, Section 2.1. The common position among economists is that growth can be reconciled with the protection of the environment. However, attention shall be focused on how to minimize the adverse effect of increasing production on the environment and not on the fact of increasing production as such. See Carla Ravaioli (ed.), *Economists and the Environment*, (London, Zed Books, 1995); see P. Samuelson (p. 36), J. K. Galbraith (p. 61), J. O'Connor (p. 20) and N. Georgescu-Roegen (p. 55).

Retting has identified the three most common factors affecting the choice of management regime for fisheries. The first is the biological approach, which is the one that is more extensively accepted and applied. Fishers expect that protecting fish stocks can extend their fishing probabilities in the future. The problem is that fishers are obliged to discard a part of their catch because fishing gear kills more fish than it harvests. The second are perceptions of social equity and cultural heritage, principles of justice and morality, ethics preferences and religious practices, which differ both within and between countries, from country to country and even from region to region. The third is the political acceptance of management regulations because such regulations are adopted and implemented within a legal system induced by political concerns[23]. This last factor is widely relevant for the theory of international environmental regime.

A feature highlighted by the economic analysis of renewable resource problems is that the economic conditions for efficient resource exploitation can only be developed by suppressing the complexity of fish population growth. The population growth models applied by fishery biologists are far more complex than the approximations employed by economists. As Rees has pointed out, for some economists, the objective is to maximize the difference between the costs of fishing and the revenue derived from selling the catch rather than to maximise the weight of fish which can be landed[24]. Therefore, a rational management strategy based not on profit but on food production, would involve the control of fishing effort in order to maximize the sustainable fish yield per annum.

The roots of the modern literature on fishery economics can be found in an article by Scott Gordon published in 1954 in the *Journal of Political Economy* entitled "the economic theory of a common property resource: the fishery". In this seminal article, Gordon presented a theory of the fishing industry, "applicable generally to all cases where natural resources are owned in common and exploited under conditions of individualistic competition". In the opinion of Gordon, the bioeconomic equilibrium of the fishing industry may be approached in terms of two problems. The first is to explain

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[23] R. B. Retting, 'Management Regime in Ocean Fisheries', in D.W. Bromley (ed.), *The Handbook of Environmental Economics*, (Oxford, Blackwell, 1996), pp. 433-452, p. 433.

[24] Judith Rees, *Natural Resources*, (London, Routledge, 1990), p. 289

the nature of the equilibrium of the industry as it occurs in a situation which exploitation of a common property resource is uncontrolled or unmanaged. The second is to indicate the nature of a socially optimum manner of exploitation, which presumably is what governmental management policy aims to achieve or promote. According to Gordon's model, after an initially profitable period, commercial fisheries would usually struggle along with too many vessels chasing too few fish[25].

According to Arnason, today the essential problem faced by fisheries management is how to provide incentives to producers so that the socially optimal harvest and stock level are maintained. The choice of policy instruments depends upon their economic efficiency, their informational feasibility and the costs of their administration and enforcement[26]. The problems associated with fishery management have much in common with those of developing policies for environmental controls. In the case of fisheries the externality comes through the additional costs imposed by firms on one another through the effect of their activities on the stock. The fundamental externality of common-property fisheries is that relating to straddling and highly migratory stocks, externality derives from the resource base itself. The resource stock is a major factor in each firm's productivity. Thus each firm's harvesting activity imposes a production diseconomy on the others. The result is a tendency towards excessive fishing effort and over exploitation of the resource[27]. That is to say that firms do not account the socially optimal value to the stock and, in the case of an open-access fishery, place a zero valuation on future stock. Thus the fishery management problem is one of compelling producers to take into account the socially optimal, so called 'shadow price', for stock. They should behave as if they had to rent the stock at the socially optimal shadow price. The concept of 'resource rent' was employed by Gordon in 1954. Since then, the

[25] According to Gordon, fishery resources are unusual in the fact of their common property nature and the problems associated with depletion and over exploitation of fisheries are in reality manifestations of the fact that the natural resources of the sea yield no economic rent. See H. Scott Gordon, 'The Economics Theory of Common Property Resources', *Journal of Political Economy*, 52 (1954), pp. 124-142, at 124. In 1931 Harold Hotelling warned about the disappearing supplies of minerals, forests, and other exhaustible assets that were being selfishly exploited at too rapid rate, exploitation of which thus demanded regulation. See H. Hotelling, 'The Economics of Exhaustible Resources', *Journal of Political Economy*, 39 (1931), p. 137.

[26] Ragnar Arnason, 'Minimum Information Management in Fisheries', *Canadian Journal of Economics*, 23 (1990), pp. 630-653, at 630.

[27] Ibid, p. 630

problem of common-property fisheries has generally been seen as one of dissipation of resource rents and the objective of fisheries management as restoration of these rent[28].

More recently, a relevant critique of the traditional theory of fishery economics has been provided by James Wilson. The force of his critique lies in a concern with the unrealistic aspects of the traditional model: first, in the way fish populations are represented; secondly, in the assumptions concerning fishermen's behaviour and thirdly, in the disregard for transaction and informational costs associated with fishery policies[29]. According to this author, "unlike the stable single-species system of accepted bioeconomic theory, fisheries tend to be highly variable, multiple-species systems with biological and social dynamics that are imperfectly understood and parameters which are difficult to measure[30]. As a result these fishery systems present difficult problems in public policy making under conditions of uncertainty.

Models which include more complex assumptions about fisher's behaviour, multi-species fisheries and uncertainty are analytically intractable. A solution to the fisheries problems will come about only following the development of more adequate conceptual tools, institutions and policies. Simulation models representing the population dynamics of multi-species fisheries and their interaction with the level of fishing effort can be developed to assess the impact on the fishery of a discrete number of alternative policy scenarios[31].

Churchill and Lowe have defined the basic characteristics of fisheries, which have profoundly influenced legal regulations, both at the national and international level. These characteristics of fisheries regarded as a common property resource are: 1) a tendency for fish stocks to be fished above biologically optimum levels; 2) a tendency for more fishermen to engage in a fishery than is economically justified; 3) a likelihood

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[28] Ibid, pp. 651-652

[29] James A. Wilson, 'The Economical Management of Multispecies Fisheries', *Land Economics*, 58 (1992), pp. 417-434, at 417.

[30] Ibid.

[31] James A. Wilson, 'Chaos, Complexity and Community Management Fisheries', *Marine Policy*, 18 (1994), pp. 291-305.

of competition and conflict between different groups of fishermen; and 4) the necessity for any regulation of marine fisheries to have a substantial international component[32].

Straddling and highly migratory fish stocks have been severely reduced or depleted worldwide, illustrating the non-sustainable nature of today's exploitation of the high seas[33]. Many demersal resources found on the high seas above the continental shelves, for instance straddling stocks, are fully fished if not over fished and in some cases this has led to political friction, i.e. concerning Grand Banks cod, Alaska pollock and Chilean horse mackerel[34]. In 1994 the FAO identified the major issues and problems that have impeded the establishment of responsible fisheries in the high seas and the need for a negotiated solution:

> "to improve co-operation for the compilation of reliable data, stock assessment and management on the whole distribution range of resources; to improve state control on their fishing vessels to operate on the high seas and regulate reflagging; to improve enforcement capacity of regional arrangements; to address effectively the issue of regulation of effort and resource allocation; to define the potential role of market regulations in management of multispecies and ecosystems; and, to analyse the potential role and agree on possible ways of implementing cautious management approaches compatible with sustainable fisheries development"[35].

Most of these issues are addressed in Agenda 21[36] and have provided the basis for the establishment of an intergovernmental conference under the auspices of the United Nations for dealing with the problems related to the conservation and management of

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[32] R. R. Churchill and A. V. Lowe, *The Law of the Sea*, supra, note 8, p. 224.

[33] Patricia Birnie has pointed out that although from its earliest inception, technology and freedom of the seas has proved a mixed benefit in fisheries exploitation, management and conservation, it became apparent that both freedom of the seas and the activities of many fishermen required drastic restriction, taking into account that attempts for sustainable management and conservation were largely unsuccessful for over a century. Patricia Birnie, 'New Technologies: Effects on the Developing Law of Fisheries', in Jean-Pierre Beurier, Alexandre Kiss and Said Mahmoudi (eds.), *New Technologies and Law of the Marine Environment*, (Kluwer Law International, The Hague, 2000), pp. 23-39. See also Gérard Biais, 'Progrès scientifique et gestion des pêches', in Beurier et al (eds.), ibid, pp. 3-21

[34] Evelyne Meltzer, 'Global Overview of Straddling and Highly Migratory Fish stocks: the Nonsustainable Nature of High Seas Fisheries', *ODIL*, 25 (1994), pp. 255-344, at 123.

[35] FAO Fisheries Department, World Review of Highly Migratory Species and Straddling Stocks, (Rome, FAO - FTP No. 337, 1994), p. 65.

[36] Agenda 21 Paragraphs 17.1 and 17.50. All Agenda 21 references are to Stanley Johnson, *The Earth Summit. The United Nations Conference on Environment and Development*, (London, Graham & Trotman, 1993), unless otherwise indicated.

straddling and highly migratory fish stocks[37]. This conference adopted, on 2 August 1995, the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (hereafter referred to as 'the 1995 SSA')[38].

Vogler has identified those negotiations as the beginning of a new international environmental regime for fisheries on the high seas[39]. The International Institute for Applied Systems Analysis has also recently incorporated straddling fish stocks as a "natural resource regime type" in the new "International Environmental Regimes Database"[40]. International Regime Theory provides the most improved and valuable model for the institutional approach for the study of the global commons, and in particular, for the study of fisheries on the high seas[41].

1.2 International regime theory and international law

Regime analysis has emerged as an enduring research approach based on common and comparable conceptualizations of the major issues that allow for competition among theoretical statements and provide a sound basis for empirical testing. Many of the

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[37] Burke drawn attention to the fact that if a regulatory and enforcement system for fishing beyond national jurisdiction was not established, growing pressures could lead to unilateral and perhaps extreme measures. See William Burke, 'UNCED and the Oceans', *Marine Policy*, 17 (1993), pp. 519-533, at 533.

[38] Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. Reproduced in 34 I.L.M. 1542 (1995).

[39] John Vogler, *The Global Commons. A Regime Analysis*, (Chichester, John Wiley and Sons, 1995), 52. See also John Vogler, 'Environment and Natural Resources', in Brian White, Richard Little and Michael Smith, (eds.), *Issues in World Politics*, (London, Macmillan Press, 1997), p. 242.

[40] H. Breitmeier et al., The International Regimes Database as a Tool for the Study of International Co-operation, (Laxembourg, IIASA, WP-96-160, 1996), p. 27.

[41] According to Colburn, "the international community has adopted an important new treaty that represents a pivotal opportunity to crystallize an effective regime of global fisheries management". See Jamison Colburn, 'Turbot Wars: Straddling Stocks, Regime Theory, and a New UN Agreement', in *Journal of Transnational Law and Policy*, 6 (1997), 323-366. Slaughter et al. argue that legal scholars engaging in this process have reached beyond Institutionalism. See Anne-Marie Slaughter, Andrew S. Tulumello and Stephan Wood, 'International Law and International Relations Theory: A New Generation of Interdisciplinary Scholarship' *AJIL*, 92 (1998), pp. 367-397, at 376. See also Robert Knecht, 'A Perspective on Recent Developments that Could Affect the Nature of Ocean Governance Regimes', in Seoung-Yong Hong, Edward Miles and Choon-ho Park (eds.), *The Role of the Oceans in the 21st Century*, (Hawaii, The Law of the Sea Institute, 1994), pp. 177-195.

investigations into the collective action dilemmas that confront the members of international society have been conducted within the literature on 'international regimes'. An important feature of globalization is the growing number of global regimes that are being formed[42].

Based upon the ideas developed by scholars working in this relatively new discipline, the parameters of which increasingly overlap with international law[43], a preliminary examination of international regime formation is undertaken in this section. Many different questions have been raised, for example, under what conditions and through what mechanisms do international regimes come into existence? Do regimes persist even when the circumstances in which they came into existence change? What consequences of regimes in terms of state behaviour and problem solving can be observed? What long-term effects do regimes have on national political systems and the structure of world politics?[44].

The concept of 'regime' has been elaborated by social scientists since the 1970's in an attempt to foster rule-governed action within the international system. Further, regime thinking has provided the 'dominant paradigm' for theoretical debates on international co-operation and, more recently, for environmental issues[45]. Krasner has provided the standard definition of regime:

> "regimes are sets of explicit principles, norms, rules and decision-making procedures around which actors' expectations converge in a given area of international relations. Principles are beliefs of fact, causation, and rectitude. Norms are standards of behaviour defined in

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[42] P. Wagner, 'The State and Environmental Challenges: a Critical Exploration of Alternatives to the State System', *Environmental Politics*, 4 (1995), pp. 44-69.

[43] Alan Boyle has stressed the role of soft law as an element in international law making as well as its relevance to the work of international organizations and international regime formation. According to Boyle, States are not necessarily free to disregard applicable soft-law instruments because even when they are not incorporated into a treaty, these instruments may represent an agreed understanding of its terms. "Thus, although of themselves these instruments may not be legally binding, their interaction with related treaties may transform their legal status into something more". Alan Boyle, 'Reflections on the Relationship of Treaties and Soft Law', *ICLQ*, 48 (1999), pp. 901-913, at 906.

[44] Oran R. Young, *Resource Regime, Natural Resources and Social Institutions*, (Berkeley, University of California Press, 1982), at 105. See also Oran R. Young, *International Co-operation, Building Regimes for Natural Resources and the Environment* (Ithaca, Cornell University Press, 1989) 98.

[45] Pierre de Senarclens, 'Regime Theory and the Study of International Organizations', in *International Social Science Review*, UNESCO, 138 (1993)

terms of rights and obligations. Rules are specific prescriptions or proscriptions for action. Decision-making procedures are prevailing practices for making and implementing collective choice"[46].

Regime is not a term which is universally accepted and is subject to much discussion in international relations. The debate about international regimes is very susceptible to controversy. According to the late Susan Strange, one of the most cited critics of international regime theory, the regime concept is a fad, imprecise and value-biased[47]. Further, it overemphasises the static and underemphasizes the dynamic element of change in world politics, and is rooted in a state-centric paradigm that limits vision of a wider reality[48]. Moreover, according to the same author, international regimes lead to a study of world politics that deals predominantly with the *status quo* and ignores the vast area of non-regimes that lie beyond the ken of international bureaucracies and diplomatic bargaining[49].

Notwithstanding this criticism, the most recent contributions to international regimes theory are more comprehensive and consider both regime formation and regime consequences. The original concern of regime analysis was to demonstrate that institutions and international rules are necessary ingredients of any theory of world politics. Now it is assumed that international regimes become effective in the absence of a hegemony and that international institutions and international rules direct actor's behaviour toward desired objectives in various areas, including, indeed, the environment. Further, international regimes foster learning on the part of participating actors and restructure domestic institutions[50].

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[46] Stephen D. Krasner, 'Structural Causes and Regime Consequences: regime as intervening variables', in Stephen D. Krasner (ed.), *International Regimes*, (Ithaca, New York, Cornell University Press, 1983).

[47] Susan Strange, 'Cave! Hic Dragones: A Critique of Regime Analysis', in Stephen Krasner (ed.), *International Regimes*, p. 348.

[48] Ibid.

[49] Ibid, p. 349. For further critiques, see Friedrich Kratochwil, 'The Force of Prescriptions', *International Organizations*, 38 (1984), pp. 685-708; and Friedrich Kratochwil and John Gerard Ruggie, 'International Organization: A State of the Art on an Art of the State', *International Organizations*, 40 (1986), pp. 753-775.

[50] M. Zourn, 'Bringing the Second Image (Back) In. About the Domestic Sources of Regime Formation', in Volker Rittberger (ed.), *Regime Theory*, (Oxford, Clarendon Press, 1997), pp. 282-311, at 282

Regime theorists are located within the two broad schools of 'liberalism' and 'realism' in the study of International Relations. Although there is a lack of consensus as to whether it is possible to regard realism as a single coherent theory, this approach of international relations theory maintains that states remain the primary actors in world politics and that the central focus of analysis should be on the power and interests of States competing in an anarchical international political system and on the identification and explanation of patterns of conflict and co-operation between States[51]. In the liberalism approach, the market constitutes the most effective means for organizing economic relations, and the price mechanism operates to ensure that mutual gain, and hence aggregate social benefit, tend to result from economic exchange. The liberalism approach embodies a set of analytical tools and policy prescriptions that enable a society to maximize its return from scarce resources[52].

Despite the shared theoretical assumptions, liberal institutionalists and realists adhere to very different assessments of regimes. Liberal institutionalists focus on the way that regimes allow states to overcome the obstacles to collaboration imposed by the anarchic structure of the international system. Realists, by contrast, are interested in the way that states use their power capabilities in situations requiring co-ordination to influence the nature of regimes and the way that the costs and benefits derived from regime formation are divided up.

Although liberal institutionalists and realists acknowledge that regimes are an important feature of the international system and draw on similar tools of analysis, they reach very different conclusions about the circumstances in which regimes emerge. For liberal institutionalists, the need for regimes arises because there is always a danger in the anarchic international system that competitive strategies will trump co-operative strategies. By contrast, realists link the emergence of regimes to situations where there is a mutual desire to co-operate, but where anarchy generates a problem of co-

[51] Andrew Hurrell, 'International Political Theory and the Global Environment', in Ken Booth and Steven Smith (eds.), *International Relations Theory Today*, (Cambridge, Polity Press, 1995), pp. 129-153

[52] Robert Gilpin, 'Three ideologies of Political Economy', in R. Little and M. Smith (ed.), *Perspectives in World Politics*, (London, Routledge, 1994), p. 439.

ordination. Therefore, realists assume that there is no incentive to defect once co-ordination has taken place[53].

Although the concept of the regime is recent in social science and international relations, it fits into a long-standing tradition of thought about international law. But international law deals with regimes as a corpus of legal rules relating to a particular matter, as in 'the human rights regime' or 'the Law of the Sea regime'. According to Vogler, this is an overlapping but not coincident use of the term because of the stress that regime analysts have placed upon informal practices and agreements[54]. The same author has pointed out that what is required is a wider view encompassing implicit understandings between a whole range of actors who would not necessarily be states, claiming that, in essence, a regime is an institution that might comprehend some legal rules and some types of formal organisation but going well beyond them[55].

Lynne Jurgielewicz claims that the legal scholar L. F. E. Goldie introduced the concept of regimes into international law over a decade before it was introduced into the international relations literature by Ernst Haas[56]. This claim has been opposed by Slaughter et al., which credit John Ruggie with originating the concept of international regimes[57]. A more interesting point is that, as a paradox, lawyers are rediscovering their own concept of regimes which differs from that used by political scientists. This thesis will demonstrate that regimes are formed on a foundation of a treaty or treaties concluded between states or international organizations; that their objective is to realize either the shared interests of the states concerned or the general interests of the international community as a whole; that members states are required to fulfil non reciprocal obligations toward the regime; and that regimes have self-contained

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[53] Stephen D. Krasner, 'Sovereignty, Regimes and Human Rights', in Rittberger, *Regime Theory*, supra, note 50, p. 139.

[54] John Vogler, *The Global Commons*, supra, note 39, p. 58.

[55] Ibid.

[56] Lynne Jurgielewicz, *Global Environmental Change and International Law: Prospects for Progress in the Legal Order*, (New York, University Press of America, 1996), pp. 116-117.

[57] Anne-Marie Slaughter et al., 'International Law and International Relations Theory', supra, note 41, p. 378.

procedures to settle claims and disputes among members[58]. Contributing further to the debate, Michael Byers has pertinently pointed out that,

> "regime theorists and institutionalists have not, for the most part, demonstrated that regimes and institutions actually make a difference; that they qualify the application of power in some significant way. Nevertheless, these scholars clearly sense that normal State behaviour does give rise to legal obligation, that some regimes and institutions represent a transformation of power of the kind that they have traditionally studied, into another kind of power –and that this other kind of power, the power of rules', subsequently affects what States say and do"[59].

International law describes the impact of the rule of law in terms of the benefits of order, the cost of violation and the extent to which it provides an order based on the co-ordination of interests and patterned expectations[60]. International law consists of both rights and duties that apply to international actors. In contrast, international regime theory seeks to specify far more precisely actual content of the functional benefits provided by rules and institutions. It stresses their impact in overcoming the assurance problem and affecting the pattern of costs by means of the reduction of uncertainty, the facilitation of communication, the promotion of learning and the transmission of knowledge and information[61]. Further, regime theory seeks to demonstrate in far tighter and more rigorous terms how co-operative behaviour can arise between self interested actors and thereby to specify the conditions which facilitate the emergence of rules and institutions. To sum up, the most distinctive contribution of regime theory to international law is its development of the idea of reciprocal benefits shared by all States involved in the regime, rather than on the traditional emphasis placed on justice.

Hurrell has identified the importance of international law in international regime theory as providing a framework for understanding the process by which international rules

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[58] Shinya Murase, *Perspectives from International Economic Law on Transnational Environmental Issues*, RCADI, 283 (1995) 413-414.

[59] Michael Byers, *Custom, Power and the Power of Rules. International Relations and Customary International Law*, (Cambridge, Cambridge University Press, 1999) p. 31. See also Michael Byers, 'Taking the Law out of International Law: a Critique of the Iterative Perspective', *HILJ*, 38 (1997).

[60] Robert Beck, Anthony Clark Arend and Robert Vander Lugt (eds.), *International Rules. Approaches from International Law and International Relations*, (Oxford, Oxford University Press, 1996), p. 292.

[61] A. Hurrell, 'International Society and the Study of Regimes', in Rittberger (ed.), *Regime Theory*, supra, note 50, pp. 49-72, at 57.

and norms are constituted and a sense of obligation generated in policy-makers[62]. According to him, "international law provides the essential bridge between the procedural rules of the game and the structural principles that specify how the game of power and interests is defined and how the identity of the players is established"[63]. Following this line of argument, Keohane highlights the utility of establishing relatively clear rules for international regimes, that can be valued in the process of creating a demand for the maintenance of international regimes[64]. John Setear has pointed out that IRT, as applied to international politics by institutionalists, offers the best explanation of the functions that the law of treaties performs, and the best explanation why the law of treaties is structured as it is[65]. Setear also argues that, to the extent there is a divergence between what IR theory predicts and the legal doctrines, the doctrines should be modified to conform with the rationalist design hypothesis because rationalist institutionalists provides a normative theory concerning how international arrangements should be organized[66].

Further interdisciplinary research on the inter-relationship of international law and international relations has the greatest potential for improving the analysis of international environmental politics[67]. Slaughter uses IRT in pointing to a broader definition of international law which takes account of the fact that individuals and groups operating in domestic and transnational society are the primary actors in

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[62] Ibid, p. 72.

[63] Ibid.

[64] Robert O. Keohane, 'The Analysis of International Regimes', in Rittberger, *Regime Theory*, supra, note 50, p. 36. According to Müller, a regime exists when principles, norms, rules and procedures regulating relationships between States can be identified and when the regime controls enough variables in a given issue area to affect (if obeyed) parties' behaviour by channelling or terminating unilateral self-help with regard to the regulated variables. See Harald Müller, 'The Internalization of Principles, Norms, and Rules by Governments. The Case of Security Regimes', in Rittberger (ed.), *Regime Theory*, supra, note 50, pp. 361-388, at 361

[65] John Setear, 'An Iterative Perspective on Treaties: A Synthesis of International Relations Theory and International Law', *HILJ*, 37 (1996).

[66] John Setear, 'Responses to Breach of a Treaty and Rationalist International Relations Theory: the Rules of Release and Remediation in the Law of Treaties and the Law of State Responsibility', *Virginia Law Review*, 83 (1997), pp. 8-10.

[67] Research on the formation of international environmental regimes has significantly contributed to the understanding of international co-operation although this work is embedded in pre-existing efforts and has not provided the stimulus for a new research programme. Zürn has pointed out that a driving force for new avenues in the analysis of International Regime Theory is the research on *regime effectiveness* and

international relations; that they are represented in some manner by governments; and that intergovernmental relations favour what states want (preferences) rather than what they can get (power)[68]. Focusing on the theory of international legitimacy, Bodansky claims for establishment of stronger, more authoritative and internationally legitimate institutions which are better able to respond to environmental problems, and explores the possible sources of authority and legitimacy in state consent, democracy, public participation and scientific expertise[69].

Regarding the effects of international regimes, researchers have found that decision-makers perceive the formation of regimes in general as a kind of confidence-building measure which is likely to add to the improvement of overall relations[70]. In addition, once firmly established and operative, international regimes can pave the way towards conflict resolution since, in the long run, commonly agreed upon and jointly observed principles, norms and rules may become internalized into the laws and practices of states, so that the original differences of position about a given object of contention vanish over time. Consequently, international regimes may cause a reshaping of interests among the participating States and actors.

International regimes commonly emerge in response to particular problems such as environmental deterioration, natural resources depletion, border conflicts, etc. Therefore, effectiveness is a matter of the degree to which a regime ameliorates the problem that prompted its creation. A legal definition of effectiveness postulates that the measure of success is the degree to which conflicts become regulated by the rule of law, commonly reflected in contractual obligations, and the extent to which contractual obligations are met, substantive provisions implemented, rules complied with, policies adopted, and so on. A political approach directs attention to behaviour and behavioural change and conceives international regimes as a function of a specific constellation of

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on *international networks*. See Michael Zürn, 'The Rise of International Environmental Politics: A Review of Current Research', *World Politics*, 50 (1998), pp. 617-649, at 649.

[68] Anne-Marie Slaughter et al, 'International Law and International Relations Theory', supra, note 41, p. 378.

[69] Daniel Bodansky, 'The Legitimacy of International Governance: A Coming Challenge for International Environmental Law?', *AJIL*, 93 (1999), pp. 596-623.

[70] V. Rittberger, 'Research on International Regimes in Germany', in Rittberger (ed.), *Regime Theory*, supra, note 50, pp. 3-22, at 19.

actors, interests and interactive relationships. Effective regimes cause changes in the behaviour of actors and in patterns of interactions among them in ways that contribute to the management of targeted problems[71].

A relevant matter for international law is that international regimes are determinants of the willingness and ability of States to implement the legal provisions of international regimes in dealing with a variety of actors operating under a specific institutional arrangement or jurisdiction[72]. Mayer, Rittberger and Zurn have provided the rationale for advancement of research in the formation, properties and effects of international regimes: first, regimes are normatively appealing as a significant element of international order which is of practical relevance for international law; second, regime analysis constitutes the framework for research programmes which has improved the understanding of international institutions; third, important aspects of regimes, i.e. the content and the consequences of regimes, are still heavily under-researched; and fourth, development of strategies and the conducting of comparative research to obtain further knowledge are valuable[73].

A combination of different approaches to the study of a specific international regime can thus be adopted. The threat that fisheries now present to the world's oceans has led to urgent calls within the international community for improvement in international fisheries management; there now seems to be a consensus among fishing nations that global corrective actions are both necessary and apparent[74]. Based on the contributions made by various scholars' to research on international regime theory, this thesis puts forward a theoretical framework within which the emerging international environmental

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[71] Oran R. Young, *International Governance. Protecting the Environment in a Stateless Society*, (Ithaca, Cornell University Press, 1994), pp. 195-211.

[72] Patricia Birnie, 'International Environmental Law: Its Adequacy for Present and Future Needs', in Andrew Hurrell and Benedict Kingsbury (eds.), *The International Politics of the Environment*, (Oxford, Clarendon Press, 1992), p. 51.

[73] P. Meyer, V. Rittberger, and M. Zürn, 'Regime Theory; State of the Art and Perspectives', in Rittberber (ed.), *Regime Theory*, supra, note 50, pp. 391-430, at 427.

[74] This consensus has been reached mainly at UNCED. See Agenda 21, Chapter 17; and Peter Sand, 'International Law on the Agenda of the United Nations Conference on Environment and Development: Towards Global Environmental Security?', *Nordic Journal of International Law*, 60 (1991), pp. 5-18. For further developments, see Chapter 2.6 of this thesis. See also Thomas Homer-Dixon, 'Physical Dimensions of Global Change', in Nazli Choucri (ed.), *Global Accord. Environmental Challenges and International Responses*, (Cambridge and London, MIT Press, 1995), pp. 43-66, at 57; and Hayward Alker and Peter Haas, 'The Rise of Global Ecopolitics', in Choucri (ed.), Ibid, pp. 133-171, at 164-165.

regime of fisheries on the high seas, focusing on the 1995 SSA, can be analysed and conclusions drawn.

1.3 The framework for analysis

Multilateral agreements and international institutions alone are not able to solve environmental problems. At the level of international society, three fundamental conditions have been identified for the effective management of common environmental problems. First, scientific concerns about a specific area must be of sufficient gravity to incite states to dedicate scarce resources to the resolution of problems. Secondly, states must be able to endorse credible commitments that incorporate jointly enacted rules, without the debilitating fear of free-riding or cheating by others. Thirdly, states must possess the capacity to make domestic adjustments for the implementation of international agreements and to encourage the participation of actors in civil society to play an effective role in the policy making and implementation processes[75]. Further, state sovereignty is not inconsistent with international progress in solving common problems.

The main aim of this thesis is to highlight the characteristics and legal implications of international environmental regimes with particular reference to high seas fisheries by analysing the 1995 SSA. The emerging international regime for fisheries on the high seas relies on four inter-connected elements. First, a scientific and diplomatic consensus about the nature of particular issues regarding fisheries, as a precondition for the formation of the international regime; secondly, a core of informal and formalized principles, norms and rules contained in the 1995 SSA as well as other related international legal instruments; thirdly, a set of organizations and decision-making procedures that constitute the operation of the international regime, and fourth, a set of compliance and enforcement mechanisms to help international society to manage the problem of fisheries as a global common. These four elements characterise the continuous process of development and refinement of International Environmental Law.

[75] See Robert Keohane, Peter Haas and Marc A. Levy, 'The Effectiveness of International Environmental Institutions', in Haas et al, *Institutions*, supra, note 12, pp. 3-24, at 21.

The major purpose of this thesis is to analyse the recent developments and to explain why a new international environmental regime for fisheries on the high seas is emerging. Further, it will consider the way in which the regime will operate as a social institution able to influence the behaviour of States and their subjects, as well as other actors in order to address the complex problems of international fisheries conservation and management. The thesis is presented in seven chapters. In the introductory chapter, two matters are examined: first, the crisis in fisheries management which has led to the depletion of many fish stocks and elicited a strong reaction from the international society concerning the urgency and necessity of adopting corrective actions; secondly, an overview of international environmental regimes with reference to the limitations in the present development of international law. Focusing on the general literature concerning international environmental regimes, it is suggested that with regard to the global commons, much more needs to be known about the interactions between the international and domestic legal systems and that on this particular issue, formation of international environmental regimes can be of crucial importance.

In Chapter 2, the preconditions for an international regime for fisheries on the high seas are examined, namely both a scientific and a diplomatic consensus. Before an environmental problem appears upon any political agenda, it must have scientific backing. Once the problem is placed on the political agenda, nonetheless, disagreement about the specific scientific issue may still remain. The main proposal advanced in this chapter is thus that the formation of an international regime will remain obscure as long as there are differences about the scientific aspects of the issue among scientists or among the States concerned. According to international environmental regime literature, it is essential to build consensus on the nature and identification of the specific problem under consideration, the data collection process and the method of data interpretation, to be included in the agreement, in this case, the 1995 SSA.

Negotiation and adoption of legal agreements constitute an important part of the normal process of regime formation in international society. This process is centred on efforts to negotiate the terms of a legal package of mutually acceptable provisions to be laid down in an institutional arrangement. This second precondition, focused on the 1995 SSA, is explored in Chapter 3. Giving due consideration to the work of a number of leading theorists, it is postulated that legal principles and norms do not exist in a

vacuum and can be clarified through their interconnection with other related issues and conventions in the international system. This clarification and refinement of new legal concepts related to the environment, will be an important part of creating a more effective world order for the environment in the decades ahead[76].

Chapter 4 considers the importance of the perception of international co-operation. As of today, the primary organizational unit for exercise of political and jurisdictional functions is the nation-state but the world is not wholly organized around political jurisdictions and governments. Arrangements for institutionalized collaboration on specific issues and areas are characterized by complex interdependence involving international, regional, governmental and non-governmental organizations. The need for collaboration arises from the recognition that the costs of national self-reliance are usually excessive. One historically unprecedented feature is the rise of environmental regimes designed to increase welfare by relying on scientific and technological knowledge. Employing some of the ideas of the global theorists in the regime literature, this chapter will examine the actors and mechanisms for international co-operation for the management of high seas fisheries in the context of the existing and the new subregional and regional fisheries management organizations required by the 1995 SSA. It is suggested that co-operation is a catalytic element in creating and maintaining the stability of international environmental regimes.

Domestic small-scale regimes as well as those for the global commons require mechanisms for the making of collective choices. Such choices may involve day-to-day application of the rules or much more extensive consideration of changes in the rules themselves and even the norms and principles that define the regime. Chapter 5 evaluates the decision-making procedures of the 1995 SSA, pointing out the fundamental problems, which can affect the effectiveness of those provisions. The set of decision-making procedures adopted by the Agreement adds new concepts and practical measures aimed at facilitating the conservation and management of the stocks concerned.

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[76] Lynton Keith Caldwell, *International Environmental Policy. Emergence and Dimensions*, (Durham and London, Duke University Press, Second Edition, 1990), p. 128.

Regimes with strong compliance mechanisms can be expected to alter considerably the behaviour of regime participants. On the other hand, weak monitoring and compliance mechanisms will alter behaviour only moderately. The 1995 SSA has incorporated innovative provisions that would be likely to implement the general principles of conservation and management of SFS and HMFS, while adding new concepts aimed at facilitating the conservation and management of the stocks concerned. These innovative provisions include new duties for flag States, as well as new duties arising from port states jurisdiction extending the scope of these, and procedures for boarding and inspecting, all of which are examined in Chapter 6.

The final conclusion and a summary of the findings are presented in Chapter 7. Each of the seven chapters attempts to increase our knowledge about the relationship of international law within International Regime Theory. Furthermore, they will seek to elucidate the reasons and the mechanisms by which an international environmental regime is now in process of formation for the conservation and management of fisheries on the high seas.

The 1982 United Nations Convention on Law of the Sea (hereafter referred to as 'the 1982 UNCLOS') did not make specific provision for a number of valuable stocks which occur both within and between the Economic Exclusive Zones (EEZ) and the high seas, that is, straddling fish stocks and highly migratory fish stocks[77]. The intensive and lawless exploitation of fish stocks has led to the depletion of many stocks both in the high seas and in the EEZs. Patricia Birnie has pointed out that between the conclusion and the entry of force of UNCLOS, new principles, norms and concepts emerged from State practice evidenced in national laws and in relevant international agreements, but it is not yet possible to determine which, if any, of these are crystallising into general principles of law[78]. In fact, the depletion of fish stocks is causing broader changes in the ocean environment and has the potential to create major disorder in the world's

[77] The urgent need for a rational system of fisheries management has been identified since UNCLOS I. See Robin Churchill, Kenneth Simmonds and J. Welch (eds.), *New Directions in the Law of the Sea*, (New York, Dobbs Ferry, 1973), vol. IH.

[78] Patricia Birnie, 'The Challenge of Applying UNCLOS in a Post UNCED Context', in Joseph Norton, Mads Andenas and Mary Footer (eds.), *The Changing World of International Law in the Twenty-First Century: A Tribute to the Late Kenneth R. Simmonds*, (The Hague, Kluwer, 1998), pp. 3-43, at 42.

international system[79]. It can be concluded that if international society is to prevent extensive upheavals, then its members have to build a new international regime or set of international regimes for fisheries on the high seas.

The global commons, like fisheries on the high seas, may be seen at once and the same time, as belonging to everybody and to nobody. By their very nature, global commons, areas or resources, do fall under sovereign jurisdiction. That international society has been able to adopt the 1995 SSA is thus a positive development. Before the adoption of this agreement, international regulation was fragmented and thus incapable of averting the worldwide collapse of fish stocks in the 1990's but this new multilateral treaty is at the heart of a new international environmental regime for fisheries on the high seas. However, ensuring that the regime enters into force and is widely applied presents a great challenge for international environmental law and the regime itself in the 21st century.

By focusing upon the legal analysis of the 1995 SSA and the theoretical dilemmas relating to international environmental regimes, this thesis seeks to contribute to the on-going discourse as international society attempts to construct an effective international regime to address the challenges of fisheries as a global common. The theoretical approach of IR can furnish and enhance understanding of the problems and potentialities of International Environmental Law for the protection and management of the global commons and in particular, of fisheries on the high seas. Slaughter et al. argue that,

> "the use of IR is valuable to the extent that it sharpens our understanding of the function of particular institutional arrangements. It represents an improvement over descriptive projects that provide much information about how institutions are structured but fails to analyze the functions they perform. A more precise understanding of the functions performed by various treaty provisions and institutional features can help international lawyers and policy makers think

[79] Jean-Pierre Beurier, 'Resources communes et exploitation économique: la rupture. L'exemple des pêches en haute mer', in Michel Prieur and Claude Lambrechts (eds.), *Les hommes et l'environnement. Quels droits pour le vingt-et-unième siècle?. En hommage à Alexandre Kiss*, (Mankind and the Environment. What Rights for the Twenty-first Century? Essays in Honour of Alexandre Kiss), (Paris, Éditions Frison-Roche and Université Robert Schuman de Strasbourg, 1998), pp. 529-539.

> concretely about the requisite elements of an effective international institution"[80].

Furthermore, the theoretical framework adopted in this thesis offers explanations of the manner in which the newly emerging international regime for fisheries is limiting and reshaping the principle of freedom of fishing on the high sea[81]. This specific process has been helped during the last decade by the ending of the Cold War which brought readjustment and a novel redistribution of power among states[82], and on the other hand, by a change, during the last years of the twentieth century, in the methods relating to the creation of international law. As far as international law is concerned, the General Assembly of the United Nations has been able to reach agreement on a variety of important documents leading to a slow accretion of new rules, or agreed interpretation of old rules[83]. As Edith Brown-Weiss has pointed out,

> "in international law today, the sharp lines between public and private international law are blurring, the divide between international law and domestic law is fading and the difference between the effectiveness of legally binding and nonbinding instruments in international law in changing behaviour is under deserved scrutiny[84].

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[80] Slaughter et al, 'International Law and International Relations Theory', supra, note 41, pp. 376-377.

[81] Dolliver Nelson, 'Certain aspects of the Legal Regime of the High Seas', in Yoram Dinstein (ed.), *International Law at a Time of Perplexity. Essays in Honour of Shabtai Rosenne*, (Dordrecht, Martinus Nijhoff, 1989), pp. 519-538. Nelson maintains that the process of increasing limitation of the freedom of fishing on the high seas during the past half century could be viewed from two standpoints: firstly, the protection of the interest of the coastal state in adjacent high seas areas; and secondly, the conservation of the living resources of the high seas in the interests of the international community. See also Dolliver Nelson, 'The Development of the Legal Regime of High Seas Fisheries', in Alan Boyle and David Freestone (eds.), *International Law and Sustainable Development. Past Achievements and Future Challenges*, (Oxford, Oxford University Press, 1999), pp. 113-134. On the same line of thought, see Birnie, 'New Technologies', supra, note 33. Orrego stresses that freedom of fishing has been restrained in various ways because of its negative implications in relation to the goals of orderly access and conservation. Francisco Orrego, *The Changing International Law of High Seas Fisheries*, (Cambridge, Cambridge University Press, 1999), p. 13.

[82] Jessica Mathews, 'Power Shift', *Foreign Affairs*, 76 (1997), pp. 50-66, at 51. See also Michael Barnett, 'Bringing in the New World Order. Liberalism, Legitimacy, and the United Nations, (Review Article), *World Politics*, 49 (1997), pp. 526-551; and James Rosenau, 'Governance, Order, and Change in World Politics' in James Rosenau and Ernst-Otto Czempiel (eds.), *Governance without Government: Order and Change in World Politics*, (Cambridge, Cambridge University Press, 1992), pp. 1-29.

[83] Louis Shon, 'Enhancing the Role of the General Assembly of the United Nations in Crystallizing International Law', in Jerzy Makarczyk (ed.), *Theory of International Law at the Threshold of the 21st Century. Essays in Honour of Krzysztof Skubiszewski*, (The Hague, Kluwer, 1996), pp. 549-561. The considerable impact of the International Court of Justice and the International Tribunal on the Law of the Sea, will undoubtedly continue to shape the evolution of the law of the sea as part of international law. See Barbara Kwiatkowska, 'The International Court of Justice and the Law of the Sea. Some Reflexions', in Jerzy Makarczyk (ed.), Ibid, pp. 439-485.

[84] See Boyle, 'Reflections on the Relationship of Treaties and Soft Law', supra, note 43.

> Moreover, with the revolution in information technology, international law will likely extend to widespread international monitoring and tracking of various kinds of transactions and legal obligations. But the most important role for international law in global society that is both integrated and fragmented may be as the expression of fundamental norms (or values) among peoples, including care for the interests of future generations"[85].

As this thesis aims to demonstrate, an interdisciplinary approach to the study of the global commons and in particular to the study of customary international law may offer many ideas and insights both to international lawyers and to international relations scholars. An interdisciplinary approach to customary process understood as a regime or institution, may change the way we think, first, about 'system consent', that is, the idea that States have consented to the entire process of customary international law rather than to each individual rule by which they are bound; and second, about the role of shared understandings of legal relevance which enable States, judges and other international actors to distinguish behaviour that contributes to the customary process from behaviour that does not[86]. The complex interactions between treaty law and customary international law[87] is particularly relevant in the case of the law of the sea, fragmentation of which, according to Mendelson, is due in part to the uniqueness of geographical situation, along with the remarkable technological and political changes[88]. An available tool and potentially generic application to avoid fragmentation can be found in Article 31.3.c of the 1969 Vienna Convention on the Law of Treaties which could encompass the relationships between treaty and custom in a cross-sectoral context[89].

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[85] Edith Brown-Weiss, 'The Changing Structure of International Law', in Prieur and Lambrechts (eds.), *Les hommes et l'environnement*, supra, note 79, pp. 3-15, at 6.

[86] On this relevant contribution to both international law and international relations, see Byers, *Custom, Power and the Power of Rules*, supra, note 59, pp. 204-206.

[87] According to Lukashuk, substantial changes in the inter-relationship of the two elements of custom have taken place: preceding widespread practice ceased to be an indispensable requirement for the creation of customary norms and on the other hand, *opinio juris* has assumed prime significance. See Igor Lukashuk, 'Customary Norms in Contemporary International Law', in Makarczyk (ed.), *Theory of International Law*, supra, note 83, pp. 487-508.

[88] M. H. Mendelson, 'Fragmentation of the Law of the Sea', *Marine Policy*, 12 (1988), pp. 192-200.

[89] Philippe Sands, 'Sustainable Development: Treaty, Custom, and the Cross-fertilization of International Law', in Boyle and Freestone (eds.), *International Law and Sustainable Development*, supra, note 81, pp. 39-60. Article 31 of the 1969 Vienna Convention on the Law of Treaties reads as follows: "General rule of interpretation 1. A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose. 2. The context

Chapter 2

The UN Conference on Straddling and Highly Migratory Fish Stocks

Introduction

This chapter examines in six sections the emergence of fisheries in the high seas as an issue in international law and international institutions. These sections obviously overlap to some extent, but they describe the developments which led to the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks and subsequently to the adoption of the 1995 SSA. The first section considers the insufficiencies of the 1982 UNCLOS regarding straddling stocks and the pressure from some coastal States for the adoption of more specific global regulations of fisheries on the high seas. The chapter then examines the gradual emergence during the 1990s of a scientific and diplomatic consensus through the specific stances adopted by coastal States and the conflicts arising from the over-exploitation of fisheries in those parts of the high seas which lie beyond the EEZs but which had an impact on stocks within the EEZs. Thus, sections two and three examine the specific legislation adopted by Chile and Canada in their unilateral attempts to introduce measures for conservation and management of straddling stocks. The dispute between Spain and Canada, concerning the detention by Canada of the Spanish fishing vessel the 'Estai', referred by Spain to the ICJ in 1995, which highlighted international concern about the potential conflicts regarding fisheries on the high seas, is analysed in section four. The development of concern regarding the scientific basis of international fisheries management is examined in section five. This scientific concern provided the basis for the international consensus that materialized in adoption of Agenda 21 which, in turn, provided the context within

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for the purpose of the interpretation of a treaty shall comprise, in addition to the text, including its preamble and annexes: (a) any agreement relating to the treaty which was made between all the parties in connection with the conclusion of the treaty; (b) any instrument which was made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty. 3. There shall be taken into account, together with the context: (a) any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions; (b) any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation; (c) any relevant rules of international law applicable in the relations between the parties. 4. A special meaning shall be given to a term if it is established that the parties so intended". Text as available in electronic form on 25 February 2001, on the Web Site, http://www.un.org/law/ilc/texts/treaties.htm

which decision-makers were able to act. Finally, section six outlines the accommodation of the dynamics of two great groups of States –the coastal states and, on the other hand, the distant water fishing nations (hereafter DWFNs), which influenced the adoption of the 1995 SSA during diplomatic negotiations within the Conference convened for this purpose by the United Nations.

One of the main conclusions to be drawn from this chapter is that the absence of international institutions addressing the global issue of fisheries on the high seas generated a "contractual environment" which in turn led at last to the willingness of States to undertake the credible commitments under UN auspices, necessary for the emergence of an international environmental regime for fisheries on the high seas.

2.1 International pressures for collective regulation of fisheries

Although international fisheries have created problem for States for centuries and attracted the attention of the international community since the 19th century[90], in the decade following the adoption of the 1982 UNCLOS, fishing on the high seas became an acute major international problem. Article 116 of the UNCLOS recognised the right of nationals of all States to engage in fishing on the high seas, subject to only some general limitations and requirements such as the duty to take conservation measures and to co-operate with other States in taking such measures for their respective nationals[91]. Coastal States were accorded sovereign rights including the right to explore, conserve and manage the living resources within 200 miles of the EEZ[92]. Coastal States began to complain that fleets fishing on the high seas or DWFSs were reducing catches within their national jurisdiction and undermining their efforts to conserve and revitalize fish stocks within their EEZs[93]. More specifically, the problem focused on fish stocks that

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[90] See Thomas Wemyss-Fulton, *The Sovereignty of the Sea*, (Edinburgh and London, William Blackwood and Sons, 1911), in particular Chapter III.

[91] UNCLOS, Art. 117.

[92] Coastal States were accorded rights within these not only for themselves to engage in fishing but also to say which other States could do so. It should be noted that the first 12 miles of 200 miles of the EEZs is Territorial Sea.

[93] Francisco Orrego Vicuña, 'Toward an Effective Management of High Seas Fisheries and the Settlement of the Pending Issues of the Law of the Sea', *ODIL*, 24 (1993), pp. 81-92.

straddled the boundaries between the EEZ's of coastal States and the boundaries of EEZ's and the high seas, such as pollock in the Bering Sea, highly migratory species like tuna and swordfish and cod off Canada's eastern coasts[94].

According to the FAO, commercial fishing operations are exceeding the ocean's ecological limits to sustain fisheries, unravelling an intricate web of marine life that makes the sea a vital part of the earth's life support system. Forty four percent of all fish stocks are now fully exploited, 16 percent overexploited, 6 percent depleted and 3 percent slowly recovering from over fishing[95]. In a third of the world's major fishing regions, the annual catch is down 20 percent or more from its peak years[96]. It has been concluded that without sweeping changes in current fishing practices and remedial action to allow endangered fish stocks to regenerate, the world's fisheries face possible collapse, from which they might never recover except by introduction of acquacultured stocks, to the extent possible[97].

By mid 1993, Canada had declared a moratorium on cod fishing off its Atlantic coast until stocks were able to regenerate, putting between 20,000 and 30,000 fishers out of work[98]. In the United States, fisheries for Atlantic haddock, cod, flounder and Pacific salmon virtually collapsed[99]. Iceland cut back its domestic fishing by 50 percent because of depleted stocks[100]. Meanwhile, unregulated foreign fleets continued to fish just outside of coastal States jurisdictions[101].

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[94] Douglas Day, 'Addressing the Weakness of High Seas Fisheries Management in the Northwest Atlantic', *Ocean and Coastal Management*, 35 (1997), pp. 69-84. See also David Symes, 'North Atlantic Fisheries: Trends, Status and Management Issues', *Ocean and Coastal Management*, 35 (1997), pp. 51-67.

[95] FAO, State of World Fisheries, supra, note 16, p. 11.

[96] Ibid. See Chapter 1, Section 1.

[97] Catherine Floit, 'Reconsidering Freedom of the High Seas: Protection of Living Marine Resources on the High Seas', in Jon Van Dyke, Durwood Zaelke and Grant Hewison (eds.), *Freedom for the Seas in the 21st Century. Ocean Governance and Environmental Harmony*, (Washington, Island Press, 1993), pp. 310-326, at 317. See also FAO, State of World Fisheries, supra, note 16, p. 12; and Agenda 21, Chapter 17.

[98] W. Schrank, 'Extended Fisheries Jurisdiction. Origins of the Current Crisis in Atlantic Canada's Fisheries', *Marine Policy*, 19 (1995), pp. 285-294, at 291.

[99] Evelyne Meltzer, 'Global Overview', supra, note 34.

[100] Ibid, p. 279.

[101] David Symes and Kevin Crean, 'Historic Prejudice and Invisible Boundaries: Dilemmas for the Development of the Common Fisheries Policy', in Gerald Blake, William Hildesley, Martin Pratt,

In May 1994, FAO Fisheries Department published a "World Review of Highly Migratory Species and Straddling Stocks" providing information about the major straddling and highly migratory fish stocks, region by region, identifying the species involved, the fisheries, the status of the stocks and the management problems[102]. It has been estimated that to rehabilitate fisheries to the 1970 abundance levels and catch rates would require the removal of 23% of the existing Gross Registered Tonnage (GRT) of the world's fleet, approximately 5.8 million GRT, at the cost of around US $73,000 million (replacement value), and that the levels of government subsidies currently are at about US$ 54,000 million/year[103]. Concluding that many of these resources have been severely reduced or depleted, which according to this study illustrates the non-sustainable nature of exploitation of the high seas, it finds that nonetheless the situation can improve if solutions are found and political resistance is overcome to enable the putting into place of systems for collect-data, promote collaborative stock assessment, and elaborate and enforce management measures at an international level[104].

Meanwhile, diplomatic confrontations between coastal States and DFWNs continued. Coastal states claimed that the high social and economic cost to their home States of fishermen who were put out of work in order to preserve fish stocks could not be supported if foreign fleets continued to fish without restrictions on the high seas. Russia mounted military surveillance to keep Chinese, Japanese, Korean and Polish boats from over fishing pollock in the hotly contested so-called Peanut-Hole, a small area of international waters in the Sea of Okhotsk surrounded by Russian seas. In the South Pacific, island states tried to stop Taiwanese and Korean fishers poaching tuna. At the same time, DWFNs pointed to research that suggested coastal States were not sustainably managing stocks within their zones[105].

Throughout the world's oceans, a number of DWFNs were reluctant to co-operate and to comply with conservation measures recommended by coastal States. The failure to

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Rebecca Ridley and Clive Schofield (eds.), *The Peaceful Management of Transboundary Resources*, (London, Graham and Martinus Nijhoff, 1995), pp. 395-411.

[102] FAO, FTP No. 337, supra, note 35, p. 65.

[103] Ibid, p. 1.

[104] Ibid, at 65. For further details, see Chapter 4, Section 6.

[105] E. Meltzer, 'Global Overview', supra, note 34, p. 321.

agree on conservation measures for high seas fishing and the absence of enforcement measures beyond the EEZ led to a high level of uncertainty and political friction. Important and, in most cases, severe conflicts occurred concerning straddling stocks for cod in the Grand Banks/Flemish Cap areas of the Northwest Atlantic between NAFO members and the USA, Korea, Mexico, Panama, Chile and Spain; for tuna in the East Central Pacific bringing the USA into confrontation with some of the coastal States of Central and the West Coast of South America; for jack mackerel, Spanish sardine, southern poutassou and southern blue whiting in the Southeast Pacific and Southwest Atlantic; and for Alaska pollock in the Northeast Pacific/Bering Sea (the so-called "Doughnut Hole")[106].

From the beginning of the 1990's, the global environmental issues of fisheries depletion on the high seas and straddling fish stocks steadily became well-established in the international political agenda. The implications of these issues have been widely illustrated by two findings that revealed the consequences of certain human activities within the ocean's natural systems. First, scientists agree that the oceans are being seriously over fished and that world fisheries are under great pressure[107]. Secondly, scientific experts recognise that depletion of fish stocks on the high seas can change the natural equilibrium in ocean ecosystems and can have social and political impacts upon the world's population[108]. In the last decades, governments which have been reluctant to face up to fisheries restructuring, preferred to ignore the problem or even to subsidise new fisheries development. However, the warning made clear that if the members of the international society did not change their practices for harvesting of fish on the high

[106] Edward Miles and William Burke, 'Pressures on UNCLOS Arising from New Fisheries Conflicts: the Problem of Straddling Stocks', ODIL, 20, (1989), pp. 343-357, at 344.

[107] The condition of world fisheries in the 1990's has left little doubt that world fisheries are under great stress. World Resources Report 96, Chapter 13 on Water and Fisheries, document in electronic form as available on http://www.wri.org, on 17/06/97 and *The Ecologist*, supra, note 12, at 58. See also Daniel Botkin and Edward Keller, *Environmental Science. Earth as a Living Planet*, (New York, John Wiley and Sons, 1995), pp. 523-525 and Alastair Couper, 'Ocean Uses, Environment and Management' in Ian Douglas, Richard Huggett and Mike Robinson (eds.), *Companion Encyclopaedia of Geography. The Environment and Humankind*, (London, Routledge, 1996), pp. 508-525.

[108] FAO Report, Rome, 1995, supra, note 16. See also John Everett (ed.), Fisheries (Chapter 16), in Robert Watson, Marufu Zinyowera et al. *Climate Change 1995. Impacts, Adaptations and Mitigation of Climate Change: Scientific Technical Analyses*, (Cambridge, Cambridge University Press, 1996), pp. 515-537 and Greenpeace International Statement in Recognition of the "International Year of the Ocean", document in electronic form as available on http://www.greenpeace.org, on 06/05/98 that recognised a global fisheries crisis.

seas and address the issues in an effective manner, then substantial disorder and interferences could take place in international relations[109].

Advocates of the DWFNs relied on freedom of fishing, without adequate consideration of competing values; while advocates of coastal States disregarded the possibilities of accommodation, insisting on their own dogmatic beliefs and ethical principles which were not shared in all cultures[110]. Thus, the issue of high seas resources management has come to the forefront of international attention despite the fact that such fisheries produce only 10 percent of the world food supply. The United Nations Conference on Environment and Development (UNCED)[111], held in Rio de Janeiro in June 1992, focused on the issue when developing Chapter 17 of Agenda 21[112], which provides for the protection of oceans, elaborating in Programme Area 17C the framework of an international programme for the conservation of marine living resources on the high seas. In 1992, FAO organized a Technical Consultation on High Seas Fishing[113]. Agenda 21 had recommended the convening of an intergovernmental conference on straddling and highly migratory fish stocks, under United Nations auspices, with a view to promoting effective implementation of the provisions of UNCLOS[114]. This conference, which was supported by the UN General Assembly[115], began in New York, in July 1993.

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[109] M. J. Peterson, 'International Fisheries Management', in Haas et al., *Institutions*, supra, note 12, p. 304.

[110] William Burke, *The New International Law of Fisheries*, (Oxford, Clarendon Press, 1994), p. 349.

[111] Alicia Barcena, 'UNCED and Ocean and Coastal Management', *Ocean and Coastal Management*, 18 (1992), pp. 15-33.

[112] Agenda 21, Chapter 17, relating to 'Protection of the Oceans, all Kind of Seas, including Enclosed and Semi-enclosed Seas, and Coastal Areas and the Protection, Rational Use and Development of their Living Resources'.

[113] FAO, "Report of the Technical Consultation on High Seas Fishing and the Papers Presented at the Technical Consultation on High Seas Fishing", UN Doc. A/Conf. 164/INF/2, 14 May 1993, reproduced in Jean Pierre Lévy and Gunnar Schram (eds.), *United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks. Selected Documents*, (The Hague, Martinus Nijhoff Publishers, 1996), pp. 273-371.

[114] Agenda 21, Para. 17.49.

[115] It is relevant that the UNGA Resolution 47/192 on the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks reaffirmed that the work of the Conference should be fully consistent with the provisions of UNCLOS, in particular the rights and obligations of coastal States and States fishing on the high seas and that States should give full effect to the high seas fisheries provisions of the Convention with regard to fisheries populations whose ranges lie both within and beyond EEZs and to highly migratory fish stocks. Resolutions and Decisions Adopted by the General Assembly during its Forty-seventh Session, Vol. I, 15 Sept.-23 Dec. 1992, General Assembly Official Records, Forty-seventh Session, Supplement No. 49 (A/47/49), United Nations, New York, 1993.

At this stage, many countries were still reluctant to accept the need for a legally binding agreement. But as discussions progressed, most coastal States realized that the time had come for a significant international agreement and the DWFNs understood clearly that it was time to either play by a set of internationally agreed upon regulations or face anarchy on the high seas. Other contributory factors in the negotiating process were the political and legal implications of regional or localized conflicts, to which the most relevant, the *'Estai Case'*, drew particular attention, and, on the other hand, the unilateral attempts of coastal States, in particular those of Canada and Chile, to regulate fishing on the high seas.

2.2 The concept of the "Presential Sea"

Latin America countries have contributed considerably to the evolution of new concepts in the Law of the Sea. Chile and Argentina, in particular in the 1950s, contributed to the elaboration of the concept of "patrimonial sea" and the legal concept of the "continental shelf"[116]. On 18 August 1952, Chile, Ecuador and Peru issued the "Santiago Declaration", the first international instrument to proclaim a 200-mile zone in the form of a so-called "patrimonial sea"[117]. The Montevideo Declaration and the Declaration of Lima have contributed to the development of the concept of the Exclusive Economic Zone[118].

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[116] The concept of the Continental Shelf in the 1982 UNCLOS has significantly changed from that laid down in the 1958 Geneva Convention on the Continental Shelf. Two significant changes were made in the UNCLOS: the first was the extension of the continental shelf to the outer edge of the continental margin, if and where it extends beyond 200 miles; the second was the introduction of a revenue-sharing system under which a coastal State which exploits the non-living resources beyond 200 miles must make payments or contributions in kind for distribution to States Parties to the Convention on the basis of an equitable sharing criteria, according to a formula set out in Article 82. On the other hand, by 1993, at least two States, Ecuador and Chile, had made specific claims involving limits beyond 200 miles. These claims received protests from France, Germany and the Unites States, which stated that they had not followed the conditions for measuring the continental margin as set out in Article 76.4 of UNCLOS. See Publication by DOALOS, Office of Legal Affairs, *The Law of the Sea. Practice of States at the Time of Entry into Force of the United Nations Convention on the Law of the Sea*, (New York, United Nations Publications, 1994), p. 168.

[117] Vicente Marotta Rangel, 'O Novo Direito do Mar em a América Latina', *Revista da Facultade de Direito, Universidade de Sao Paulo*, 17 (1982), pp. 97-132, at 106.

[118] Julio Barberis, 'Les Régles Spécifiques du Droit International', RCADI, Tome 235-IV, The Hague, 1992, at 219-220. See also F. M. Armas, 'Straddling Stocks and Highly Migratory Stocks in Latin American Practice and Legislation: New Perspectives in Light of Current International Negotiations', *ODIL*, 26 (1995), pp. 127-150.

2.2.1 Origin and scope of the concept

Since the adoption of UNCLOS in December 1982, Latin American and Caribbean countries have evinced a serious interest in the interpretation and implementation of the provisions of this Convention. As a result of this process, a genuine effort is being developed in that region to adopt and implement national legislation in accordance with the Convention and new legislation is being enacted in a number of countries[119]. This is the case of Chile which in 1991 adopted the highly contentious Fisheries Laws 19.079 and 19.080 amending the General Law on Fishing and Aquaculture (Ley General de Pesca y Acuicultura)[120] and introducing the controversial concept of the "presential sea" or "mar presencial"[121]. Affirming the concept of presential sea, these laws, which apply to straddling stocks, highly migratory species, anadromous species and marine mammals, permit the Chilean Ministries of Agriculture and Foreign Affairs to establish standards for conserving and managing common stocks and associated species found in the EEZ as well as on the high seas. Under these internal laws, Chile is allowed to restrict the landing of fishing and the servicing in Chilean ports of distant water fishing vessels that have violated conservation and management measures for high seas marine resources adjacent to and beyond Chilean national jurisdiction[122]. By adopting these laws, the concept of the presential sea acquired legal status in Chile and became an official government policy. It should be noted, however, that the scope of these laws, in terms of practical application, has been rather modest.

During the period of pre-dissolution of the USSR, Chilean fishermen and the Chilean Navy perceived the fact of the Soviet fishing trawler fleet off its coasts as a military threat and detrimental to the future development of Chile's fishing industry[123]. Thus, the

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[119] *The Law of the Sea. Practice of States*, Publication by DOALOS, supra, note 116, p. 169.

[120] Fisheries Laws No. 19.079 and No. 19.080 of 1991 Amending General Law on Fishing and Aquaculture, (Ley General de Pesca y Acuicultura), Diario Oficial de la República de Chile (Chile's Official Gazette), Santiago de Chile, 6 September, 1991. For further details regarding Chilean Legislation see Barbara Kwiatkowska, '200-Mile Exclusive Economic/Fishery Zone and the Continental Shelf - An Inventory of Recent State Practice: Part 1', *IJMCL*, 9 (1994), pp. 199-318, at 216.

[121] Confusing to non Spanish speakers, the word "Presencial" can be translated as 'to be present' or 'to see and be seen'.

[122] Diario Oficial de la República de Chile (Chile's Official Gazette), Santiago de Chile, 6 September, 1991.

[123] The Soviet fleet was reported to have the highest catch levels of all the DWFNs arousing national concern in Chile. However, no specific actions taken by Chile against the Soviet fleet have been reported.

origin of the concept of the presential sea has been attributed to Jorge Martinez a high-ranking naval officer from Chile, a country in which the military forces have exerted considerable political influence in the last two decades[124]. The concept of the presential sea aims to imply a feeling of "presence" and evidences the desire to assert the 'presence' of Chile in some parts of the high seas as well as Chile's interest in being involved in the high seas activities engaged by other States throughout the region[125].

According to Orrego Vicuña, a Chilean legal scholar, the presential sea encourages the coastal State to undertake economic activities in the high seas in order to promote national economic development and to ensure that activities on the high seas do not affect, directly or indirectly, such development. Furthermore, the concept of the presential sea is related to the concept of national security for purposes of protection of the national interest[126]. Although an expression of the special interest of Chile as a coastal State, the new concept of the presential sea could also apply to many other geographical situations throughout the world. According to Orrego Vicuña's definition, the concept involves three main elements, as outlined bellow:

First, participation in, and surveillance of, activities undertaken by other states in high seas areas of particular interest to the coastal State. In this regard, it is not a question of excluding any State from such areas, but, on the contrary, of ensuring the active inclusion of the coastal State concerned. According to this idea, there is no question of exclusive coastal State rights involved in this concept, or the drawing of new maritime boundaries in a legal sense; neither should participation in such activities be understood as a kind of compulsory intervention by the coastal state in activities undertaken by other countries[127].

See Meltzer, 'Global Overview', supra, note 34, at 269. See also Orrego Vicuña, *The Changing International Law*, supra, note 81, pp. 110-111.

[124] Jorge Martínez, 'El Mar Presencial: Actualidad, Desafíos y Futuro', *Revista de la Marina*, Santiago, Chile, 82 (1991), pp. 1-20.

[125] Ibid, p. 18.

[126] Francisco Orrego Vicuña, 'Towards an Effective Management of High Seas Fisheries and the Settlement of the Pending Issues of Law of the Sea, *ODIL*, 24 (1993), pp 81-92.

[127] Francisco Orrego Vicuña, 'The "Presential Sea": Defining Coastal State's Special Interest in High Seas Fisheries and other Activities', *German Yearbook of International Law*, 35 (1992), pp. 264-292, at 289.

Secondly, Orrego argues that the presential sea concept encourages the coastal State to undertake economic activities in the high seas in order to promote national development and to ensure that other activities are conducted in a way that avoids direct or indirect harmful effects upon this development. According to Orrego, this element involves the undertaking of legitimate forms of competition, while at the same time requiring the development of more active forms of co-operation and other measures in order to prevent adverse effects upon the interest of the coastal State[128].

Thirdly, in Orrego's view, the concept of the presential sea is related to a broad view of national security, understood not in a strictly military sense but in terms of protection of the national interest, including the economic dimension referred to above, with particular reference to the EEZ and the territorial sea[129]. In order to buttress the legal basis of the concept, the author claims that the presential sea expressly safeguards the legal status of the high seas and is entirely consistent with the international law of the sea, and expresses his hope that the concept will lead to a number of changes in the law of high seas fisheries, not only because it represents the expression of the interests of many developing countries but because it also responds to the pressing and potential needs of developed countries[130].

2.2.2 Reactions and criticisms

Chile deployed considerable diplomatic effort to obtain international acceptance of the idea and insisted that the object of the concept was not to assert a jurisdictional claim over areas of the high seas but to impose some control on foreign fisheries fleets which could have undermined or violated international conventions on fisheries conservation. Notwithstanding this explanation, strong opposition to the concept was expressed by France, Belgium and Spain as well as by the concerned members of the EC itself. The EC emphasized the indispensability of sound regional fishery co-operation, stressing that the presential sea was not a recognized concept of international law and had no

[128] Ibid., p. 269.

[129] Orrego, supra, note 126, p. 88.

[130] Ibid.

foundation in UNCLOS[131]. Some authors claimed that if the concept of presential sea were to be adopted by coastal States, the traditional freedom to fish on the high seas might be severely compromised[132]. However, other authors have pointed out that as technological, economic, social and political changes are altering our relation to the sea, the freedoms of the seas, although still a relevant concept, is not unlimited and is more akin to the same kind of freedom that individuals enjoy in a national society[133].

In addition to the question of fisheries on the high seas, other legitimate activities of the coastal State in that area, such as search and rescue, marine scientific research, security of navigation, meteorological reporting and pollution control beyond the EEZ, have been recognized under international law. However, these measures must be exercised within a framework of co-operation with other States, not unilaterally. Regarding the conservation and management of marine living resources on the high seas, States must co-operate with each other with a view to taking the measures necessary for the conservation of the resources concerned and co-operate also to establish regional or subregional fisheries organizations to this end[134]. International acceptance of the concept of the presential sea would unilaterally extend Chile's regulatory authority to high seas areas adjacent to its EEZ and permit exercise of its functional jurisdiction for enacting conservation and management measures, for enforcing those measures, and for controlling marine scientific research in the high seas areas adjacent to its EEZ.

The continued progressive depletion of fish stocks has evidenced that it is impossible to manage fisheries within the EEZ if they are not correspondingly managed beyond its limits. Tullio Treves has pointed out that the concept of presential sea represents a 'statement' of the pressures on the freedom of the seas and that this freedom is not

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[131] Barbara Kwiatkowska, 'The High Seas Fisheries Regime: at a Point of No Return?', *IJMCL*, 8 (1993), pp. 327-359, at 341. See also Barbara Kwiatkowska, 'Creeping Jurisdiction Beyond 200 Miles in the Light of the 1982 Law of the Sea Convention and State Practice', 22 *ODIL* (1991), pp. 153-175.

[132] Christopher Joyner and P. N. de Cola, 'Chile's Presential Sea Proposal: Implications for Straddling Stocks and the International Law of Fisheries', *ODIL*, 24 (1993), pp. 99-121.

[133] R. P. Anand, 'Changing Concepts of Freedom of the Seas', in Van Dyke et al., *Freedom for the Seas*, supra, note 97, pp. 72-88, at 83.

[134] UNCLOS, Art. 118.

unchangeable[135]. According to Treves, the assertion of the presential sea concept may be interpreted as the starting point of a new attempt by coastal States to extend their jurisdiction to the high seas[136].

2.2.3 The impact of the concept

Although recognising that the presential sea doctrine can eventually have jurisdictional implications if mechanisms for international co-operation are non-existent or ineffective, Orrego has strongly insisted that the concept represents a new approach under international law that does not have jurisdictional content[137]. Nevertheless, the concept of the presential sea not only has jurisdictional implications for the future, but also has such implications for the present[138]. In addition, Dalton has defined the presential sea as "a type of contiguous zone to the EEZ in which the state may prevent infringements of its fishing, research and resource exploitation interest in the EEZ"[139].

The presential sea concept adopted by Chile clearly signified a unilateral effort to preserve fisheries of the high seas by creating an expansive 'shielding' zone in the adjacent areas of the high seas. Notwithstanding this, the presential sea was an important step on the route to challenging the management and conservation of fish stocks on the high seas. The concept of the presential sea opened new frontiers for the development of international law and operated to place significant pressure towards a change in the limits and legal regime of the high seas[140]. It is relevant that, as further discussed below, Chile, along with Canada and New Zealand, played a leading role in the *demarche* for the recognition of the special interests of coastal States in preserving the marine living resources on the high seas during the diplomatic negotiations

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[135] Tullio Treves, *Codification et Pratique dans le Droit de la Mer*, RCADI, The Hague, Tome 223-IV, 1990, p. 235.

[136] Ibid.

[137] Orrego, supra, note 127, p. 276.

[138] Thomas A. Clingan, 'Mar Presencial (The Presential Sea): Dejà Vu All Over Again?-A Response to Francisco Orrego Vicuña, *ODIL*, 24 (1993), pp. 89-98, at 95.

[139] Jane Dalton, "The Chilean Mar Presential: A Harmless Concept or a Dangerous Precedent?, 8 *IJMCL*, (1993), pp. 397-411.

[140] Kwiatkowska, 'Point of No Return', supra, note 131, p. 341.

conducted within the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks. However, it should be noted, that as the UN Conference got under way, the presential sea concept was put on hold by the Chilean government, evidencing its intention not to pursue unilateral solutions if other viable solutions were adopted under international law[141].

2.3 Canada's fisheries regulations

Canada's activities in relation to the Atlantic, Pacific and Arctic Oceans have contributed to highlighting the vital role that the marine environment has played in the development of Canada. Thus, this country exercises jurisdiction over very extensive sea areas in regional settings that differ widely in their physical, economic, political, strategic and social characteristics. As a result, Canadian oceans policy has been developed in a large number of separate departments in response to particular events and to meet their own objectives. First declaring a 100 n.m. Arctic Waters Pollution Control Zone in 1970[142], Canada went on to declare a 200 n.m. Exclusive Economic Zone in 1977[143]. The second attracted widespread support from developing States during the UNCLOS negotiations[144]. An attempt at formulating a national oceans policy was made in 1987 with the publication of an "Ocean Policy for Canada" by the Canadian Department of Fisheries and Oceans, the Federal Agency assigned the lead role in oceans policy development[145].

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[141] Speech by the President of Chile, Mr. Eduardo Frei, Escuela Naval, Valparaiso, Chile, 2 May 1994. Quoted by Francisco Orrego Vicuña, *The Changing International Law*, supra, note 81, p. 111.

[142] William Schrank, 'Extended Fisheries Jurisdiction: Origins of the Current Crisis in Atlantic Canada's Fisheries', *Marine Policy*, 19 (1995), pp. 285-299.

[143] According to Lennox O'Reilly Hinds, the unilateral declaration by Canada in 1977 of a 200 n.m. Exclusive Fishing Zone is directly responsible for the development of the Canadian industry that has occurred since. This author maintains that Canada's failure to include the extension of the Shelf (the Nose and Tail) within its jurisdiction at that time, and limited progress made on an international agreement on straddling stocks since then, suggests that the sustainability of Canadian investments in the sector were later in serious question. See Lennox O'Reilly Hinds, 'Crisis in Canada's Atlantic Sea Fisheries', *Marine Policy*, 19 (1995), pp. 271-283.

[144] Douglas Day, 'Tending the Achilles' Heel of NAFO: Canada Acts to Protect the Nose and Tail of the Grand Banks', *Marine Policy*, 19 (1995), pp. 257-270.

[145] Douglas Day, 'Public Policy and Ocean Management in Canada', *Marine Policy*, 19 (1995), pp. 251-256, at 251. More recently, in 2000, the Canadian Federal Minister of Fisheries and Oceans has initiated a public process of consultations in order to adopt the Canada's Oceans Strategy. The Discussion Paper

2.3.1 The crisis of Canada's Atlantic Fisheries

Canada's Atlantic fisheries are in a state of acute crisis because of a severe reduction in ground fish populations[146]. The collapse of the Canadian east coast fishery was first recognized in 1989 when the biomass estimates of the Northern Cod stock were found to be dramatically below their previous levels[147]. The ground fish fisheries in the waters around Newfoundland exploit three main species groups: the gadoids (cod, haddock, pollock and hake), the flatfishes (plaice, yellowtail flounder and halibut) and other species such as redfish and grenadiers. The relative importance of the different species and stocks has varied over time, but recently the last three have been the most important[148].

The possible causes of the stock decline in the Canadian Northwest Atlantic Ocean have been identified as follows: the Canadian offshore trawling fleet; the foreign fishery outside 200 miles; seals; shortage of prey species; and environmental factors such as decreasing water temperatures and oceanic salinic changes[149]. However, it is not possible to determine the relative importance of each factor and it is not clear when the decline took place[150].

The straddling stocks issue is a fisheries management problem for a number of countries such as Canada where the continental shelf extends beyond the Economic Exclusive Zone since fish tend to congregate in that shallow area[151]. Following the extension of jurisdiction by Canada, fishing in the Northwest Atlantic was administered under the

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'Toward Canada's Ocean Strategy' can be consulted, in electronic form, as available on 25 February 2001,on the Web Site http://www.oceanscanada.com/english/index.htm

[146] Richard Apostle and Knut Mikalsen, 'Lessons from the Abyss: Reflections on Recent Fisheries Crises in Atlantic Canada and North Norway', *Dalhousie Law Journal*, 18 (1995), pp. 96-115.

[147] William Schrank, supra, note 142.

[148] Department of Fisheries and Oceans, 'Groundfish Stocks Status Report', Ottawa, Canada, 1987.

[149] The Canadian case, widely discussed, is a potent warning that fisheries management policies must acknowledge explicitly the economic and social impacts of these policies and make adequate provision for local involvement in decision-making and resource control. See Lennox O'Reilly Hinds, 'Crisis in Canada's Atlantic Sea Fisheries', *Marine Policy*, 19 (1995) 271-283; and Jack Ruitenbeek, 'The Great Canadian Fishery Collapse: Some Policy Lessons', *Ecological Economics*, 19 (1996) 103-109. See also Section 1, Chapter 1.

[150] Dawn Russell and Moira McConnell, 'After the Collapse', *Dalhousie Law Journal*, 18 (1995), pp. 5-36.

[151] Carlyle Mitchell, 'Fisheries Management in the Grand Banks, 1980-1992 and the Straddling Stock Issue', *Marine Policy*, 21 (1997), pp. 97-109.

auspices of the International Convention for the Northwest Atlantic Fisheries (ICNAF) denounced in 1978 after the negotiation of a new Northwest Atlantic Fisheries Organization (NAFO) which was established in 1979[152]. NAFO regulates straddling stocks beyond the 200-mile limit[153]. In 1994, the Canadian Government proposed new legislation enabling it unilaterally to assert its enforcement jurisdiction beyond 200 miles. On 12 May 1994, the Canadian Parliament passed this legislation amending the existing Coastal Fisheries Protection Act (CFPA)[154]. This legislation was directed principally at stateless vessels and flags of convenience vessels[155]. Notwithstanding this, in March 1995, after a dispute over turbot allocations, the Canadian Government further amended its legislation to extend its application to NAFO members, Spain and Portugal[156].

2.3.2 The Canadian Coastal Fisheries Protection Act

The purpose of the CFPA was to enable Canada to take the urgent action necessary to prevent further destruction of straddling stocks on the Grand Banks of Newfoundland and to permit their rebuilding, while continuing to seek effective international solutions to the depletion of those stocks by foreign vessels fishing in the NAFO Regulatory Area in a manner that undermined the effectiveness of sound conservation and management

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[152] Michael Sean Sullivan, 'The Case in International Law for Canada's Extension of Fisheries Jurisdiction Beyond 200 Miles', *ODIL*, 28 (1997), pp. 203-268, at 212.

[153] This issue will be discussed in Chapter 4, 'Fisheries Management Organizations'.

[154] 'Canada: Coastal Fisheries Protection Act as Amended in 1994', Reproduced in I.LM, 33 (1994) 1383.

[155] Michael Sean Sullivan, supra, note 152, at 220. Regarding the role of Canada in developing the theory of preferential right, see Laurent Lucchini, 'La loi Canadienne du 12 Mai 1994: la logique extreme de la théorie du droit preferentiel de l'Etat cotier en haute mer au titre des stocks chevauchants', *AFDI*, 40 (1994), pp. 864-875, at 865; Francis Regaldies, "La nouvelle loi Canadienne sur la protection des pêches cotieres: légitimité n'est pas légalité', *Espaces et Ressources Maritimes*, 8 (1994), pp. 252-272; Jean-Luc Prat, 'La loi Canadienne du 12 Mai 1994 sur la protection des pêches cotieres ou l'unilateralisme Canadien reactivé', *Espaces et Ressources Maritimes*, 8 (1994), pp. 273-305; William Abel, 'Fishing for an international norm to govern straddling stocks: the Canada-Spain dispute of 1995', *University of Miami Inter-American Law Review*, 27 (1996), p. 553.

[156] Richard Southcott and James Wooder, 'Canadian Maritime Law Update: 1995-1996', *Journal of Maritime Law and Commerce*, 28 (1997), pp. 469-483.

measures[157]. The core of the Act provides as follows: "no person, being aboard a foreign fishing vessel of a prescribed class, shall, in the NAFO Regulatory Area, fish or prepare to fish for straddling stocks in contravention of any of the conservation and management measures adopted by Canada"[158].

The Act is complemented by provisions which enumerate the straddling stocks which are subject to conservation and management measures. The Act allows fishery officers, the officers of the Royal Canadian Mounted Police or any person authorized by the Governor in Council to board and inspect any fishing vessel found within Canadian fisheries waters or the NAFO Regulatory Area. According to the Act, the NAFO Regulatory Area on the high seas encompasses the waters of the Northwest Atlantic Ocean north of 35°00' north latitude and west of a line extending due north from 35°00' north latitude and 42°00' west longitude, thence due west to 44°00' west longitude, and thence due north to the coast of Greenland. The area covers also the waters of the Gulf of St. Lawrence, Davis Strait and Baffin Bay south of 78°10' north latitude[159].

The provisions allowing Canada to inspect, arrest, seize and forfeit-fishing vessels on the high seas is the most controversial provision of the Act, relevant to international law. A protection officer is allowed to arrest without warrant, any person who the officer, on reasonable grounds, suspects has committed an offence under the Act and he can use force "on reasonable grounds", to disable a foreign fishing vessel. The officer may seize any fishing vessel, including fish, tackle, rigging, apparel, furniture, stores and cargo, by means of which, or in relation to which the officer believes, on reasonable grounds, the offence was committed[160].

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[157] A precedent of the CFPA may be found in the US legislation, similarly phrased, to enable it to exercise trade sanctions, refusal of fishing permits in the US EEZ, refusal to admit fish exports from States that undermine fisheries legislation, etc. See the US Sustainable Fisheries Act (SFA), Public Law 104-297, an act to provide for the conservation and management of the fisheries, and for other purposes, which became law on October 11, 1996. The SFA amended the Magnuson-Stevens Fishery Conservation and Management Act, Public Law 94-265 and includes numerous provisions requiring science, management and conservation action by the US National Marine Fisheries Service. J. Feder version (12/19/96), information in electronic form as available on 10 May, 2000, on the Web Site http://www.nmfs.gov/sfa/magact/mag1.html#s2

[158] CFPA, Section 5.2.

[159] CFPA, Art. 2.

[160] CFPA, Arts. 7 and 9.

2.3.3 The theory of the "preferential right"

The amendment of the Canadian Coastal Fisheries Protection Act represents a practical expression of the theory of the "preferential right" of coastal States. Therefore, it is relevant to analyse the impact of this theory on the law of the sea, with particular reference to the developments leading to the adoption of the 1995 SSA. The Convention on Fishing and Conservation of the Living Resources of the High Seas, which was adopted in Geneva on 29 April, 1958 and entered into force on 20 March, 1966[161], had already recognized the special interest of coastal States in the maintenance of the productivity of living resources in any area of the high seas adjacent to its territorial sea (Art. 6.1). Furthermore, according to this Convention, any coastal State may adopt unilateral measures of conservation appropriate to any stock of fish or other marine resources in any area of the high seas adjacent to its territorial sea, provided that negotiations to that effect with the other states concerned have not led to an agreement within six months (Art. 7.1). The special interests of coastal States were thus referred to but lacked any appropriate means of implementation[162]. In the 1982 UNCLOS, however, no reference is made to this "special interest" of coastal States.

The preferential right is based on two grounds: first, the "consistency principle", i.e. the need to ensure consistency between the regime for conservation and management of living resources in the high seas and the measures taken by coastal states for conservation and management of those resources in their EEZ; and secondly, the alleged "unilateral power" of coastal States to take measures when negotiations with distant fishing states regarding conservation and management measures for high seas stocks have failed[163]. Whether the "consistency principle" could be perceived as testifying a new legal concept of a coastal State's special interest beyond the 200 nautical miles, reflecting general or sub regional customary law, is an open question[164]. In any case, according to Article 116 of UNCLOS, it seems clear that the right to fish on

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[161] Convention on Fishing and Conservation of the Living Resources of the High Seas, Geneva, 29 April 1958, in force 30 September 1962, reproduced in 450 UNTS 82.

[162] Orrego Vicuña, *The Changing International Law*, supra, note 81, p. 20.

[163] André Tahindro, 'Conservation and Management of Transboundary Fish Stocks: Comments in Light of the Adoption of the 1995 Agreement for the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks', *ODIL*, 28 (1997), pp. 1-58, at 16.

[164] Kwiatkowska, 'Point of No Return', supra, note 131, p. 334.

the high seas is not unlimited. It is limited by treaty obligations, by other related provisions of UNCLOS[165] and in particular, by the rights, duties and interests of coastal States provided for in Articles 63.2, 64 and 67 of UNCLOS.

The alleged "unilateral power" of coastal States to extend their jurisdiction over straddling stocks may find a basis in article 63.2 of UNCLOS which provides that the coastal State and the States fishing for such stocks shall seek either directly or through appropriate sub regional or regional organizations, to agree upon the measures necessary for the conservation of those stocks in the adjacent area. In this regard, the Canadian Coastal Fisheries Protection Act is very skilful in warding off possible criticism by declaring that its purpose is to enable Canada to take the urgent action necessary to prevent further destruction of straddling stocks in both Canadian fisheries waters and the NAFO Regulatory Area[166]. Thus, the Canadian Coastal Fisheries Protection Act can be distinguished from the Chilean Presential Sea concept on the grounds that the latter is unilateral national measure while the former enables the unilateral enforcement of NAFO measures in NAFO Regulatory Areas of the high seas.

A question not resolved by UNCLOS was how the apparently superior right of the coastal State might be implemented in the specific context of straddling stocks. According to Burke, assuming that the States concerned have not been able to conclude an agreement on conservation of fisheries in the high seas, one interpretation of Article 116 is that the coastal State would be then considered authorized to establish conservation measures applicable to the stock as a whole, including the high seas component and to demand that high seas fishing States comply with those measures[167]. However, in Burke's opinion, in addition to the obstacles presented by the legislative history of UNCLOS and the conflicting political interests of coastal and fishing States,

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[165] Part VII, Section II, Articles 116-120 of UNCLOS establishes specific provisions regarding the duty of States to adopt measures for the conservation and management of the living resources of the high seas. In addition, according to Article 87 of UNCLOS, the freedoms of the high seas, that is to say, the freedom of navigation; the freedom of overflight; the freedom to lay submarine cables and pipelines; the freedom to construct artificial islands and other installations; the freedom of fishing; and the freedom of scientific research, shall be exercised by all States with due regard for the interests of other States in their exercise of the freedoms of the high seas, and also with due regard for the rights under UNCLOS with respect to activities in the Area. See Section 2, Chapter 3.

[166] CFPA, Art. 3.

[167] William Burke, 'Unregulated High Seas Fishing and Ocean Governance', in Van Dyke et al. (eds.), *Freedom for the Seas*, supra, note 97, pp. 235-272, at 247.

"one further obstacle remains to any unilateral regulation of adjacent high-seas fisheries [that] must be noted: there is no basis in any source of law that would permit unilateral enforcement of exclusively prescribed management measures beyond an EEZ"[168]. Given its *sui generis* juridical nature, the EEZ could have been an area of the high seas in which certain rights were accorded to the coastal State by way of exception to the fundamental principle of the freedom of the high seas, but in fact, quite a different pattern is followed in Part V of UNCLOS in which the EEZ area, no longer regarded as part of the high seas, is subject to the specific legal regime established in that Part[169].

2.3.4 The doctrine of abuse of rights

Burke has suggested that a possible legal basis for extending coastal State jurisdiction beyond 200 miles may be found in the doctrine of abuse of rights, a general principle of the international law of torts[170]. Article 300 of UNCLOS (Good Faith and Abuse of Rights) provides that States Parties shall fulfil in good faith the obligations assumed under that Convention and exercize the rights, jurisdiction and freedoms recognized in the Convention in a manner that would not constitute an abuse of right. Thus, the way was open to Canada to allege that the Coastal Fisheries Protection Act was a response to the actions of Spain, one of the EC member States, regarding fish stocks off Canada's fisheries zone that evidenced a lack of good faith. However, at the time of the adoption of the Act, UNCLOS was not yet in force and the same author accepts that there is room for dispute about whether the doctrine of abuse of rights is a recognized principle of customary international law[171].

On December 11, 1995, the Canadian government announced that the Coastal Fisheries Protection Act would be integrated into a new fisheries act. The Bill C-29, relating to enforcement of NAFO conservation and management measures outside the 200-mile zone, would be retained. Rather than being based on sovereign rights, Canada's claim is based on the perception of the special interests that coastal States have in the

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[168] William Burke, 'Fishing in the Bering Sea Donut: Straddling Stocks and the New International Law of Fisheries', *Ecology Law Quarterly*, 16, (1989), pp. 285-312, at 303.

[169] E. D. Brown, *The Law of the Sea*, (Aldershot, Dartmouth, 1994, Vol. I), pp. 218-219.

[170] Burke, *The New International Law*, supra, note 110, p. 142.

[171] Ibid.

exploitation and conservation of straddling fish stocks, resulting from the obligations contained in articles 63.2, 116, 56 and 87 of UNCLOS. It is unlikely that the extension of jurisdiction to the high seas would be recognized in international law absent subsequent amendment of UNCLOS or conclusion of a separate treaty. The 1995 SSA in Article 23 contains provisions affirming that port States have the right and the duty to adopt regulations, in accordance with international law, to promote the effectiveness of subregional, regional and global management and management measures[172]. However, according to the Agreement (Art. 20), in the case of straddling and highly migratory fish stocks, such measures must be adopted by regional or subregional fishing organizations or arrangements and not taken unilaterally by coastal and port States[173].

2.3.5 A diplomatic strategy

Some authors have claimed that the extended fisheries jurisdiction was part of Canada's global diplomatic strategy of responding to the straddling stocks issue. In Keiver's opinion, the Canadian response to the straddling stocks issue involved a two-track strategy of multilateral negotiation and unilateral action: the first strategy, multilateral, consisting of the so-called "legal initiative" with the objective of fostering negotiations in the framework of the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks; the second strategy, to act unilaterally, resulted in the enactment of domestic legislation to allow unilateral enforcement action against non-NAFO member vessels and subsequently Spanish and Portuguese vessels[174]. Fauteux places the adoption of the Coastal Fisheries Protection Act amongst Canada's numerous efforts to break the international community's inertia in dealing with the over-exploitation of high seas living resources[175]. Coming from the same direction, Orrego maintains that coastal States' recent claims can be identified as an inducement to enter into new arrangements within which the relevant interests can be accommodated in a manner compatible with current environmental realities at a time when the role of

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[172] See Section 3, Chapter 6

[173] See Section 5, Chapter 4

[174] Michael Keiver, The Turbot War: Gunboat Diplomacy or Refinement of the Law of the Sea?', *Les Cahiers du Droit-Université Laval*, 37 (1996), pp. 543-587, at 546.

international law on this matter is changing and Chile's and Canada's actions therefore cannot be regarded as a process of nationalization of the high seas[176]. States seek to maximise their interests by offering the same rights to others that they seek for themselves. However, as Michael Byers points out, through manipulating a negotiating process by first denying reciprocity, States can cause others to change position and thus can develop, maintain or change customary rules, or use the customary process to further their positions in the negotiation of treaties[177].

2.4 The 'Estai' Case

The Spanish-registered vessel 'Estai' was fishing on 9 March 1995 on the Grand Banks, some 245 n.m off the Canadian coast, that is to say, in international waters, outside Canada's exclusive economic/fisheries zone. After a Canadian patrol vessel fired shots across the bows of the Estai, the Canadian authorities boarded the vessel, arrested the captain, seized his vessel and towed it to St. John's, in Newfoundland, Canada. The vessel was retained until its owner deposited a caution of $500,000 and the master was released upon the payment of bail of $8,000.

2.4.1 The origin of the Canadian position

The origin of the Canadian position in this case lays in the insufficiencies of the international regime for fisheries on the high seas and, in particular, the international regime for straddling fish stocks[178] on the one hand and, on the other, the domestic fishing regulations laid down in the 1994 Coastal Fisheries Protection Act, which enabled Canadian Fisheries officials to board and arrest any non-NAFO member's fishing vessel. Thus, Canada justified its action as a necessary and inevitable response

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[175] Paul Fauteux, 'L'initiative juridique cannadienne sur la pêche en haute mer', *ACDI*, 1993, pp. 33-87, at 83-85.

[176] Orrego Vicuña, *The Changing International Law*, supra, note 81, pp. 116 and 118.

[177] Michael Byers, *Custom, Power and the Power of Rules*, supra, note 59, p. 101.

[178] Peter Davies, "The EC/Canadian Fisheries Dispute in the Northwest Atlantic", *ICLQ*, 44 (1995), pp. 927-939, at 928.

to over fishing and the Spanish Fishermen's disregard for the need to conserve fish stocks on the Grand Banks[179].

The day following the arrest, the European Commission sent a Note of Protest to the Canadian Government stating that: a) the violent arrest of the 'Estai' constituted an illegal act, and was totally unacceptable; b) the arrest of a vessel in international waters by a state other than the flag-state was an unjustifiable violation of both the NAFO Convention and customary international law; c) the Canadian action undermined all the efforts of the international community to achieve effective conservation through enhanced co-operation; d) it constituted an illegal act against the sovereignty of an EC's Member State, which had clearly endangered the lives of the crew and the safety of the 'Estai'; e) the immediate release of the vessel was demanded as well as the repair of the damage caused, the ending of harassment of vessels flying the flag of Community Members states, and the immediate repeal of the Canadian fisheries legislation[180].

On 16 March 1995, the European Parliament adopted Resolution B4-022 condemning the Canadian Government as the perpetrator of an illegal act in international waters, and urged the European Commission and the Council to maintain a firm attitude in defence of the principles of the Law of the Sea and of the rights of the EC fishing fleet, and to take legal action against Canada. Canada refused to negotiate within NAFO, stated that it would accept only bilateral negotiations with the European Community and reserved the right to take any action that may be deemed appropriate. Maintaining its proceedings against the 'Estai' and its master, the Canadian Government rejected the EC's Note, reiterated its unilateral prohibition of fishing until the end of the year, justified the legality of its fishing regulations and threatened the EC with the continuing harassment of vessels flying the flag of its Member States. Indeed, on 26 March, Canada's patrol vessels harassed several Spanish trawlers on the high seas, cut the fishing gear of the vessel "Pescamar-Uno", and tried to arrest the vessels "Verdel" and "Magic-IV".

[179] Keiver, 'The Turbot War', supra, note 174, p. 547.

[180] Demanda de España contra Canada ante la Corte Internacional de Justicia (Application of Spain against Canada before the International Court of Justice), Información y Documentación, *Revista Española de Derecho Internacional* (Spanish Review of International Law), 47 (1995), pp. 287-309.

Nevertheless, even following these developments, the EC Council was unable to adopt a firm condemnation of Canada because the United Kingdom vetoed it[181].

2.4.2 Spain's Application to the ICJ

On 28 May 1995, Spain brought a case against Canada in the International Court of Justice. While expressly reserving the right to modify and extend the terms of its Application, as well as the grounds invoked and the right to request the appropriate provisional measures, the Kingdom of Spain asked the ICJ to declare that:

> a) the legislation of Canada, in so far as it claimed to exercise jurisdiction over ships flying a foreign flag on the high seas, outside the exclusive economic zone of Canada, was not opposable to the Kingdom of Spain; b) Canada was bound to refrain from any repetition of the reported acts, and to offer to the Kingdom of Spain the reparation that was due, in the form of an indemnity the amount of which must cover all the damages and injuries occasioned; and c) the boarding on the high seas, on 9 March 1995, of the ship 'Estai' flying the flag of Spain, and the measures of coercion and the exercise of jurisdiction over that ship and over its captain, constituted a concrete violation of the aforementioned principles and norms of international law[182].

The Application of Spain to the World Court stated that the dispute between the Kingdom of Spain and Canada, going beyond the legal framework of fishing, seriously affected the basic principle of the freedom of the high seas and, moreover, represented a very serious infringement of the sovereign rights of Spain. In addition, Spain alleged that Canada had violated principles and norms of international law as follows:

> a) the exclusive jurisdiction of the flag-State on the high seas over vessels flying its flag, a principle adopted in article 6.1 of the 1958 Geneva Convention on the High Seas; b) the freedom of navigation on the high seas (art. 2, 1958 Geneva Convention on the High Seas and arts. 87 and 90 of UNCLOS); c) the freedom of fishing on the high seas; d) the prohibition on subjecting any part of the high seas to the sovereignty of any state; e) the illegality of extending the right of hot pursuit; f) the prohibition of imprisonment for violation of fisheries provisions, in the absence of agreement to the contrary among the States concerned; g) the

[181] José Antonio De Yturriaga, *The International Regime of Fisheries. From UNCLOS to the Presential Sea*, (The Hague, Martinus Nijhoff Publishers, 1997), pp. 243-244.

[182] ICJ, Communiqué No. 95/8, 29 March 1995.

obligation on States to co-operate on the conservation of the living resources of the high seas; h) the prohibition on use of threats, or armed force in international relations; i) the obligation to settle disputes by peaceful means, and not to endanger peace, security and justice; j) the non-acceptance of resort to domestic legislation to justify the violation of international obligations; and k) the principle of good faith in respect of international law[183].

2.4.3 The Agreement EU-Canada

On 16 April 1995, the European Community and Canada reached agreement on the adoption of proposals amending the NAFO conservation and management measures. This Agreement considerably develops measures relating to the inspection of vessels, the transmission of information from inspections and catch reporting, increasing the inspection presence, a hail system and mesh size. Further, it implements a pilot project for observers and satellite tracking and sets up a special class of major infringements which includes refusal to co-operate with an inspector or an observer who misreports catches and mesh and hail system violations and interference with the satellite tracking system. In addition, in the light of their mutual interest in conservation, both parties reaffirmed their commitment to a total allowable catch of 27,000 tonnes for Greenland halibut for 1995 in NAFO sub-areas 2 and 3, and agreed to introduce management arrangements for quotas for Greenland halibut[184].

Although in the minutes no allusion is made to specific international legal instruments, the Agreement is relevant to the protection and conservation of marine biodiversity. On the other hand, the Agreement evidenced the increasing awareness in the international context of the need to implement conservation measures for fisheries. According to Freestone, this settlement of the dispute over the 'Estai' brought some comfort to both sides: first, the EU maintained its formal position that the arrest outside 200 miles was illegal; secondly, Canada agreed to repeal its 1995 provision which permitted prosecution of Spanish and Portuguese vessels in international waters[185].

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[183] 'Agreed Minute on the Conservation and Management of Fish Stocks'. Reproduced in (1995) 34 ILM 1260.

[184] Demanda de España contra Canadá, supra, note 180, pp. 293-296.

[185] David Freestone, 'The EU/Canada Fishery Agreement', *EELR*, (1995), pp. 270-272.

Following this Agreement reached with the European Union, Canada in its response to the Spanish application, on 21 April 1995, objected to the ICJ's jurisdiction in the case, pleading that the Court lacked jurisdiction because of Canada's declaration of 10 May 1994 whereby it had excluded from the Court's competence "those disputes arising out of or concerning conservation and management measures taken by Canada with respect to vessels fishing in the NAFO Regulatory Area and the enforcement of such measures, according to article 19 of Canada's Coastal Fisheries Protection Act"[186].

2.4.4 The decision of the ICJ

The ICJ admitted the Spanish application and, taking into account Canada's refusal to accept the jurisdiction of the Court, decided that the question of the jurisdiction of the Court to entertain the dispute had to be separately determined before any proceedings on the merits could be instituted. It fixed time-limits for the pleadings on this subject and reserved the subsequent procedure for further decision[187]. It would have been extremely convenient if the World Court adjudicated on the legality or illegality of the controversial provisions of the Coastal Fisheries Protection Act, giving an objective and informed view on the issue[188]. As Sullivan has said, it is unlikely that Canada's direct enforcement actions against the Estai would survive scrutiny by the International Court of Justice or any other Tribunal[189]. To deal with disputes concerning fisheries in the future, the Judges of the International Tribunal on Law of the Sea at their second meeting in February, 1997, created a special standing Chamber on Fisheries Matters which will deal with any disputes which the parties agree to submit to the Tribunal concerning the conservation and management of marine living resources[190].

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[186] Yturriaga, *The International Regime*, supra, note 181, pp. 249-250.

[187] ICJ Reports, Order of 2 May 1995, Fisheries Jurisdiction Case, Spain v. Canada.

[188] Yturriaga, *The International Regime*, supra, note 181, p. 257.

[189] Sullivan, supra, note 152, p. 248.

[190] International Tribunal on the Law of the Sea, Press Release 5, 3 March, 1997, issued by the Registry. Document in electronic form available on http://www.un.org/Depts/los/ITLOS/ITLOShome.htm on 12/11/00

The Canadian action has been both justified and deplored depending on the view taken by the commentator concerning interpretation of Articles 116-119 of UNCLOS. In December 1998, the International Court of Justice declared that it had no jurisdiction to adjudicate upon the dispute on the basis that the dispute between Spain and Canada was a dispute "arising out of" and "concerning conservation and management measures taken by Canada with respect to vessels fishing in the NAFO Regulatory Area" and "the enforcement of such measures"[191]. The Court declared that the dispute came within the terms of the reservation contained in Canada's Declaration of 10 May 1994 in which Canada stated that the Court had compulsory jurisdiction over disputes other than disputes arising out of or concerning conservation and management measures taken by Canada with respect to vessels fishing in the NAFO Regulatory Area and the enforcement of such measures[192]. Although the ICJ declared that it had no jurisdiction in this case, in stressing conservation and management measures rather than sovereignty issues, the decision can be seen as an impetus to the development of the international law of fisheries[193].

Keiver has suggested that in regard to the arrest of the 'Estai', the Canadian government might seek to rely on the alternative defence of necessity as legal justification for its unilateral action regarding the conservation measures[194]. However, as Miles and Burke have pertinently pointed out, nothing in the 1982 UNCLOS or in customary law authorizes one high seas fishing State to take action on the high seas to enforce a conservation obligation owed to it by another state[195]. In the end, the Canada-EU turbot

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[191] ICJ, Press Communiqué 98/41 of 4 December 1998, Case Concerning Fisheries Jurisdiction (Spain v. Canada).

[192] ICJ, Fisheries Jurisdiction (Spain v. Canada). Jurisdiction of the Court, 4 December 1998, General List No. 96. Document in electronic form as available on 10/05/00 on http://www.icj-cij.org/

[193] In his dissenting opinion, Judge Christopher Gregory Weeramantry strongly advocated that "upon the interpretation of the reservations clause which is indicated above, the Court is not in a position to reject the Spanish Application *in limine* on the basis of manifest lack of jurisdiction. There may well be no jurisdiction, and there may just as well be jurisdiction. The issue can only be determined once it is known whether the facts bring the case within the general submission to jurisdiction, or within the reservations clause. Until these are known, the Court is not entitled to reject Spain's Application". See Dissenting Opinion of Vice-President Weeramantry, ICJ, Fisheries Jurisdiction (Spain v. Canada). Jurisdiction of the Court, 4 December 1998, General List No. 96, document in electronic form as available on 10 May, 2000 on http://www.icj-cij.org/

[194] Keiver, supra, note 174, p. 564.

[195] Miles and Burke, supra, note 106, pp. 351-352.

dispute did help Canada to achieve two of its fisheries policy goals. First, the development of an effective system of surveillance, control and enforcement in the NAFO Regulatory Area[196]. Secondly, the establishment of effective international rules and mechanisms for conservation and management of straddling fish stocks in the high seas areas, which were mostly materialized in the FAO Compliance Agreement and, in particular, in the 1995 SSA[197]. Thus, the politically-charged "Turbot War" between Canada and the European Community served as a diplomatic catalyst for production of a positive legal outcome[198].

2.5 The scientific consensus

The consequences of the misuse of science with resultant detriment to the living world have severely affected society and the environmental movement. But science has the power to reveal much information about the structure and processes of nature. These effects of science upon society explain the importance of analysing the organization and undertaking of environmental-related scientific processes[199]. The need for new techniques for monitoring environmental change has fostered the formation of new linkages and relationships among scientific associations, national governments and international organizations[200]. Agreement among scientists and science organizations on the scientific aspects of an environmental issue is crucial to the formation of a new international regime and affirm the implementation of international conventions.

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[196] Freestone, supra, note 185, p. 271.

[197] Yann-Huei Song, 'The Canada-European Union Turbot Dispute in the Northwest Atlantic: An Application of the Incident Approach', *ODIL*, 28 (1997), pp. 269-311, at 297.

[198] Christopher Joyner and Alejandro Alvarez, 'The 1995 Turbot War: Lessons for the Law of the Sea' *IJMCL*, 11 (1996), pp. 425-458, at 456.

[199] Science certainly has a solid contribution to make to understanding, preventing and solving environmental problems, irrespective of the normative character of environmental problems. Peter Sloep and Maria van Dam-Mieras, 'Science on Environmental Problems', in Pieter Glasbergen and Andrew Blowers (eds.), *Environmental Policy in an International Context. Perspectives*, (London, Arnold, 1995), at 58. However, environmental problems do not present themselves solely in terms of pure and self-evident physical facts; they need to be understood in social terms, Angela Liberatore, 'The Social Construction of Environmental Problems', Ibid, at 59.

[200] Timothy O'Riordan, 'Environmental Science on the Move', in Timothy O'Riordan (ed.), *Environmental Science for Environmental Management*, (London, Longman, 1996), p. 10.

In response to the increasing number of international environmental agreements that have been concluded since the beginning of the 1970s, several analysts have highlighted the importance of the role played by transnational scientific and technical groups in international environmental issues[201]. Most environmental issues have first been discussed primarily in scientific conferences, at the international or regional level, before becoming the subject of formalized international treaties and conventions arrived at through negotiation. Many of the recommendations on science for Agenda 21, for instance, are based on the Agenda of Science for Environment and Development into the 21st Century (ASCEND 21), an international conference held by the International Council for Science (ICSU)[202] in Vienna in November 1991. In addition, regarding science for sustainable development, UNCED collaborated with a number of UN and related agencies including UNESCO, the UN Centre for Science and Technology, FAO, UNEP and the World Bank[203].

Given that scientific analyses have been developed to explain environmental politics, they have contributed much to the emergence of a fisheries regime on the high seas[204]. There are some notable features that distinguish the scientific approach from that of neorealists and neoliberal institutionalists. As a contrast to neorealist theory, which stresses the difficulties in securing international co-operation, the scientific approach addresses some factors that might explain why international co-operation has sometimes been easier to achieve than realists would expect. It is also useful in identifying why

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[201] Paul Johnston, Dave Santillo, Ruth Stringer, Julie Ashton et al., *Greenpeace Report on the World's Ocean*, Greenpeace Research Laboratories Report, May 1998, University of Exeter, U.K; William J. Broad, *The Universe Below: Discovering the Secrets of the Deep Sea*, (New York, Simon and Schuster, 1997) and A. Couper, *The Times Atlas of the Oceans*, (New York, Van Nostrand Reinhold, 1983).

[202] ICSU is a non-governmental organization, founded in 1931 to bring together natural scientists in international scientific endeavour. It comprises 98 multi-disciplinary National Scientific Members (scientific research councils or science academies) and 26 international, single-discipline Scientific Unions to provide a wide spectrum of scientific expertise enabling members to address major international, interdisciplinary issues which none could handle alone. ICSU also has 28 Scientific Associates. Information available on http://www.icsu.org on 10 May, 2000.

[203] Pamela Chasek, 'The Negotiating System of Environment and Development', in B. I. Spector, Gunnar Sjostedt and I. William Zartman (eds.), *Negotiating International Regimes: Lessons Learned from the United Nations Conference on Environment and Development*, (London, Graham, Trotman and Martinus Nijhoff, 1994), pp. 21-41, at 33.

[204] Sigmund Engesaeter, 'Scientific Input to International Fishery Agreements', *International Challenges*, 13 (1993), 85-106; Anne Platt McGinn, *Safeguarding the Health of Oceans*, (Washington D.C., Worldwatch Institute, Paper 145, 1999) and Anne Platt McGinn, 'Charting a New Course for Oceans' in *State of the World 1999*, a Worldwatch Institute Report on Progress Toward a Sustainable Society, (New York, Norton and Company, 1999).

neorealists and neoliberal institutionalists over-emphasise the unity and dominance of states as actors notwithstanding the fact that international co-operation has strong international links and operates both within the state and outside it, in universities and in non-governmental organizations and inter-governmental organizations as well as States.

2.5.1 Role of epistemic communities in promoting consensus

According to neoliberal institutionalist models, co-operation is generated simply by abstracted States. Neoliberal institutionalists suggest that interdependence between states in a particular area often, but not always, makes state strategies to secure co-operation viable, but they still assume an international structure largely defined by anarchy[205]. By contrast, according to epistemic community models, co-operation is generated by specifically identified agents, which leaves some actors greater freedom of action in propagating co-operation. 'Epistemic community' models, developed in particular by Peter Haas, are the most recent and currently prevalent way of theorising scientific co-operation and scientific consensus in international environmental issues.

An epistemic community has been defined as "a network of individuals or groups with an authoritative claim to policy-relevant knowledge within their domain of expertise"[206]. They adhere to the following: 1) shared values and principled beliefs; 2) shared causal beliefs or professional judgement; 3) common notions of validity based on inter subjective internally defined criteria for validating knowledge; and 4) a common policy project[207]. This definition leaves open the nature of professional knowledge. Knowledge is defined as the sum of technical information and of theories about that information which commands sufficient consensus at a given time among interested actors to serve as a guide to development of public policy designed to achieve some social goal. Knowledge incorporates scientific notions relating to the social goal. These

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[205] James E. Dougherty and Robert Pfaltzgraff, *Contending Theories of International Relations: a Comprehensive Survey*, (New York, Longman, 1997), p. 59.

[206] Peter Haas, 'Words Can Hurt You: or, Who Said What to Whom About Regimes', *IO*, 36 (1982), pp. 207-243.

[207] Ibid.

communities are themselves politically motivated and goal-seeking. The knowledge they generate tends to lead them to share common beliefs about a particular problem[208].

Thus, the knowledge generated and controlled by epistemic communities becomes politically important and influential when the consensus among the epistemic community is sufficient to be convincing to the external political community. But this is not always the case. Much of the environmental legislation and many of the international agreements enacted in the 1980's preceded the surge in public interest in industrialised countries concerning environmental issues. When epistemic communities are involved in international environmental negotiations, they have encouraged behaviour that is different from previous patterns of collective action. Having stable access to decision-makers and keeping opponents cornered, epistemic communities can influence adoption of international arrangements that will develop and will endure.

Based on these assumptions about information searching and common interests of members of an epistemic community, Peter Haas has suggested ten propositions that may improve such processes and their applications. These ten propositions are:

> 1) crises precipitate searches for new authoritative sources of policy advice; 2) epistemic communities, once identified and mobilised, may be both potent actors and provide the appropriate level of analysis for understanding international environmental co-operation; 3) rough technical consensus established within the community will be its principal claim to authority; 4) access to international and domestic authorities will contribute to influence policy formulation and enforcement; 5) scientific advice is most effective when provided through domestic channels; 6) consolidated bureaucratic power reinforces this influence at both the international and the national levels; 7) expanded domestic support reinforces bureaucratic consolidation; 8) the manner in which matters are sequenced can play an important role in the negotiations; 9) not all environmental problems require standards and regulation; some cases may be best managed through insurance funds; 10) this process of co-operation is reversible. If the knowledge base of the epistemic community collapses, then the epistemic community's reputation for a monopoly on uncertainty reduction will be vulnerable[209].

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[208] Peter Haas, 'Why Collaborate? Issue-Linkage and International Regimes', *World Politics*, 32, (1980), pp. 357-405, at 367-368.

[209] Peter Haas, 'Obtaining International Environmental Protection Through Epistemic Consensus', Millennium Journal of International Studies, 19 (1990), pp. 348-359, at 352-354.

2.5.2 Events preceding consensus at UNCED

The efforts to advance the translation of scientific information, discovery and analysis into programmes to mitigate environmental pressures at the global level were adopted as institutional arrangements by the 1972 United Nations Conference on the Human Environment in Stockholm[210]. Thus, the United Nations Environment Programme (UNEP), was created to promote contributions by relevant international scientific and other professional communities to the acquisition, assessment, and exchange of environmental knowledge and information and, as appropriate, to develop the technical aspects of the United Nations systems programmes[211]. Four tasks were defined during the conference, as follows:

> 1) *research*, to create new knowledge of the type specifically needed to provide guidance in the making of decisions; 2) *monitoring*, to gather certain data on specific environmental variables and to evaluate such data in order to determine and predict important environment conditions and trends; 3) *information exchange*, to disseminate knowledge within the scientific and technological communities and to ensure that decision-makers at all levels shall have the benefit of the best knowledge that can be made available in the forms and at the times in which it can be useful; and, 4) *evaluation and review*, to provide the basis for identification of the knowledge needed and to determine that the necessary steps be taken[212].

UNEP has developed a 'slippery slope' strategy, in particular in several regional marine agreements[213]. This involves initially committing states to broad arrangements with few obligations, but subsequently developing more effective and restrictive protocols achievement of which would have been politically unrealistic at the outset. At the same time, UNEP has helped to build support for subsequent conventions through the

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[210] See *Report of the United Nations Conference on the Human Environment (UNCHE)*, Stockholm, 5-16 June 1972 (New York, 1973), UN Doc. A/CONF. 48/14 Rev. 1. For a good account of the Conference, see Caldwell, *International Environmental Policy*, supra, note 76, in particular Chapters 2 and 3.

[211] See Philippe Sands, *Principles of International Environmental Law. Frameworks, Standards and Implementation,* Vol. I, (Manchester and New York, Manchester University Press, 1995), pp. 35-39.

[212] UNGA Res. 2997 (XXVII), 15 Dec. 1972.

[213] See Patricia Birnie and Alan Boyle, *International Law and the Environment,* (Oxford, Oxford University Press, 1992), pp. 309-320. See also Sands, *Principles*, supra, note 211, pp. 296-308.

judicious use of its financial resources in support of environmental monitoring programs and contributions by scientific and technical experts[214].

An epistemic community, as a group of individuals, exists over fisheries on the high seas which has been able to gain an authorized position in policy-making fields in the major states involved, and on the other hand, to influence the adoption of international arrangements, both binding and non binding. This epistemic community is scattered throughout several agencies. Some of the regional fisheries commissions rely on scientific advisory committees, which has had the effect of encouraging member governments to promote national science. However, governments respond unevenly[215]. Fisheries Commissions have organized their sources of scientific advice in different ways. Some employ in-house scientists (ICCAT); other use outside bodies (ICES, NAFO, NEAF, EC); and some (IWC) have a scientific committee composed of scientists from delegations of States. The epistemic character of a community of scientist concerning a specific environmental issue refers not to an international body or agency but to the branch of modal logic that deals with the formalization of epistemological concepts such as knowledge, certainty, precaution and ignorance. The scientific expertise of this epistemic community on fisheries on the high seas, through its main agencies ICES, PICES and FAO, in particular regarding the crisis of fisheries management[216], strongly influenced Agenda 21 and the adoption of the 1995 SSA.

The International Council for the Exploration of the Seas (ICES) is a collaborative body drawing scientists from the states bordering the Northern Seas which began co-ordinating studies of fisheries in 1902. The role of ICES is crucial in the North Atlantic Sea and the Baltic Sea for technical advice and the promotion of joint science. The ICES annual report covers the status of each of 124 species and provides advice on harvest amounts, gear, and effort control within a multispecies or ecosystem context. The advice of ICES is used by national governments for setting a total allowable catch for stocks within national jurisdiction, and by the states engaged in harvesting shared stocks, pursuant to conventions[217]. The biological advice given by ICES has

[214] Haas, supra, note 209, p. 353.

[215] See Peterson, supra, note 12, p. 273.

[216] See Chapter 1, Section 1.

[217] ICES is officially recognized as the advisory body pursuant to the 1980 Convention on Future Multilateral Cooperation in the Northeast Atlantic Fisheries and has influenced the early development of

traditionally been related either to the amount of fish that can be taken or the gear that should be used as well as the socio-economic aspects[218].

A parallel organization was established in 1990 in the framework of the 1992 Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean[219], adopted by Canada, Japan, the Russian Federation and the USA, and entered into force the 21 February 1993. The North Pacific Marine Science Organization, PICES or 'Pacific ICES', provides assistance and scientific information to the North Pacific Anadromous Fish Commission, established under the provisions of Article VIII of the Convention. PICES, however, has no explicit role under the Convention. The scientific expertise of PICES provides the Commission with assessment research and allowable catches of the stocks, and data from States not members of the North Pacific Anadromous Fish Commission NPAFC. It also provides data to the statistical yearbook[220].

2.5.3 The role of FAO

With regard to fisheries, the role of the FAO is derived from its Constitution. Article 1.2 requires this organization to promote and recommend national and international action with respect to the conservation of natural resources and the adoption of improved methods of agricultural production. With regard to fisheries, the competence of FAO derives from Article XVI, which includes fisheries and marine products in the concept of 'agriculture'. Article IV authorizes FAO, by a two-thirds majority, to submit conventions on fisheries subjects to its members. Further, FAO has established a Committee on Fisheries (COFI) and various committees of fisheries experts, appointed by the Director General to advise him.

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the whaling conventions, as well as the 1972 Oslo Convention on Dumping (Annex IV, No. 3). See Jorgen Wettestad, 'Science, Politics, and Institutional Design: the Case of the North East Atlantic Land-based Pollution Regime', 18 *Marine Policy* (1994), pp. 219-238, at 223. For general information about the International Council for the Exploration of the Seas (ICES), see http://www.ices.org

[218] G. Senior, 'Fisheries in the Future: Sustainability or Extinction?', *Marine Policy*, 20 (1996), pp. 91-97.

[219] Handbook of the North Pacific Anadromous Fish Commission, Vancouver, Canada, 1997.

[220] NPAFC Annual Report 1996, Vancouver, Canada, 1997 at 36-37.

Despite the efforts of FAO, fisheries have continued to decline for several reasons: the inadequacies of scientific knowledge and management theory; advice given by scientists has not been followed; there has been no attempt to limit the number of vessels having access; and finally, because of the lack of fully international inspection and enforcement[221]. Notwithstanding the serious limitations in the information available, FAO reviews, every two years, the state of the world's fisheries in an authoritative report. The FAO analyses with respect to scientific and economic aspects have been influential during the negotiations leading to the adoption of almost all the international legal instruments concerning fisheries.

In addition, FAO has promoted the adoption of various international legal instruments which include the 1994 FAO Compliance Agreement[222], the 1995 Code of Conduct for Responsible Fisheries[223] as well as other international instruments relevant for fisheries on the high seas[224]. During the negotiations for the adoption of the 1995 SSA, the authoritative participation of FAO has been very useful in highlighting problems of excess fishing capacity on the high seas[225].

The global scientific consensus with regard to the sustainable use and conservation of marine living resources of the high seas was manifested in Chapter 17 of Agenda 21, which acknowledged over-utilisation of resources and the inadequacy of the management of high seas fisheries, including the adoption, monitoring and enforcement of effective conservation measures. The problems were identified by Agenda 21 as unregulated fishing, overcapitalisation, excessive fleet size, vessel reflagging to escape controls, insufficiently selective gear, unreliable databases and lack of sufficient co-

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[221] Birnie and Boyle, supra, note 211, pp. 501-502.

[222] FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas. Text reproduced in 33 ILM 968 (1994).

[223] FAO, Code of Conduct for Responsible Fisheries, Rome, 1995.

[224] Ellen Hey, 'Global Fisheries Regulation in the First Half of the 1990's', *IJMCL*, 11 (1996), pp. 459-490.

[225] David Doulman, *Structure and Process of the 1993-1995 United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks*, FAO Fisheries Circular No. 898, Rome, December 1995. See also S. H. Marashi, *Summary Information on the Role of International Fishery and Other Bodies with regard to the Conservation and Management of Living Resources of the High Seas*, FAO Fisheries Circular No. 908, Rome, 1996 and Report of the Twenty-First Session of the Committee on Fisheries, FAO Fisheries Report No. 524, Rome, 1995.

operation between states particularly for straddling and highly migratory fish stocks. Such co-operation should address scientific knowledge regarding inadequacies in fishing practices, biological information, fisheries statistics, improvement of systems for handling data, multi-species management, relationships among species, especially depleted species, and the identification of the potential of under-utilised or unutilised populations[226].

Based on this scientific consensus, UNCED recommended the states to convene, as soon as possible, an intergovernmental conference under United Nations auspices, for the effective implementation of the provisions of the United Nations Convention on Law of the Sea on Straddling Fish Stocks and Highly Migratory Fish Species[227].

2.6 Diplomatic consensus: coastal and fishing States

Persuasion and reconciliation of conflicting interests is the substantive matter of diplomacy. The continuing expansion of the international community has imposed diverse demands on the contemporary diplomacy[228]. Alterations in major political groupings and ongoing efforts by regional and global negotiating mechanisms to maintain minimum levels of international order are the main changes affecting the conduct of diplomacy at the end of the twentieth century[229]. Regarding international conferences, a distinction is accepted between *unanimity*, which requires a positive approval of all parties and, on the other hand, *consensus*, which requires the absence of substantive objection. Consensus is the most frequently used decision rule in international politics. Two major factors, that can positively influence the construction of the new regime, drove states to achieve diplomatic consensus in order to conclude a multilateral agreement aimed at the coordination and regulation of fishing activities in

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[226] Agenda 21, Chapter 17, 45.

[227] Agenda 21, Chapter 17.49.e.

[228] Nigel Howard, 'Negotiation as Drama: How "Games" Become Dramatic', *International Negotiation*, 1 (1996), pp. 125-152.

[229] L. Bjorkbom, 'Resolution of Environmental Problems: the Use of Diplomacy', in John Carroll (Ed.), *International Environmental Diplomacy*, (Cambridge, Cambridge University Press, 1988), p. 107.

the global commons: *i)* pressures and measures for collective regulation of fisheries arising from developing and developed countries alike; *ii)* the growing and well-founded awareness of the extent of fisheries resource depletion in common areas.

Regarding environmental diplomacy, the agenda formation involves several stages by which an international issue becomes recognized or emerges onto the political arena; is framed for study and debate by the relevant policy communities, including epistemic communities; and consolidates on the international political agenda in order to start negotiations and decision-making processes. Without rigorous scientific assessment, global issues such as depletion of high seas fisheries may emerge only slowly. This is why scientific consensus and epistemic communities sharing understanding of the problem and policy responses have proved especially influent in environmental diplomacy.

2.6.1 Framework of environmental diplomacy

After the first major post-war high-level global conference to discuss environmental questions held in Stockholm in 1972, environmental diplomacy has involved an increasingly wide range of actors, including States, new intergovernmental organizations, the United Nations, international institutions, secretariats, elected conference officials and non-governmental organizations. They are the elements in the process of negotiating regimes. The relationships between these elements include: co-ordination, implementation, interdependence and delegation of responsibilities[230].

A central aspect of environmental diplomacy is that nature is challenging the definition of sovereignty and defying the conventional boundaries established by states[231]. The Chernobyl accident clearly illustrated how the physical environment is now integrated with human technology on a global scale. The growing attention to planetary ecological problems is beginning to pose a serious problem for the traditional theory of sovereignty. As Camilleri and Falk point out, the principle of sovereignty is an

[230] Chasek, supra, note 203, p. 42.

[231] John Carroll, 'Introduction' to John Carroll (ed.), supra, note 229, p. 3.

impediment to actions designed to ameliorate critical ecological dilemmas[232]. Furthermore, according to the same authors, sovereignty is itself a major contributing cause of the environmental problems which confront humanity, for technologies of war and nuclear technologies attain and could attain high levels of destructiveness not just for States but for the biosystem of the earth itself[233].

Like climate change, the diplomatic question of straddling and highly migratory fish stocks is one of a number of important environmental issues that clearly illustrate the interests at stake of a wide range of states and groups of States, and the necessity for managing and conserving the global commons. The implications for sovereignty of the issues of straddling and highly migratory fish stocks have appeared on the international political agenda since the late 1980s as a result of the increasing pressures on the exploitation of straddling and highly migratory fish stocks, and the appearance of a number of conflicts between coastal and DWFNs[234].

2.6.2 The Canadian 'legal initiative'

In 1990, Canada launched its so-called 'legal initiative'[235] and convened the International Conference on the Conservation and Management of the Living Resources of the High Seas which was held in St. John's, Newfoundland, Canada, from 5-7 September of that year[236]. This initiative involved consultations with 'like minded' States, the organization of subsequent conferences and the publication of scientific and legal articles. This Conference was attended by legal and scientific experts from 15

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[232] Joseph A. Camilleri and Jim Falk, *The End of Sovereignty?. The Politics of a Shrinking and Fragmenting World* (Aldershot, Edward Elgar Publishing, 1992), p. 179.

[233] Ibid.

[234] See Sections 1 and 3 of this Chapter.

[235] On diplomatic efforts of Canada regarding SFS, see Section 3 of this Chapter.

[236] Because of the grave situation facing Newfoundland fishermen in the Northwest Atlantic, Canada began to raise the question of conservation and management of high seas fisheries in the United Nations in 1990, when it started to prepare for UNCED. Moritaka Hayashi, 'The Role of the United Nations in Managing the World's Fisheries', in Blake et al., *The Peaceful Management*, supra note 101, pp. 373-393, p. 377.

countries (Argentina, Australia, Cape Verde, Chile, the Cook Islands, Iceland, Mauritius, Morocco, New Zealand, Peru, Senegal, the United States, Uruguay, and the former USSR). The subject of discussion was the problem of straddling stocks in connection with the Law of the Sea[237].

In this Conference, the experts agreed on four fundamental principles: 1) distant water fishing States should co-operate with coastal States; 2) members of regional fishing organizations have the duty to ensure their vessels respect conservation measures and do not "reflag"; 3) distant water fishing states should ensure that their fishing activities do not endanger stocks within the coastal State's competence; and 4) the managing regime for straddling fish stocks on the high seas should be co-ordinated with measures adopted for stocks within the coastal states EEZs, the so-called the "consistency rule". This rule requires that in the case of straddling stocks, the management regime applied to the portion of the stock beyond 200 miles should be consistent with the management regime of the coastal State applicable to its 200-mile EEZ/EFZ. The two last principles (3 and 4) were not adopted unanimously because they raised the controversial issue of coastal State sovereignty over the management of fish stocks within the EEZ[238].

2.6.3 The 'Santiago Text'

The next conference, convened by the United Nations, was held in May 1991, in Santiago, Chile. The Delegates to this conference adopted "the Santiago Text" on the basis of recommendations of experts from Canada, Chile and New Zealand, taking into account the conclusions of the St. John's Conference. The Santiago Text emphasized three main issues: first, the coastal State's special interest; secondly, the co-ordination of conservation measures between the high seas fishing States and coastal States, and thirdly, protection from the negative impact on resources within the EEZ of high seas fishing activities[239].

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[237] "La Conference de St. John's recherche des solutions juridiques a la surpêche en haute mer", Gouvernement du Canada, Communiqué No. 188 du 4 Septembre 1990.

[238] Fauteux, supra, note 175, p. 55.

[239] Keiver, supra, note 174, p. 542.

The Santiago Text was re-examined and discussed again in Geneva, in September 1991 during the third session of the preparations (Prep-Com) for UNCED[240]. In this Prep-Com, the Santiago Text was entitled "Document L.16". However, before the third Prep-Com, the United Nations Office for Ocean Affairs and the Law of the Sea (UNOALOS) convened a Meeting of the Group of Technical Experts on High Seas Fisheries on 22-26 July 1991 with a view to drafting guidelines to assist states in improving the level of co-operation in the conservation and management of all such fisheries. The Group of Technical Experts suggested specific guidelines, which included the obligation to co-operate, which should be articulated more fully between States; the obligation to settle disputes in accordance with the provisions of UNCLOS and define the responsibilities of fisheries organizations concerned with high seas fisheries. It should be noted that the Guidelines did not, as did the St. John's Conference, confirm the "consistency rule"[241].

On 6-8 May 1992, in Cancun, Mexico, the International Conference on Responsible Fisheries adopted a Declaration calling upon States to resolve as soon as possible, the differences which still existed on the proposal made at the Prep-Com and to convene an intergovernmental conference on high seas fisheries, as a prelude to the United Nations Conference on Environment and Development[242]. In June 1992, UNCED concluded in Agenda 21, that:

> States should take effective action, including bilateral and multilateral co-operation, where appropriate at the sub regional, regional and global levels, to ensure that high seas fisheries are managed in accordance with the provisions of the United Nations Convention on the Law of the Sea. In particular, States should convene, as soon as possible an intergovernmental conference under United Nations auspices, taking into account relevant activities at the sub regional, regional and global levels, with a view to promoting effective implementation of the provisions of the United Nations Convention on the Law of the Sea on straddling fish stocks and highly migratory fish stocks. The conference, drawing, *inter alia*, on scientific and technical studies by FAO, should identify and assess existing problems related to the conservation and management of such fish stocks, and consider means of improving on fisheries among

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[240] Fauteux, supra, note 175, pp. 56-57.

[241] Kwiatkowska, 'The High Seas Fisheries', supra, note 131, p. 346.

[242] N. Bonucci, 'An International Code of Conduct for Responsible Fishing', *RECIEL*, 2 (1993), pp. 242-251.

> states, and formulate appropriate recommendations. The work and results of the conference should be fully consistent with the provisions of the United Nations Convention on the Law of the Sea, in particular, the rights and obligations of coastal states and states fishing on the high seas[243].

On 22 December 1992, in its 93rd meeting, the United Nations General Assembly adopted Resolution 47/192, establishing the Conference on Straddling Fish Stocks and Highly Migratory Fish Species. This Resolution reaffirmed in paragraph 2 that the conference should draw on scientific and technical studies of the Food and Agricultural Organization (FAO) to identify and assess existing problems related to the conservation and management of such fish stocks; consider means of improving fisheries co-operation among states and formulate, as soon as possible, appropriate recommendations[244].

Shortly before the Conference, strong but divided opinions existed regarding the objectives of the conference and negotiating blocs began to form. The 'like-minded states' at this time predominantly consisted of developing coastal states with artisanal fisheries that were concerned to ensure protection of migratory fish species and desired regulation of the activities of DWFNs (such as China, the EU, Japan, Korea and Poland) in their waters. All participants at this meeting endorsed the necessity for a legally-binding instrument to achieve these goals.

2.6.4 The FAO Technical Consultations

Since 1990, technical consultations have also been held within FAO itself. The most relevant to straddling stocks was the FAO Technical Consultation on High Seas Fishing held in Rome, in September 1992[245]. This Technical Consultation led to the adoption of the 1993 Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas[246]. Another conference was

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[243] Agenda 21, Ch. 17.49.

[244] UNGA Official Records, New York, A/RES/47/192, 93rd Plenary Meeting, 22 December 1992.

[245] See Levy, *Selected Documents*, supra, note 113, pp. 273-300.

[246] G. Moore, 'The Food and Agriculture Organization Compliance Agreement', *IJMCL*, 10 (1993), pp. 413-417.

convened by Mexico in consultation with FAO in Cancun. This conference adopted the Cancun Declaration, which eventually led to the adoption of the 1995 Code of Conduct for Responsible Fisheries[247]. Although the latter is not legally-binding, both instruments contain specific provisions and arrangements based on relevant rules of international law for the conservation and management of fisheries on the high seas and the Code has since been complemented and implemented by 8 sets of FAO Technical Guidelines for Responsible Fisheries[248].

2.6.5 The UN Conference on SFS in context

The United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Species was held at the United Nations headquarters in New York, in six sessions, which extended from April 1993 to August 1995. An initial technical consultation was held on 7-15 September under FAO auspices[249]. The FAO Technical Consultations provided important knowledge and data during the negotiations. The Conference was influenced by four groups of States. First, the extreme coastal States group of Chile, Colombia, Ecuador and Peru, in association with the activist coastal States: Canada, Argentina and Norway. This group of States embraced a combination of diverse interests extending predominantly from concerns related to straddling stocks and migratory species in and beyond the EEZ/EFZ. Secondly, the high seas fishing group consisting of Japan, Korea, Poland and China. Thirdly, the group of States with divided interests, such as United States of America, or more focused concerns, as in the case of the Russian Federation over the Bering Sea. Fourthly, the group of moderate reformist States represented mainly by Australia and New Zealand. In addition, a large number of

[247] Bonucci, supra, note 242, p. 249.

[248] FAO Technical Guidelines for Responsible Fisheries: No. 1, Fishing Operations (Vessel Monitoring System); No. 2, Precautionary Approach to Capture Fisheries and Species Introductions; No. 3, Integration of Fisheries into Coastal Area Management; No. 4, Fisheries Management; No. 5, Aquaculture Development; No. 6, Inland Fisheries; No. 7, Responsible Fish Utilization; and No. 8, Indicators for Sustainable Development of Marine Capture Fisheries. Information as available on 10/05/00 http://www.fao.org/fi/agreem/codecond/codecon.asp

[249] See Levy, *Selected Documents*, supra, note 113, pp. 300-371.

developing country coastal States can be identified. These were unorganised and their interests were represented almost exclusively by India and Indonesia[250].

Two main features can be drawn from the substantive phases of the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Species. First, the process of expanding negotiation and second, the role and the methods used by the Chairman of the Conference, Ambassador Satya Nandan from Fiji. In the process of negotiation as interactive problem solving device, four components can be described: identification and analysis of the problem; joint shaping of ideas for solution; influencing the other side; and the creation of a supportive political environment. In this framework, the ultimate goal of negotiation requires an agreement that addresses the fundamental needs and fears of both sets of parties on a basis of reciprocity[251]. Fisheries negotiations for multilateral agreements adapt to this diplomatic framework. A main feature of the Conference on Straddling Stocks is that most of its main sessions met in informal consultations involving the chair or hosted by leading diplomatic actors and were not subdivided on a collegiate basis into sub-working committees.

2.6.6 Progress at the Conference

The first (organizational) session of the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks was held at UN Headquarters in New York from 19-23 April 1993. The delegates adopted a list of issues, the agenda of the conference and the rules of procedure. The Conference agreed that all substantive issues would remain under the responsibility of the plenary and that no more than two simultaneous meetings, formal or informal, would be scheduled[252]. Ambassador Satya Nandan, Chairman of the Conference, was requested to prepare a paper containing a list

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[250] For the first four sessions of the Conference see David Doulman, 'Perspectives on the Management of High Seas Fisheries: the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks: a View from Rome', *Reviews in Fish Biology and Fisheries*, 5 (1995), pp. 103-119.

[251] Herbert C. Kelman, 'Negotiating as Interactive Problem Solving', *International Negotiation*, 1 (1996), p. 116.

[252] Doc. A/CONF.164/3 on Organization of Work, dated 22 April 1993, reproduced in Lévy et al. (eds.), *Selected Documents*, supra, note 113, pp.17-18.

of substantive subjects and issues to guide the Conference in order to speed the process given its urgency. Delegations were asked to submit their proposals to the Secretariat.

The second session was held in July 1993. Guided by the Chairman, the plenary addressed the major issues. The plenary held formal sessions on each of the issues outlined and then adjourned to allow informal consultations to continue. At each of these meetings the Chairman presented the group with a working paper that summarized the issues raised in the Plenary and in papers submitted by interested delegations[253]. In this substantive session, positions of the delegates to the Conference became clear regarding the three main issues. First, was a highly controversial issue, the management of fish stocks, which raised questions about the role of sovereignty. One group of states advanced the claim that fish stocks could and should be managed as one biological mass, in opposition to another group of States, which maintained support for the division of fish stocks along political and territorial boundaries. Some coastal States maintained that any allusion to the EEZ should be eliminated from the negotiating text[254]. This issue dominated the conference proceedings from the beginning to the end of negotiations. The like-minded leading group comprising Argentina, Canada, Chile, Iceland, Indonesia, New Zealand, Norway, Peru and other Latin American countries, sought to secure enhanced coastal State jurisdiction. Opposing that group were the DWFNs comprising the EU, China, Japan, Korea and Poland, which resisted the "creeping jurisdiction" of coastal States. Obviously, certain divisions existed in each of the principal groups of States. The South Pacific Forum Fisheries Agency was the only group acting with a unified voice[255].

The second major issue concerned flag state's responsibilities for its fishing vessels on the high seas, as well as those concerning vessels, ports and regional fisheries organizations of coastal states. A consensus document was approved under FAO auspices, which led to the adoption, on 24 November 1993, of the FAO Agreement to Promote Compliance with International Conservation and Management Measures by

[253] Earth Negotiations Bulletin, July 1993.

[254] Keiver, supra, note 174, at 557.

[255] Judith Swan, 'Implementation of the Law of the Sea Convention. Straddling and Highly Migratory Fish Stocks and High Seas Fishing', Paper Presented at the Thirty-First Annual Law of the Sea Institute Conference, University of Miami, 30-31 March 1998.

Fishing Vessels on the High Seas[256]. At this time, the FAO also started to draft the Code of Conduct for Responsible Fisheries.

The third issue discussed at the second substantive session of the Conference was the precautionary approach[257]. A group of States (EU, Japan and Korea) maintained that the precautionary approach, as outlined in the 1992 Rio Declaration applied only to pollution matters, not to fisheries management. Conversely, other delegations, which included Australia, Chile, Indonesia, Trinidad, Norway, New Zealand, Papua New Guinea, Iceland, Canada, the Solomon Islands and the United States argued that the precautionary approach contained in the Rio Declaration, applied in all fields of natural resources management[258].

During the third session in March 1994, the delegates continued discussions left unresolved at the end of the second session. Some coastal States proposed that unilateral measures could be adopted if agreement could not be reached regarding an acceptable regime to control fisheries on the high seas. Thus, the final outcome of the conference was uncertain given that all the issues were strongly contested. Many coastal States sought to ensure that recommendations would apply to straddling and highly migratory fish stocks found both within and beyond the EEZ[259].

At the close of the session, the Chairman, at the Conference request, tabled a revised negotiating text dated 23 November 1993[260]. The negotiating text covered the nature of conservation and management measures to be established through co-operation; mechanisms for co-operation; regional fisheries management organizations or arrangements; duties of the flag state; compliance and enforcement of high seas fisheries conservation and management measures; port states; non-parties to sub regional or regional organizations or arrangements; dispute settlement; compatibility

[256] FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, supra, note 222.

[257] The Precautionary Approach to Fisheries Management will be analysed in Chapter 3, Section 5.

[258] Earth Negotiations Bulletin, July 1993.

[259] Meltzer, supra, note 34, p. 327.

and coherence between national and international conservation measures for the same stock; special requirements of developing countries; review of the implementation of conservation and management measures; and two annexes, one regarding minimum data requirements for the conservation and management of stocks and the other on arbitration[261].

The revised negotiating text (RNT)[262] was discussed during the fourth session (August 1994) and consultations were carried out in "informal-informals" sessions. General comments were incorporated in the negotiating text. During the second week of discussions, the Chairman issued a Draft Agreement for the Implementation of the Provisions of the United Nations Convention on Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks ("The Draft Agreement"). Based on the comments received from delegations, the Draft Agreement consisted of 48 articles, thirteen parts and two annexes. It was considerably improved and included a number of proposals. First, in Part III, mechanisms for international co-operation concerning conservation and management of straddling stocks were provided. Secondly, in Part V, specific mechanisms of compliance and enforcement are outlined for conservation measures of stocks on the high seas. Thirdly, Part VIII endorsed the obligation to settle disputes peacefully and outlined related compulsory mechanisms[263]. The arrest by Canadian coast guards of the Spanish Fishing Vessel *"Estai"* on 9 March 1995 marked the fourth session of the Conference. This international incident emphasized the need for the adoption of a legally-binding agreement which included specific and improved mechanisms for the peaceful settlement of disputes[264].

In the fifth session (27 March to 12 April 1995), considerable disagreement on changes to the text of the revised Draft Agreement remained regarding two controversial issues: first, contentious issues concerning "areas of high seas forming an enclave surrounded

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[260] Document A/CONF.164/13, Negotiating Text Prepared by the Chairman of the Conference". This document was reissued by the Secretariat on 23 November 1993 as Document A/CONF. 164/13. Reproduced in Lévy et al. (eds.), *Selected Documents*, supra, note 113, pp. 73-81.

[261] Ibid, p. 73.

[262] Ibid.

[263] Doc. A/CONF.164/22, in Lévy et al. (eds.), *Selected Documents*, supra, note 113, p. 621.

[264] See Section 4 of this Chapter.

entirely by areas under the national jurisdiction of one state"[265]; secondly, "boarding and inspection by port states"[266] as one of the mechanisms of port State enforcement[267].

One inter-sessional meeting was held in Washington in June 1995, hosted by the American government. At this meeting, various coastal States and DWFNs discussed "the boarding and inspection issue" which was included under Article 21. Furthermore, one "pre-session" consultation meeting, attended by approximately twenty delegations, was held in New York at the UN Headquarters from 19 to 21 July 1995. The American delegation prepared a "non-paper", a document seeking a middle ground position, and the EU and Japan each presented an alternative text. Despite the two inter-sessional meetings, no agreement was reached concerning the final phrasing of the draft articles on boarding and inspection[268] and the precautionary approach[269].

In the sixth (final) session held at the UN Headquarters in New York from 24 July to 4 August 1995, the Chairman circulated a Revised Text of the Draft Agreement[270] aimed at harmonizing the text in all UN official languages. Following the delivering of general statements in an informal plenary, the Chair held a series of informal consultations concerning the two controversial issues, at which they were resolved. The informal consultations were thus successfully concluded and Ambassador Nandan was able to report to the Plenary that the Conference had just adopted an historic, far-sighted, far-reaching, bold and revolutionary instrument. The delegates then formally adopted the Draft Agreement and afforded Ambassador Nandan a standing ovation.

In his Chairman's statement on 4 August 1995, Ambassador Nandan outlined the link between the Agreement and the Convention on the Law of the Sea; the latter was reflected throughout the practical and realistic provisions of the former. According to

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[265] Doc. A/CONF.164/22, Art. 14. Reproduced in Lévy et al. (eds.), *Selected Documents*, supra, note 113, pp. 621-652.

[266] Ibid, Art. 21.

[267] See Section 3, Chapter 6

[268] See Chapter 6, Section 4. Chapter 6

[269] See Section 3.3.7, Chapter 3

[270] Doc. A/CONF.164/CPR.7 "Draft Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks", Reproduced in Lévy et al. (eds.), *Selected Documents*, supra, note 113.

the Chairman, the Agreement is built on three essential pillars. The first pillar sets out the principles on which conservation and management of the stocks must be based[271] and establishes that these are based on the precautionary approach[272] and the best available scientific information[273]. The second pillar ensures that the conservation and management measures are adhered to and complied with, and that they are not undermined by those who fish for the stocks. The third pillar is the provision for peaceful settlement of disputes. The Chairman concluded that the Agreement provides a framework that promotes good order in the oceans and establishes detailed minimum international standards for the conservation and management of straddling and highly migratory fish stocks[274].

The Conference on Straddling and Highly Migratory Fish Stocks had to break new ground in several areas as an exercise in regime building in order to cover the gaps left by UNCLOS[275]. The extensive range of interests involved underlined the complex nature of the Conference and the difficulties of reaching agreement: coastal "reformist" States, DWFNs, developing coastal States, flag States (registering countries), flag States (State of Registration), newly industrialized import or transit States, intergovernmental fisheries organizations, FAO, a variety of NGO's and the debate on coastal State sovereignty against the freedom to fish on the high seas. Furthermore, the Conference is a classic example of a modern chair-led multilateral negotiation based on the 'consensus fiction'.

The diplomatic consensus reached at the Conference directly led to the adoption of the 1995 SSA[276]. However, the increasing pressures for collective regulation of fisheries, the development of the concept of the presential sea, Canada's fisheries regulations, the *Estai Case* and the scientific consensus on the depletion of fish stocks, have also

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[271] Article 5 of the SSA. See Chapter 3, in particular Section 3.3.

[272] See Section 3.3.7, Chapter 3

[273] See Sections 2 and 4, Chapter 5

[274] Doc. A/CONF.164/35, in Lévy et al. (eds.), *Selected Documents*, supra, note 113, pp. 749-754

[275] See Section 2, Chapter 3

[276] Donald Grzybowski (ed.), 'A Historic Perspective Leading up to and Including the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks', *Pace Environmental Law Review*, 13 (1995), pp. 49-74.

indirectly shaped the process of adoption of the Agreement. This "convergence of factors" can positively influence both the construction of the new environmental regime for fisheries on the high seas and the implementation of the 1995 SSA itself.

Conclusions

The question of straddling and highly migratory fish stocks was an important matter left unresolved by the 1982 UNCLOS. Articles 63.2 and 114-120 fell short in making appropriate provisions for the problem of conserving stocks occurring within the EEZ of two or more coastal States or both within the EEZ and the area beyond and adjacent to it.

The problems associated with high seas fisheries began to attract attention on the international agenda from the early 1990's because of stock depletion and conflicts involving coastal States and DWFNs in the Northeast Atlantic leading to the 'Estai Case' between Spain and Canada off the Grand banks, the Bering Sea, the Southwest Atlantic and the Pacific. These issues have been addressed in various international fora. Scientific and diplomatic consensus regarding the need for new developments for the conservation and management of world's fisheries were evidenced in Agenda 21, Chapter 17, as well as in the FAO Technical Consultations of 1992.

Four groups of States exerted considerable diplomatic pressure in an attempt to influence the SFS negotiations at substantive stages. First, an extreme coastal State group was led by a core-group consisting of Argentina, Canada, Chile, Iceland New Zealand, Norway and Peru, which centred mainly on issues concerning compatibility of conservation and management measures and the role of fisheries organizations and arrangements. Secondly, a high seas fishing group focused on issues relating to the compatibility of conservation and management measures. Thirdly, one group of States which had divided interests. Fourthly, a group of moderate reformist States existed. The legal and political constraints pursued by various countries which strongly affected the course of the negotiations have already been outlined in this chapter. It is however important to realise that the negotiations were also significantly affected throughout by certain important specific events which occurred outside the formal negotiating forum:

the emergence of the 'Presential Sea' doctrine articulated by Chile; the extended fisheries jurisdiction asserted by Canada; and finally, the ICJ's judgement and subsequent developments and implications of the '*Estai* Case', including the accommodation of interests between Canada and the EU following this.

A study by Jonsson indicates that the adoption of an agreement requires a formula, a shared perception or definition of the problem[277]. According to this approach, in the negotiating process, the exchange of concessions is less important than the development of common perceptions[278]. Thus, the common perception or the 'core-anchoring concept' facilitates the negotiating process. The core-anchoring concept upon which the new environmental regime for fisheries on the high seas is being established is the equation of duties and rights between coastal States and States fishing on the high seas contained in the general principles of the 1995 SSA[279]. The emphasis on the use of informal working groups[280] adopted by the UN Conference on Straddling Stocks may be used as a model for global negotiations even of a specialist kind[281]. The emergence of this multilateral mode of diplomacy involves a shift to a novel form of diplomacy based on equality between groups of States, which Gottlieb called *parity diplomacy*[282].

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[277] Christer Jönsson, 'Cognitive Factors in Explaining Regime Dynamics', in Rittberger et al. (eds.)., *Regime Theory*, supra, note 50, pp. 202-222, at 217.

[278] Ibid.

[279] 1995 SSA, Art. 5. The issue of the legal equation of duties and rights between coastal States and States fishing on the high seas will be analysed in detail through Chapter 3.

[280] According to Barston, in informal multilateral diplomacy, negotiations are conducted without extensive rules of procedure and States tend to participate more on an individual basis rather than on coalition or subregional group basis. See R. P. Barston, *Modern Diplomacy*, (London, Longman, Second Edition, 1997), p. 170.

[281] Ibid, p. 196.

Chapter 3

The general principles of the new regime for international fisheries

Introduction

Since the XVIth century, the freedom of the seas has been a pivotal principle in international law. However, over the last half century, technology has increased abilities to exploit ocean resources, stimulating countries to exclude other countries from the resources and to widen the area under their jurisdiction[283]. The dimension of that principle has been reshaped by the 1973-1982 United Nations Conference on Law of the Sea which can be seen as involving in particular two main features: the freedom of navigation and the freedom of fishing. This chapter explores the explanations that might account for the impact of the freedom of the seas as a binding principle of international law upon the international regime of fisheries on the high seas. The examination of the core provisions of the 1995 SSA suggests that, as a starting point at least, this principle is now becoming bounded by the terms of the Agreement.

The legal and economic implications of freedom of fishing, which are closely linked to the status of fisheries as a common property resource, are analysed in section one. The chapter then considers, in section two, the consequences of the extension of national jurisdiction over world fisheries in the 1982 UNCLOS, the international legal instrument providing the legal framework for fisheries on the high seas. The core legal provisions of the 1995 SSA, as a set of innovative rules to conserve and manage SFS and HMFS will be then discussed in section three of the chapter, under the following headings: conservation and management measures as the objective of the Agreement; sustainability and protection of biological diversity; the large marine ecosystem (LME) approach; protection of the marine environment; monitoring, control and surveillance; the interest of artisanal and subsistence fishermen; the precautionary approach and, finally, the general obligation to pursue co-operation with sub-regional or regional

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[282] Gideon Gottlieb, 'Global Bargaining: the Legal and Diplomatic Framework', in Richard Falk, F. Kratochwil and S. Mendlovitz, *International Law: A Contemporary Perspective*, (London, Westview Press, 1985), at 210.

[283] See Patricia Birnie, 'New Technologies', supra, note 33.

fisheries management organizations or arrangements. There is no fisheries equivalent of the "Polluter Pays Principle". It has been concluded that the costs of depleted fisheries, degraded marine habitats, and impoverished ecosystems are passed on to society, thus representing large subsidies to an already heavily subsidized industry, in particular in developed countries[284].

The main conclusion to be drawn from this chapter is that, in developing a balanced legal relationship between the relevant interests of coastal and fishing States, the 1995 SSA is consistent, though not fully consistent, with UNCLOS. The Agreement goes beyond the 1982 Convention on many issues, and provides, coupled with the support of other international instruments, the legal basis for a new regime of fisheries on the high seas.

3.1 High seas fisheries: a common property resource

In a broad sense, the global commons are areas in which resources are open to access to and use of all the international community, and are not under the jurisdiction of any state; examples are the oceans, atmosphere, deep-sea bed and Antarctica. Global commons are areas beyond the jurisdiction of sovereign States. Global commons, being owned in common rather than privately, are also referred to as 'common pool resources'[285]. Common-property regimes exhibit varying degrees of efficiency and sustainability, depending on the rules, which emerge from collective decision making[286].

In 1968 Garrett Hardin put forward an influential model to explain why communities may nonetheless continue to over-exploit shared environmental resources even where they are aware that they are doing so and are aware that is against their long-term interests. He expressed this as 'The Tragedy of the Commons'[287]. The theoretical basis

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[284] Greenpeace USA Report, "Sinking Fast", (Washington, Greenpeace, 1996).

[285] Elinor Ostrom, *Governing the Commons: the Evolution of Institutions for Collective Action*, (Cambridge, Cambridge University Press, 1990), pp. 12-13 and 29-33.

[286] Tietenberg, supra, note 10, p. 49.

[287] Garrett Hardin, *Science*, 162, (13 December 1968), pp. 1243-1248.

of this concept of the tragedy of the commons shows how it is possible that 'rational' individual actions can lead to 'irrational' collective practices resulting in catastrophic over-exploitation of common resources. Where, for example, there is unregulated and open access to an over-fished sea, each fisher continues to have an individual interest in maximizing his catch of fish. Each fisher gains the full extra benefit of catching additional fish, while the cost of over exploitation is shared by all of the communities that fish the sea. The tragedy is that this process continues until fish stock is almost wholly destroyed along with the fishing communities that depend on them[288].

3.1.1 Game theory: the prisoners' dilemma

Game Theory has developed a conceptual apparatus, based on games involving two-persons to model a wide range of social situations[289]. These games can enhance theoretical appreciation of the factors that inhibit collaboration in an anarchic context[290]. Hardin's model can be associated with the game known as the 'Prisoners' Dilemma'[291]. The Prisoners' Dilemma scenario has been described as follows: two suspects are taken into custody and separated. The district attorney is certain that they are guilty of a specific crime, but he does not have adequate evidence to convict them at a trial. He points out to each prisoner that each has two choices: to confess to the crime the police are sure they have done, or not to confess. If neither confesses, then the district attorney tells them that he will charge them on some minor made-up charge such as petty larceny and illegal possession of a weapon, and that they will both receive minor punishment; if they both confess, they will be prosecuted, but he will recommend that they do not receive the most severe sentence; but if one confesses and the other does not, then the

[288] Ibid, p. 1244.

[289] Steven Brams, *Negotiation Games: Applying Game Theory to Bargaining and Arbitration*, (London, Routledge, 1990), p. 63. Other applications of the Game Theory are analysed in Section 2, Chapter 4 (New Organizations and New Arrangements) and in Section 5, Chapter 5 (Participatory Rights) of this thesis.

[290] Steven Brams, *Superpower Games: Applying Game Theory to Superpower Conflict*, (New Haven, Yale University Press, 1985), p. 164.

[291] The Prisoners' Dilemma has been attributed to Merrill Flood and Melvin Dresher and formalized by Albert Tucker. See R. Campbell, 'Background for the Uninitiated', in R. Campbell and L. Soweden (eds.), *Paradoxes of Rationality and Co-operation*, (Vancouver, University of British Columbia Press, 1985), at 125 and passim.

former will receive lenient treatment for turning state's evidence whereas the latter will get the charge[292].

The logic associated with the Prisoners Dilemma, if applied in international relations, gives a wide range of irrational outcomes in the international arena that can explain in rational terms why States have persisted in over-fishing the seas, polluting the atmosphere, selling arms to undesirable regimes, and promoting policies that inhibit trade. All essentially represents cases in which States have chosen to pursue competitive rather than collaborative strategies, because they expect the other members of the present anarchic inter-State system to pursue competitive strategies[293]. The Prisoners Dilemma explains why anarchy inhibits collaboration but it also indicates that States can benefit from acknowledging the advantages of collaboration. However, States are inhibited from moving to collaborative strategies by their expectation that the other States will defect from it. The Prisoners' Dilemma demonstrates the importance of identifying a mechanism that will convince all actors that there is no danger of defection by any one of them. The establishment of international regimes now provides evidence that mechanisms of this kind can and must exist[294], if collapse of fisheries, in particular, is not to occur. Relevant for this thesis and for International Regime Theory, Elinor Ostrom has strongly advocated that social scientists engage in model building in order to address the above adverse analysis of these aspects of common property resources[295].

The Prisoners' Dilemma indicates that states acknowledge the advantages of collaboration and explains why anarchy inhibits cooperation. States are inhibited from moving to collaborative actions by their expectations that other states will defect. The Prisoners' Dilemma indicates that market failures occur because in an anarchic system there is an expectation that states will compete rather than cooperate. Therefore, the theoretical reason for establishing a new international regime is the principle of

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[292] K. W. Deutsch, *The Analysis of International Relations*, (Englewood Cliffs, Prentice Hall, 1968), at 120.

[293] Andrew Kydd and Duncan Snidal, 'Progress in Game-Theoretical Analysis of International Regimes', in Rittberger, *Regime Theory*, supra, note 50, pp. 112-137, at 118-119.

[294] Ibid, p. 116.

[295] According to Ostrom, contemporary studies in the theory of public and social choice, the economics of transactions costs, the new institutional economics, law and economics, game theory, and many related

reciprocity by which there is no incentive to defect from the mutually collaborative strategies.

3.1.2 The market failure approach

The problems concerning access to the global commons and ownership of natural resources in the commons have been widely studied in economic theory[296]. In addition to game theory, the "market failure approach"[297] provides an analytical tool that is widely used to explain the classical problem relating to collective action on the global commons [298]. Thus, concepts like public goods, externalities, non-exclusion, non-rivalry and asymmetric information, related to market failure, provide valuable insights into the legal approach of the commons. A market is an exchange institution[299] that serves society by organising economic activity using pricing to communicate the wants and limits of a diffuse and diverse society in order to facilitate co-ordinated economic

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fields, are making important contributions that need to be carried forward in theoretically informed and empirical inquiries on how institutions work. See Ostrom, supra, note 285, p. 216.

[296] W. Baumol and W. Oates, *The Theory of Environmental Policy*, (New York, Cambridge University Press, 1988); O. Williamson, *The Economic Institutions of Capitalism*, (New York, Free Press, 1985); G. Stevenson, *Common Property Economics: A General Theory and Land Use Applications* (New York, Cambridge University Press, 1991).

[297] Although in microeconomics theory unrestrained market provides the most effective mechanism for the production of economic goods, it is accepted that the market is not effective when it comes to the production of public goods like roads, hospitals, and common-property resources in the global commons. Even in a fundamentally market-based social system, there are reasons for the State to supplant the market in the distribution of valued resources taking into account that the market under-produces public goods and positive externalities. See Robert Goodin, 'The Contribution of Political Science', in Robert Goodin and Philip Pettit (eds.), *A Companion to Contemporary Political Philosophy*, (London, Blackwell Publishers, 1995), pp. 157-182, at 170.

[298] Collective action can simply be defined as people acting together in pursuit of interests they share. See Anthony Giddens, *Sociology*, (Cambridge, Polity Press, 1997), p. 508. In problems with respect to collective action to provide public goods, benefits will accrue to people whether or not they contribute to the costs of their production, so everyone would rationally wait for others to contribute, which being equally rational, they would not. The upshot is that public goods will be systematically underprovided through voluntary efforts among rational actors. See Mancur Olson, *The Logic of Collective Action. Public Goods and the Theory of Groups*, (Cambridge, Massachusetts, Harvard University Press, 1971); Lars Udehn, *The Limits of Public Choice. A Sociological Critique of the Economic Theory of Politics*, (London, Routledge, 1996); Russell Hardin, *Collective Action*, (Baltimore, Johns Hopkins University Press, 1982).

[299] According to Langton, commodities require the rise of the market and the rise of the exchange economy, which are the antecedents to the rise of capitalism and for which money is also necessary as a measure of the relative value of other commodities. In addition, maximum mutual economic benefit comes from maximum freedom to enter into exchange relationships. See John Langton, 'The Origins of the Capitalist World Economy', in Douglas, Huggett and Robinson (eds.), *A Companion Encyclopaedia of Geography*, supra, note 107, pp. 206-227, at 207.

decisions in the most efficient manner[300]. Adam Smith's invisible hand and optimal private decisions based on mutually advantageous exchange lead to optimal social outcomes[301]. But in the case of environmental assets, markets can fail if pricing does not accurately communicate society's desires and constraints[302].

Market failure occurs when private decisions based on prices, or lack of them, do not generate efficient allocation of resources. Such inefficiency implies that resources could be reallocated to make at least one person better off without making anyone else worse off; a wedge is driven between what individuals want privately and what society wants as a collective[303]. In a well-functioning economy, however, in which every activity has a price, property rights are defined and protected, competition is rigorous, and market information is complete, the free pursuit of self-interest by individuals leads by an 'invisible hand' to an efficient outcome. The very presence of market failure means that some form of intervention on a collective basis among the economic agents may be needed.

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[300] In the most literal and immediate sense, markets are places in which things are bought and sold. In the modern industrial system, the concept of market has expanded to include the whole geographical area in which sellers compete with each other for customers. In addition, along with globalisation and the growth of trade in goods, there has been a proliferation of financial markets, including securities exchanges and money markets. See Wolfgang Sachs, 'The Economist's Prejudice', in Paul Ekins and Manfred Max-Neef (eds.), *Real Life Economics. Understanding Wealth Creation*, (London, Routledge, 1992), pp. 5-10, at 7.

[301] See Chapter 1, Section 1. According to Milton Friedman, the founder of the Chicago School, ecological values can find their natural space in the market, like other consumer demand and the problems of the environment, like any other problem, can be resolved through price mechanisms, through transactions between producer and consumer, each with his own interests. This thought has been strongly contested by many other economists. Thus, Paul Samuelson: "market mechanisms alone cannot be counted on to solve the environmental problems which economists classify under the heading of 'externalities'"; Wassily Leontief: "relying on the market alone is nonsense"; Alfred Hirschman: "government intervention is necessary; the only people who think differently are the market-freaks, most of them neoclassical economists"; Immanuel Wallerstein: "the market does not touch environmental factors and has no interest in them; it doesn't deal with any such problem and never has; in matters of environment the market would move in the opposite direction"; Nicholas Georgescu-Roegen: "mainstream economists have formed a sort of circle to protect the dogma that the market knows what it's doing and prices will take care of every problem. This is just an economic fantasy, and the state of the environment is proof of this". See Carla Ravaioli (ed.), supra, note 22, pp. 32-38.

[302] See James R. Khan, *The Economic Approach to Environmental and Natural Resources*, (Harcourt, The Dryden Press, 1998), pp. 11-29.

[303] Questions of the performance of the market and the corresponding role of the government lie at the heart of the most present day theories of distributive justice. Markets have well known potentials for promoting liberty and welfare, but they often fail to realize that potential, and correcting those market failures carries clear distributional consequences. The main conclusion to be drawn from the public choice theories is that we should propose only theories for which there exists the motivation, as well as the power and the information, that would be required to implement them. See Serge-Christophe Kolm, 'Distributive Justice', in Goodin and Pettit (eds.), supra, note 297, pp. 438-461, at 455. See also John Rawls, *A Theory of Justice*, (Oxford, Oxford University Press, 1973), pp. 270-274.

Market failure can result from an externality, can be associated with public goods, and may result from property rights that are either undefined or owned in common with unrestricted or open access. As a source of market failure, 'externality' is an interdependency among two or more individuals or nations that is not taken into account by a market transaction. An externality represents an impact without a contract[304]. A (technological) externality exists "when an unintended side effect of one or more parties' actions affects the utility or production possibilities of one or more other parties, and there is no contract between the parties or price system governing the impact"[305]. All externalities lead to distortions of consumer choices, either directly, because the externality affects consumers directly, or indirectly, because externalities in production cause prices to diverge from marginal social cost[306].

Public goods[307] represent another important cause of market failure in global problems concerned with, for example, the removal of pollution, the elimination of disease, the accumulation of knowledge, the provision of security, and the forecasting of disasters[308]. It has been suggested by economists that universal public goods include assurances of peace and security from military and non-military threats, policies and institutions to facilitate various global activities, transport and communications

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[304] Natural resources are scarce and some uses are incompatible with others. This means that one person's use affects the welfare of others. The consequence of one person's use is that another use is denied. There is an unavoidable effect external to the user. In this sense, externalities are ubiquitous and reciprocal and the stuff of scarcity and incompatibility. See Allan Schmid, 'The Environment and Property Rights Issues', in Bromley (ed.), *The Handbook of Environmental Economics*, supra, note 23, pp. 61-88.

[305] Jonathan A. Lesser, Daniel E. Dodds, and Richard O. Zerbe Jr., *Environmental Economics and Policy*, (Reading, Addison-Wesley Publishers, 1997), p. 111.

[306] Ibid, p. 132.

[307] Public goods are those that exhibit both consumption indivisibilities and non-excludability and present a particularly complex category of environmental resources. Consumption is said to be indivisible when one person's consumption of a good does not diminish the amount available for others. Several common environmental resources are public goods, such as the landscape, clean air and clean water. Public "bads" such as dirty air and dirty water are also possible. See Tietenberg, supra, note 10, at 51-52. The modern theory of public goods derives largely from a paper by Paul Samuelson, 'The Pure Theory of Public Expenditure', *Review of Economics and Statistics*, 36 (1954), at 387-389.

[308] Tietenberg, supra, note 10, p. 51.

channels, numerous facets of the environment including the ozone layer, the atmosphere, clean air, unpolluted oceans and transnational lakes, rivers and seas[309].

As already noted, the class of public goods is large and can vary in terms of the degree of non-rivalry and the extent of non-excludability[310]. Non-rivalry goods[311] are rare even within the commons and the concept indicates that one person's use of a good does not deprive others of similar benefits. Therefore, once goods like fish, minerals, radio frequencies or satellite orbital positions become scarce, there will be 'rivalry' between consumers[312]. Non-excludability refers to a circumstance in which, once the resource is provided, even those who fail to pay for it cannot be excluded from enjoying the benefits it confers[313].

Intergenerational externalities such as the release of high-level radiation, the loss of biodiversity, and global warming, constitute another important class of external effects in which uncompensated interdependency is found among the different generations. From an intergenerational perspective, these externalities are unidirectional, since an earlier generation's actions can influence a future generation but not the other way around[314].

A third source of market failure may stem from common-property resources[315]. These resources are either undefined or owned in common with unrestricted access or common

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[309] Ruben Mendez, 'The Provision and Financing of Universal Public Goods', in Meghnad Desai and Paul Redfern (eds.), *Global Governance. Ethics and Economics of the World Order*, (London, Pinter, 1995), p. 43.

[310] A good is non-excludable to the extent that it is difficult or costly to operate a system of charges, denying access to the good to people who do not pay the charge. Coastal protection against floods is a good example of a non-excludable, as well as non-rival good. See Shaun Hargreaves Heap, Martin Hollis et al (eds.)., *The Theory of Choice. A Critical Guide*, (Oxford, Blackwell Publishers, 1992), p. 347.

[311] A good is non-rival in that consumption of one person's enjoying more of the good does not reduce the ability of others to enjoy it. A classic example of a non-rival good is a television transmission. In contrast, an ordinary consumer good such as coffee or fish has the property of rivalness: if I consume a cup of coffee, you cannot consume that cup too. Ibid.

[312] Volger, supra, note 39, p. 4.

[313] Tietenberg, supra, note 20, p. 51-52.

[314] Richard Howarth and Richard Norgaard, 'Intergenerational Choices under Global Environmental Change', in Bromley (ed.), *Handbook of Environmental Economics*, supra, note 23, p. 111.

[315] Common property resources are those that are owned in common rather than privately. According to Tietenberg, entitlements to use common-property resources may be formal, protected by specific rules, or

access. Common ownership, when coupled with open access, leads to wasteful exploitation. The world's fisheries provide an apt example to illustrate open access resources. Due to the application of advanced technologies like satellite-position tracking, radar, sonar and over harvesting, many fish species have had their populations reduced drastically[316].

Vogler has proposed a 'simple typology of the common resources' in which high seas' fisheries are either non excludable or non exclusible rival resources, free for the taking and they are regarded as *'res nullius'*, that is to say, the property of no-one[317]. Standard remedies for addressing market failures beyond State boundaries face insurmountable challenges. This Section has demonstrated that to treat fisheries to day, as unrestricted common property is socially indefensible. There is a consensus among economists that setting up private or public ownership on previously unowned resources like fisheries will create an opportunity for their rational use; economists seem to be divided on the issue of which type of ownership is more desirable[318].

To date, the international legal system has not proved effective for the protection of fisheries on the high seas. Because the high seas are in effect "unowned", anyone can use, and, in the process, often abuse them, with relative freedom from restraint. As previously indicated, no market mechanisms exist by means of which access to common property fisheries' resources could be allocated among users. The transformation of common property fisheries resources to a limited entry system designed to optimize net benefits from the fishery is the condition *sine qua non* for rational management of fisheries on the high seas[319].

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they may be informal, protected by tradition or custom. This author has defined *res nullius* property resources or *open access resources* as those exploited on a first-come, first-served basis, because no individual or group has the legal power to restrict access which have given rise to what has become popularly as 'the tragedy of the commons'. See Tietenberg, supra, note 10, pp. 49-50.

[316] See Chapter 1, Section 1. See also Birnie, 'New Technologies', supra, note 33.

[317] According to Vogler, common resources may be both collectively owned and managed by a community, in which user rights, shares, and rents can be specified. See Vogler, supra, note 39, at 4-5. Fisheries, can also, historically, be regarded as *'res communis'* common property, open to all comers and reduced to private owner-ships only by possession.

[318] Lesser et al (eds.), supra, note 305, pp. 132-140.

[319] See Chapter 5, Section 5. Whether the 1995 SSA is establishing new forms of property through regional fisheries organizations is a question that will be discussed in Section 6 of Chapter 4, Towards Authoritative Global Institutions?'.

In general, "the tragedy of the commons" is that all common property resources tend to be depleted, impoverished and degraded, unless their intensive use is limited by legal instruments and international or regional organizations. Most of the "tragedy of the commons" conceptualization has been used in environmental, market failure and resource issues. The recent collapse of fisheries in many parts of the world exemplifies "the tragedy of the commons" which can be pertinently understood as a 'collective' extension of the Prisoners' Dilemma. The Prisoners' Dilemma is a valuable tool in understanding the many tragedies of the commons and market failures that we face in the modern world, including fisheries on the high seas.

3.2 The 1982 UNCLOS: the legal framework

The 1982 UNCLOS, which entered into force on November 16, 1994, provides a set of global provisions for preserving and protecting marine living resources. UNCLOS unites efficiently the protection of the marine environment from pollution, whether land based, oceanic or atmospheric, with the conservation and economic development of the living and non-living resources it sustains[320]. Even before UNCLOS entered into force, many developing and developed countries had harmonized their national legislation with the international rules and standards provided in the Convention and substantially complied with its provisions[321].

The 1982 UNCLOS is, on the whole, "the principal international legal instrument setting forth the general rights and obligations of states and other members of the international community for the conservation and sustainable use of marine living resources"[322]. UNCLOS establishes the jurisdictional limits, and the competence of States within these limits for conservation of marine living resources in the territorial sea, the contiguous zone, the continental shelf, the exclusive economic zone, and the

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[320] Part V, 'Exclusive Economic Zone'; Part VII, 'High Seas'; Part XI, 'The Area' (Article 145-147); Part XII, 'Protection and Preservation of the Marine Environment'.

[321] Elizabeth Mann-Borgese, *Ocean Governance and the United Nations*, (Halifax, Centre for Foreign Policy Studies, 1995), p. 9.

[322] Sands, *Principles*, supra, note 211, p. 422.

high seas[323]. Regarding marine living resources, the Convention establishes in Articles' 61-68 and 116-120 the basic obligation of States to protect, conserve and manage these resources in areas within and beyond national jurisdiction. Ninety per cent of the world's fish harvest occurs in areas under national jurisdiction. In the Exclusive Economic Zone (EEZ), States have sovereign rights for the purposes of exploring and exploiting, conserving and managing its natural resources whether living or not-living[324]. States are also subject to resource-sharing arrangements and the requirement of "optimum utilization", taking into account the best scientific evidence available and taking measures designed to maintain or restore populations of harvested species at levels that can produce the "maximum sustainable yield" (MSY) as qualified by environmental and economic factors[325], though this concept is not defined in the UNCLOS, unlike in the 1958 Geneva Convention on Fishing.

The 1982 UNCLOS reaffirms the rule that all States have the right for their nationals to engage in fishing on the high seas. However, this right is subject to specific treaty obligations, to the coastal state rights, duties and interests, and the obligation on all States to co-operate in conserving and managing high seas living resources[326]. The United Nations Convention on the Law of the Sea and the rules of customary law based on it, have almost wholly superseded the 1958 Geneva Conventions on Law of the Sea. On the other hand, the 1958 Geneva Convention of Fishing and Conservation of the Living Resources of the High Seas reflected the concerns posed by developments in fishing technology and over-exploitation of fish stocks. However, it can be concluded that "the framework it established for concerted remedial action on an international co-operative basis has not proved to be a significant landmark in the history of the law"[327].

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[323] Birnie and Boyle, supra, note 213, p. 517.

[324] UNCLOS, Art. 56.

[325] According to UNCLOS, Arts. 61.3, the qualified factors are the economic needs of coastal fishing communities and the special requirements of developing States, fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether subregional, regional or global.

[326] UNCLOS, Arts. 62.

[327] Brown, *The International Law of the Sea*, supra, note 169, p. 9.

In addition, the United Nations Environment Programme's (UNEP) Regional Seas Programme has promoted and sponsored some thirty instruments including thirteen framework conventions and supplementing protocols for the protection and development of the marine environment in thirteen regional seas. The framework conventions, together with their preliminary Action Plans, have created basic structures, institutional arrangements and specific provisions to prevent and control pollution and to protect the marine environment, in accordance with the general obligation contained in Article 192 of UNCLOS[328].

UNCLOS establishes several rights and obligations directed at the protection and conservation of marine living resources in general and for fisheries in particular, as well as the protection of the marine environment. These rights and obligations are compatible with other international legal instruments including those adopted subsequently to UNCLOS. Thus, the obligation to co-operate in the conservation and management of the living resources of the high seas[329] is compatible and complementary with the obligation of co-operation on matters of mutual interest in respect of areas beyond national jurisdiction established by the Convention on Biological Diversity[330]. UNCED's Agenda 21, a programme for action aimed at carrying out the Rio Declaration of Principles on Environment and Development with the goal of promoting sustainable development, while not legally binding, provides in Chapter 17, on protection of the oceans and all kind of seas, two legal dimensions relevant for marine living resources. First, UNCLOS is cited as "the international basis" for future action[331]. Secondly, it recognizes in the UNCLOS provisions on the marine living resources, the foundation upon which to pursue the protection and sustainable development of those resources[332].

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[328] Groombridge at al (eds.), *The Diversity of the Seas*, supra, note 1.

[329] UNCLOS, Arts. 116-120.

[330] Tullio Treves, 'The Protection of the Oceans in Agenda 21 and International Environmental Law', in Luigi Campiglio, Laura Pineschi, et al. (eds.) *The Environment after Rio: International Law and Economics*, (The Hague, Martinus Nijhoff, 1994), p. 171.

[331] Agenda 21, Par. 17.1

[332] Agenda 21, Par. 17.44. According to Lee Kimball, regarding the oceans agenda, it can be expected that the ambiguities in the UNCLOS and tensions in fisheries management will prove creative, rather than destructive, where neither coastal State nor DWFNs will solely bear the burden. See Lee Kimball, 'UNCED and the Oceans Agenda. The Process Forward', *Marine Policy*, November 1993, pp. 491-500, at 500.

UNCLOS remains the general framework for the protection of marine living resources. As endorsed in Chapter 17 of Agenda 21, UNCLOS provides the general legal basis upon which to pursue the protection and sustainable development of the marine and coastal environment and its resources. Furthermore, the comprehensive approach and the consensus achieved in Agenda 21 have already impelled the conclusion of a number of international initiatives for the conservation of marine living resources, including the adoption of the 1995 United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Species. However, regarding fisheries on the high seas, the 1982 UNCLOS did not develop detailed and specific provisions for the settlement of conflicting claims to specific fisheries beyond national jurisdictions. Neither did it establish decision-making procedures for adequate governance of the high seas, an area which for a long time has been considered to be subject to the decisions only of flag States, in the absence of any further agreement or agreements among them to the contrary[333].

3.3 General principles and rules for conservation and management

The 1995 SSA sets forth international minimum standards on how to operate and manage a good fishery, combining existing good practice with new environmental concepts. In a long and detailed list, Article 5 provides basic principles for the conservation and management of straddling and highly migratory fish stocks that must be applied by coastal States and States fishing on the high seas. As a source of action, the term *'principle'* in common usage means a general law or rule adopted or professed as a guide to action[334]. In other words, a *principle* must be taken into consideration whenever it is relevant, whereas *rules*, which are backed by the whole normative order

[333] The 1958 Geneva Convention on the High Seas requires States, whether coastal or not, to fix the conditions for the grant of their nationalities to ships, for the registration of ships in their territories, and for the right to flight their flag (Art. 5). In addition, the Convention provides that ships shall sail under the flag of one State only and, save in exceptional cases expressly provided for in international treaties or in the Convention itself, shall be subject to its exclusive jurisdiction on the high seas (Art. 6). The text of the 1958 Geneva Convention on the High Seas has been reproduced in Edward Duncan Brown, *The International Law of the Sea*, (Aldershot, Dartmouth Publishers, 1994), Vol. II, pp. 158-165.

[334] Collins English Dictionary, (London, Harper Collins Publishers, Third Edition, 1995).

going beyond rules to include principles, policies and goals, must be observed[335]. From a Regime approach, as a source of order, *principles* do not have to be explicit to have influence on the practices of states. Although there is a great deal of debate among scholars about the status of principles in international law, Arend has summarized three meanings of these, that are not necessarily mutually exclusive: first, *principles* may refer to those that are common to the domestic legal systems of States; secondly, *principles* may refer to those of legal significance within International Law because they are accepted by States as such, i.e. *'pacta sunt servanda'*; and thirdly, *principles* may refer to certain natural law principles, such as 'equity' and 'humanity'[336]. Therefore, according to Article 5, the *principles* adopted by the 1995 SSA in Part II must be taken into account as general law or rules adopted as a guide to action for the management of international fisheries and must be applied by both coastal and fishing States as well as fisheries organizations in order to conserve and manage straddling and highly migratory fish stocks, thus giving effect to the duty of all these to cooperate in accordance with UNCLOS.

Principles and rules act as the milestones of International Regime Theory which underlines the need for co-operation rather than the number of participants involved: anti-discrimination, indivisibility and diffuse reciprocity are generalized principles of conduct in the process of building multilateralism[337]. Elinor Ostrom has defined institutional rules as prescriptive statements that forbid, require or permit some action or outcome. According to this author, all three deontological [ethical] operators -forbid, require or permit- must be contained in a statement for it to be considered a rule[338]. The core of every international regime is a cluster of rights and rules whose exact content is a matter of intense interest to the actors, aimed at the solution of problems that require

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[335] According to Dworkin, whereas rules apply in an all-or-nothing fashion (either they are valid and dispose of the question, or they are invalid and contribute nothing), principles have a dimension of 'weight', will be taken into account but may be overridden by other considerations and even if they are overridden, still survive as principles. Ronald Dworkin, *Taking Rights Seriously*, (Cambridge, MA, Harvard University Press, 1977).

[336] Anthony Clark Arend, 'Toward an Understanding of International Legal Rules', in Beck et al. (eds.), *International Rules*, supra, note 60, pp. 289-310. See also Anthony Clark Arend, *Legal Rules and International Society*, (Oxford, Oxford University Press, 1999).

[337] John Gerard Ruggie, 'Multirateralism: the Anatomy of an International Institution', *International Organization*, 46 (1992), pp. 561-598, at 570-573.

[338] Ostrom, *Governing the Commons*, supra, note 285, p. 139.

collaborative solution[339]. From the draft Agreements successively adopted during the UN Conference on Straddling and Highly Migratory Fish Stocks[340], it can be deduced that strong consensus existed regarding the urgency for the adoption of general principles for the conservation and management of straddling and highly migratory fish species[341]. The general principles enumerated in Article 5 of the Agreement will also apply, *mutatis mutandis* to the conservation and management of straddling and highly migratory stocks in respect of areas under the national jurisdiction of coastal States. According to their object, these principles can be classified as those relating to sustainability and protection of biological diversity; they would include Large Marine Ecosystem; protection of the marine environment; monitoring, control and surveillance; interest of artisanal and subsistence fishers; and the precautionary approach.

3.3.1 Conservation and management measures

Conservation is not to be confused with preservation, which aims at maintaining a pristine environment or non-utilization of a resource[342]. Holt and Talbot have defined conservation as a component of management that, taking current and future values of the resources into consideration, regulates use to maintain the resource system at a desirable status[343]. A more modern definition of conservation has been provided by Baretta-Bekker, as "a careful protection and planned management of a natural resource (ecosystem, fish stock, rare species) to prevent overexploitation, destruction or neglect"[344].

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[339] Young, *International Co-operation*, supra, note 44, p. 15.

[340] See Chapter 2, in particular Section 3.

[341] See Document A/CONF.164/22, reproduced in Lévy, *Selected Documents*, supra, note 113, pp. 621-652; Document A/CONF.164/22/Rev.1, ibid, pp. 671-703; Document A/CONF.164/37, ibid, pp. 763-800.

[342] According to Nordquist, the concept of preservation means to conserve the natural resources and retain the quality of the marine environment over the long term. Myron Nordquist (ed.), *United Nations Convention on the Law of the Sea: A Commentary*, (Dordrecht, Martinus Nijhoff, 1991), Vol. IV, 9-12, quoted by Birnie and Boyle, supra, note 213, p. 517, footnote 86.

[343] Holt and Talbot, 'New Principles for the Conservation of Wild Living Resources', Wildlife Monogr. 1978, p. 33.

[344] Hanneke Baretta-Bekker at al (eds.), *Encyclopedia of Marine Sciences*, (Hamburg, Springer-Verlag Berlin, 1998), p. 68.

The 1958 Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas provided the following definition of conservation: "the aggregate of the measures rendering possible the optimum sustainable yield from those resources so as to secure a maximum supply to food and other marine products"[345]. According to this Convention, coastal States have a "special interest" in the maintenance of the productivity of the living resources in any area of the high seas adjacent to its territorial sea (Art. 6.1) and may adopt unilateral measures of conservation appropriate to any stock of fish or other marine resources in any area of the high seas adjacent to its territorial sea, provided that negotiations to that effect with the other States concerned have not led to an agreement within six months.

3.3.1.1 The Maximum Sustainable Yield (MSY)

The 1982 UNCLOS does not provide any definition of "conservation of marine living resources" although in Article 61 it establishes certain objectives of conservation and management. Instead, the Convention adopted the concept of "maximum sustainable yield" (MSY) qualified by relevant environmental and economic factors such as the economic needs of coastal fishing communities and the special requirements of developing States[346]. The concept of MSY was introduced into international law by the 1955 UN International Technical Conference on the Conservation of the Living Resources of the Sea, which preceded previously to the adoption of the Geneva Conventions on the Law of the Sea, which included the fishing and conservation of the living resources of the high seas. This Conference, for the first time, recognized that when the intensive exploitation of offshore waters considerably affects the abundance of fish in inshore waters, the conservation problem is best taken care of by including the entire area in a conservation system involving all the concerned States and that is subject to conservation regulations adequate to maintain the maximum sustainable yield[347]. The MSY, is the greatest harvest that can be taken from a self-regenerating

[345] 1958 Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas. See supra, note 161. Also reproduced in *AJIL*, 52 (1958), p. 851.
[346] UNCLOS, Art. 61.3.

[347] This Technical Conference introduced for the first time the concept of "special interest". Report of the International Technical Conference on the Conservation of the Living Resources of the Sea, Doc. A/CONF. 10/6 Corr.1, United Nations, New York, 1955, p. 9.

stock of animals year after year while still maintaining the average size of the stock and is obtained when both fishing mortality and recruitment to the stock are maximized at the same time[348].

Scientists have strongly questioned the application of MSY to a large number of practical situations for two main reasons: first, because it is not optimal in economic terms and second, because overshoots inevitably occur which are difficult to reverse[349]. Therefore, despite its being the only technical management measure referred to in UNCLOS, MSY is no longer considered a valid target reference point for high-seas fishery's management[350]. Caddy and Griffiths suggest that MSY should be adopted as "limit reference points" rather than "target reference points" and the biomass that can produce MSY might serve as an initial rebuilding target[351].

The general obligation imposed on all States to take conservation measures on the high seas is contained in Article 117 of UNCLOS. According to this obligation, States have the duty to take such measures in respect of their own nationals as may be necessary for the conservation of the living resources of the high seas. Article 119 provides the criteria on the basis of which such measures must be taken. Measures must be based on the best scientific evidence available to the States concerned to maintain or restore stocks at levels that can produce the MSY. The obligations imposed on all States under Article 119 are similar to the obligations imposed upon coastal States in respect to the conservation of marine living resources of their EEZ, provided by Article 61, paragraphs 2, 3 and 4.

The modern conceptualization of conserving and managing fisheries must now, therefore, incorporate within this all the activities that bear on decisions concerning the wise use and disposition of the marine living resources in order to conform to the

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[348] Birnie and Boyle, supra, note 213, p. 438.

[349] Realisation of the socio-economic potential of a fishery is not to be effected simply by setting a MSY; what is required is a legal system which gives fishers the incentive and the means to assume effective control of their activity. See G. L. Kesteven, 'MSY Revisited. A Realistic Approach to Fisheries Management and Administration', *Marine Policy*, 21 (1997), pp. 73-82 and Edward Miles, 'Concepts, Approaches and Applications in Sea Use Planning and Management', *ODIL*, 20 (1989), pp. 213-238.

[350] J. Caddy and R. Griffiths, Living Marine Resources and their Sustainable Development. Some Environmental and Institutional Perspectives, (Rome, FAO-FTP No. 353, 1995), p. 63

[351] Ibid, p. 195.

scientific evidence. These activities must include the gathering, analysis and dissemination of information; public and private processes of making decisions about permissible levels of fish utilization; a myriad choices about the time, place, equipment, machinery, gear, and instruments that may be used in exploring and exploiting stocks; and all the phases of the business that relate to fishing, such as investment, subsidization, taxation, credit arrangements, and so forth[352].

Caddy and Griffiths have identified the mechanisms required for managing the marine resources of the high-seas areas which include, *inter alia*: maintaining and exchanging up-to-date registries of licensed vessels; employing real time fishery reporting procedures and a system of surveillance using the latest modern technology; developing and maintaining a data base on stock sizes and removals and on changes in the ocean environment relevant to living resources; providing to the regional fishery commissions timely national information on fishing activities and on the state of resources overlapping relevant jurisdictions; and co-ordinating resource evaluations with the countries and regional fisheries commissions concerned; as well as mechanisms for co-ordinating the various regional commissions[353].

The 1995 SSA marks an advance in the setting of international standards for conservation and management of fisheries. In this regard, Part II of the Agreement, together with the two Annexes, provides specific rules for the conservation and management of straddling fish stocks that are considerably more precise than those contained in the 1982 UNCLOS. Thus, for the purposes of the Agreement, 'conservation and management measures' means measures to conserve or manage one or more species of living marine resources that are adopted and applied consistent with the relevant rules of international law as reflected in the Convention as well as in the Agreement itself[354].

The 1995 SSA is the first global Agreement to directly regulate high seas fisheries, providing for sustainable conservation and management measures for straddling and highly migratory fish stocks. However, several regional and bilateral fisheries

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[352] Burke, *The New International Law*, supra, note 110, p. 41.

[353] Caddy et al., supra, note 350, p. 46.

agreements had been adopted before 1982 that basically correspond to the provisions of Article 63.1 of UNCLOS. These included the Convention for the Preservation of the Halibut Fishery of the North Pacific Ocean and Bering Sea of 2 March 1953 and the Protocol thereto of 29 March 1979 between Canada and the United States; the Convention on Fishing and Conservation of the Living Resources in the Baltic Sea and Belts of 13 September 1973 and the Protocol of 11 November 1982[355]; the Agreement for Purposes of Regulating Jurisdiction in the Plate River and Ocean Areas Adjacent and Beyond this River of 19 November 1973, between Argentina and Uruguay[356].

The 1995 SSA is closely related to Agenda 21. The latter recognized that management of high seas fisheries was inadequate in many areas. Furthermore, Agenda 21 identified problems of unregulated fishing, overcapitalization, excessive fleet size, reflagging of vessels to escape controls, insufficiently selective gear, unreliable data bases and lack of sufficient co-operation between States. Therefore, as called for in Agenda 21, action by States and co-operation among them was required in order to address inadequacies in fishing practices, as well as in biological knowledge, fisheries' statistics and improvement of systems for handling data, multi-species management and other approaches that take into account the relationships among species, especially in addressing depleted species, but also to identify the potential of under utilized or unutilized populations[357]. The close relationship between Agenda 21 and the 1995 SSA is explicitly acknowledged in the preamble of the latter (paragraph 5), which states that the Agreement seeks to address the problems identified in Agenda 21, Chapter 17, Programme Area C. Conservation and management measures for SFS and HMFS; these indeed are the core of the Agreement.

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[354] 1995 SSA, Annex II, Art. 1.1.b.

[355] Ellen Hey, *The Regime for the Exploitation of Transboundary Marine Fisheries Resources: the United Nations Law of the Sea Convention Cooperation Between States*, (Dordrecht, Martinus Nijhoff, 1989), Annex I.

[356] Agreement for Purposes of Regulating Jurisdiction in the Plate River and Ocean Areas Adjacent and Beyond this River of 19 November 1973, between Argentina and Uruguay. Reproduced in ILM, 13 (1974) p. 251. See H. Gros Espiel, 'Le traité relatif au 'Rio de la Plata' et sa façade maritime', *AFDI*, 21 (1975), pp. 241-249.

[357] Agenda 21, 17.45.

3.3.1.2 Consistency with UNCLOS

On 28 July 1994, at the forty-eighth session of the United Nations General Assembly, the Agreement relating to the Implementation of Part XI of the Law of the Sea Convention[358] was adopted. The provisions of Part XI of the UNCLOS constitute the regime governing the exploitation of the deep sea-bed. This Agreement and the SSA are contemporaneous and both instruments modify the 1982 UNCLOS. Therefore, a comparative evaluation of the relevant features of these two instruments can provide insights enabling accurate and comprehensive understanding of the scope of the 1995 SSA.

The provisions of the Agreement Relating to the Implementation of Part XI and Part XI itself must be interpreted and applied together, as a single instrument, and in the event of any inconsistency between the Agreement and Part XI of UNCLOS, the provisions of the Agreement will prevail[359]. Conversely, however, the 1995 SSA does not prevail over the 1982 Convention. While it is necessary to be party to UNCLOS to become party to the Agreement on the Implementation of Part XI, it is not necessary to be a party to the Convention in order to become party to the 1995 SSA. This latter Agreement must be interpreted and applied in the context of and in a manner consistent with the Convention and nothing in it shall prejudice the rights, jurisdiction and duties of States under the Convention[360].

The object of the Agreement relating to the Implementation of Part XI was to facilitate universal participation in the Convention[361], adapting this part of the regime to the political and economic changes, necessary to bring it into accord with market-oriented approaches[362], for the exploitation of the deep sea-bed and other requirements. Expressed in much more explicit terms than those of the UNCLOS, the objective of the 1995 SSA is to ensure the long-term conservation and sustainable use of straddling and

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[358] 1994 Agreement Relating to the Implementation of Part XI of the Law of the Sea Convention of 10 December 1982, reproduced in 33 (1994) ILM 1309-1327.

[359] Ibid., Art. 2.

[360] 1995 SSA, Art. 4.

[361] Preamble, paragraphs 6 - 7, Agreement on the Implementation of Part XI supra, note 358.

[362] Preamble, paragraph 5, Ibid.

highly migratory fish stocks through effective implementation of the relevant provisions of the Convention[363].

Both are implementing agreements. However, it has been argued that the Agreement for the Implementation of Part XI "substantially modifies"[364], the regime contained in Part XI of UNCLOS and "goes beyond the mere implementation"[365]. However, whereas the 1995 SSA develops an existing framework for the conservation and management of fisheries on the High seas, as outlined in Parts V and VII of the 1982 Convention, the Agreement for the Implementation of Part XI alters an existing regime[366]. In fact, in developing an existing framework, the 1995 SSA, together with other recent international legal instruments, creates a new environmental regime for fisheries on the high seas[367]. In both cases, the agreements are affecting and limiting the scope of the principle of freedom in the high seas which does not recognize the sovereignty or jurisdiction of any State over this area.

Furthermore, in spite of its title, the 1995 Agreement for the Implementation of the Provisions of UNCLOS relating to the Conservation and Management of Straddling and Highly Migratory Fish Stocks does not require the prior acceptance of the Convention and it does not explicitly say that the relevant provisions of the Convention are binding for all the States Parties to the Agreement. The 1995 SSA provides in Article 4 that it shall be interpreted and applied in the context of, and in a manner consistent with the Convention. Conversely, Article 2 of the 1994 Agreement for the Implementation of Part XI requires that the Agreement must be interpreted and applied together with Part XI of UNCLOS, as a single instrument, and in the event of any inconsistency between

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[363] 1995 SSA, Art. 2.

[364] Jean Pierre Queneudec, 'Le 'nouveau' droit de la mer est arrivé', *RGDIP*, 98 (1994), pp. 865-870, at 866.

[365] Dolliver M. Nelson, 'The New Deep Sea-Bed Regime', *IJMCL*, 10 (1995), pp. 189-203, at 190.

[366] Antonio Rengifo, 'La Adopción de un Nuevo Regimen Internacional para la Gestión y la Explotación de los Fondos Marinos', *Revista Politicas*, Publicaciones Universidad del Valle, Colombia, 5 (1996), pp. 29-46.

[367] Vogler, supra, note 39, p. 52; Breitmeier et al., supra, note 40.

them, the provisions of the Agreement shall prevail[368]. This last provision has raised the concerns of some experts who suggest that there is now a situation of "two regimes"[369] and that "the 'Agreement' generates contradictions and weaknesses that will be hard to live with"[370]. This provision implies the existence of two regimes and endorses the principle *"ius posteriori derogat iuri priori"* (a new law prevails over an old one).

The comparison between the Agreement for the Implementation of Part XI and the 1995 SSA is relevant. It shows that for conservation and management measures, the UNCLOS remains a general framework providing the legal basis for the interpretation of the provisions contained in the 1995 SSA.

3.3.1.3 Contributions of the 1995 SSA

The 1995 SSA defines conservation and management measures as those measures to conserve or manage one or more species of living marine resources that are adopted and applied consistent with the relevant rules of international law as reflected in the 1982 UNCLOS and the 1995 SSA[371]. The intention is to proffer a better understanding of the emerging international regime for fisheries on the high seas. The 1995 SSA does not define "stock" nor define "straddling stock" or "highly migratory fish stocks". Iversen has defined "stock" as a manageable unit of an exploited population -an actual biological unit- of fish or shellfish, sometimes a single interbreeding population or group of fishes[372].

Straddling Stocks, which are referred to in Article 63 of the 1982 UNCLOS, could, accordingly to a Russian Draft proposed at the UN Conference on SSA, be defined as stocks formed by those species of marine life which reproduce and spend the greater part of their life cycle (spawning, drifting of eggs and larvae, growth of young fish,

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[368] Art. 2.1, Agreement on the Implementation of Part XI supra, note 358.

[369] Queneudec, supra, note 364, p. 868.

[370] Mann-Borgese, supra, note 321, p. 6.

[371] 1995, SSA, Art. 1.b.

[372] Iversen, supra, note 9, at 207.

migration, etc.) within the 200-mile economic zone of two or more coastal States but which, in some cases (under the influence of climatic conditions or the need to extend their stock area because of an increase in numbers), may temporarily migrate beyond the 200-mile economic zone into EEZ or high seas adjacent areas, or by species whose natural habitat area includes both the 200-mile of the coastal State (the larger part of the stock area) and the adjacent area (the smaller part of the stock area)[373]. Examples of such stocks include cod stocks, found in the "nose and tail" of the Grand Banks in Newfoundland, Canada; squid and blue whiting resources of the south-west Atlantic; and stocks of pollock found in the Bering Sea and in the Sea of Okhotsk.

Highly migratory species are those which move considerable distances over vast expanses of ocean areas both within and beyond EEZs (EFZs). They are referred to in Article 64 of UNCLOS which provides for the rights and obligations of coastal and other States whose nationals fish for them. A list of species considered highly migratory at the time of elaboration of the 1982 UNCLOS was attached as Annex I: tuna, frigate mackerel, oceanic sharks and cetaceans are the most commercially significant species among those identified. The biological distinction between straddling and highly migratory species, however, is not always straightforward[374].

In most national and international fisheries management situations, effective management will require a 'set of rules' comprising both 'target reference points' (TRPs) and 'limit reference points' (LRPs). A TRP indicates a state of a fishing and/or a resource that is considered to be desirable and at which management action, whether during development of the stock or stock rebuilding, should be aimed. A LRP indicates a state of a fishery and/or a resource that is considered to be undesirable and which management action should avoid[375]. The TRPs and LRPs can be incorporated into a set of management criteria. Caddy and Mahon have developed a sequence of four fishery

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[373] Definition submitted by the Russian Federation during the UN Conference on SFS, on 20 July 1993. See Doc. A/CONF.164/L.18, reproduced in Levy et al. (eds.), *Selected Documents*, supra, note 103, at 215. According to this definition, "SFS form part of a single coastal ecosystem and their conservation should be carried out in accordance with unified principles both within the 200-mile economic zone and in adjacent areas".

[374] FAO Fisheries Department, supra, note 35, at 70.

[375] Serge Garcia, 'The Precautionary Principle: its Implications in Capture Fisheries Management', *Ocean and Coastal Management*, 22 (1994), 99-125.

management questions and actions for the most effective development of such sets of rules. These questions give pre-eminence to sustainability, give habitat and ecosystem conservation highest priority, put resource conservation next and finally deal with issues of yield optimisation.

> "1-Is current level of fishing effort affecting the environment? If the answer is YES, an attempt to quantify the level of impact must be started. 2-Is current level/type of fishing effort affecting the biodiversity of the ecosystem? If the answer is YES, Reference Points must be developed indicating the limit to acceptable level of impact. 3-Is current level/type/area/season of fishing effort affecting successful recruitment to the stock? If the answer is YES, the closure for spawning season or area and minimum spawning biomass must be triggered. 4-What effort level and size of first capture maximizes the yield per recruit. If YES, develop size limits/mesh size minima and Y/R limit reference point"[376].

The 1995 SSA is also contemporaneous with other international instruments, both legally binding and "soft", aimed at the conservation and management of fisheries in general and on the high seas in particular. These instruments include the UN Resolutions on Driftnet Fishing[377]; the Convention on Biological Diversity[378]; the FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas[379]; The FAO Code of Conduct for Responsible Fisheries[380]; and, the Jakarta Mandate[381]. These global instruments reflect "a fundamental alteration of the discourse on fisheries conservation and management policies"[382]. The principles, norms, organizations, decision-making and dispute settlement procedures and information, as well as compliance and enforcement

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[376] J. Caddy and R. Mahon, Reference Points for Fisheries Management, (Rome, FAO - FTP No. 347, 1995), p. 46.

[377] UN Resolutions on Driftnet Fishing: UNGA Resolution 45/197, 21 December 1990. UNGA Resolution 46/215, 20 December 1991, reproduced in 31 ILM (1992) 241.

[378] 1992 Convention on Biological Diversity. Reproduced in *Environmental Law and Policy*, 22 (1992), p. 251.

[379] FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, supra, note 222.

[380] FAO Code of Conduct for Responsible Fisheries, supra, note 223.

[381] The Jakarta Mandate basically embodies the Recommendation on Scientific, Technical and Technological Aspects of the Conservation and Sustainable Use of Coastal and Marine Biological Diversity (SBSTTA Recommendation) contained in Doc. UNEP/CBD/COP/2/5, 4-8 September 1995.

[382] Hey, 'Global Fisheries', supra, note 224, p. 459.

provisions contained in this 'new generation' of fisheries' agreements are interrelated and seem to be foreshadowing a new international environmental regime for fisheries on the high seas and should be applied in a comprehensive way[383]. These new instruments include important principles and decision-making procedures, such as the precautionary principle, the requirement to exchange and share data, the adoption of an ecosystem approach, and the adoption of measures based on best scientific evidence. In the context of these developments, it can thus be argued that, in relation to fisheries management, the international community is entering a new era of ocean policy[384]. Therefore, insofar as the provisions of these instruments are consistent with relevant rules of international law and the 1982 UNCLOS, the provisions of all the contemporary international instruments referred above will be discussed in this and forthcoming chapters.

In adopting the system of "sets of rules" for conservation and management measures rather than the "univocal" MSY approach of UNCLOS, the SSA Agreement represents an important improvement in the international law of fisheries. This improvement is strengthened by the requirement of "compatibility of conservation and management measures" between EEZs and High Seas, established in Article 8[385]. The mechanism by which the above process of conservation and management measures can be achieved must include an institutional framework of subregional and regional co-operation between fisheries organizations. This institutional framework is provided by the 1995 SSA which, in Article 5, outlines the set of rules that must govern the conservation of fisheries on the high seas.

3.3.2 Sustainability and protection of biological diversity

Some of the principles adopted by Article 5 of the 1995 SSA relate directly to the conservation of biological diversity and the long-term sustainability of straddling and highly migratory fish stocks. According to this set of principles, States must protect

[383] Antonio Rengifo, Protection of Marine Biodiversity: A New Generation of Fisheries Agreements, *RECIEL*, 6 (1997), pp. 313-321.

[384] C. Pell, 'A New Era in Ocean Policy', *IJMCL*, 12 (1997), pp. 1-4.

[385] This issue will be discussed in Chapter 5 "Decision-making Procedures".

biodiversity in the marine environment[386]; adopt measures to ensure long-term sustainability of the stocks and promote the objective of their optimum utilization[387]; and, maintain or restore stocks at levels capable of producing maximum sustainable yield, as qualified by relevant environmental and economic factors[388].

Life originated in the oceans and they are a reservoir of life. The evidence that is now accumulating establishes that in respect to functional diversity, the marine ecosystems display much richer diversity or phyla than 'terrestrial' or 'continental' ecosystems[389]. Therefore, the problems of addressing the conservation of marine ecosystems are in essence different from those of terrestrial systems. In keeping with growing concerns regarding preservation of biological diversity, the principles of the SSA concerning this matter are consistent with Article 22.2 of the Convention on Biological Diversity (CBD) which provides that 'Contracting Parties shall implement this Convention with respect to the marine environment consistently with the rights and obligations of the States under the Law of the Sea". This provision imposes upon States Parties the clear obligation to implement the CBD in accordance with, and subject to, the corpus of customary law of the sea, UNCLOS, and other international instruments on the Law of the Sea.

Notwithstanding this, as Freestone has pointed out, the specific problems concerning the conservation of marine ecosystems have been widely omitted from the CBD and the most important discussions regarding conservation of marine biodiversity have taken place in other fora, such as the UN Conference on SFS[390]. Clearly, the SSA introduces significant improvements with regard to the protection of biological diversity in marine ecosystems as a legal principle. There is now explicit recognition of the need to protect straddling and highly migratory fish stocks as part of the rich biodiversity of oceans and seas.

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[386] 1995 SSA, Art. 5.g.

[387] 1995 SSA, Art. 5.a

[388] 1995 SSA, Art. 5.b.

[389] Norse, supra, note 1, p. 77.

[390] David Freestone, 'The Conservation of Marine Ecosystems under International Law', in Michael Bowman and Catherine Redgwell (eds.), *International Law and the Conservation of Biological Diversity*, (London, Kluwer Law International, 1996), pp. 91-109, at 107.

3.3.3 Large marine ecosystem (LME) approach

Two of the aforementioned principles incorporate the "large marine ecosystem" (LME) concept. Implicit in this concept is the understanding that States must adopt conservation and management measures[391] as well as assess the impacts of fishing, other human activities and environmental factors on species belonging to the same ecosystem or dependent on or associated with the target stock[392]. LMEs cut across maritime boundaries and have been defined as "extensive areas of ocean space of approximately 200.000 km2 or greater characterized by distinct bathymetry, hydrography, productivity and trophically dependent populations"[393].

The approach that has been most commonly used to date is management on a species-by species basis that has proved less than adequate. Interrelationships between species, environment and fishery, need to be well understood for LME management to be applied. Since this is not the prevalent practice, LMEs will require an intensification of research by all parties to understand functional linkages and will need to be integrated with existing fisheries management structures, or require new ones[394].

The introduction of the LME concept as a general principle for ordering conservation measures in the 1995 SSA is a major improvement in international law of fisheries. The LME approach underlies most of the legal interactions between the EEZ and the high seas, either in relation to given species and biomass distribution or in connection with the necessary comptability that management regimes must ensure between conservation measures adopted both for the EEZ and the high seas[395]. The LME approach has been one of the most prominent developments for the conservation and management of fisheries to date[396].

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[391] 1995 SSA, Art. 5.e.

[392] 1995 SSA, Art. 5.d.

[393] Sherman and Alexander, *Variability and Management of Large Marine Ecosystems*, (Boulder, Colorado Westview Press, 1986), p. 86.

[394] Caddy and Griffiths, supra, note 350, p. 42.

[395] Orrego, *The Changing International Law*, supra, note 81, p. 78.

[396] Lewis Alexander, 'Large Marine Ecosystems: a New Focus for Marine Resources Management', *Marine Policy*, 17 (1993), pp. 199-212. See also Elizabeth Kirk, ''Maritime Zones and the Ecosystem Approach: a Mismatch?', *RECIEL*, 8 (1999), pp. 67-71.

3.3.4 Protection of the marine environment

Fishing techniques and high levels of incidental catches are a matter of growing international concern. Consequently, two principles are designed to protect the marine environment in a broad sense. These principles affirm the obligation for Coastal and Fishing States to minimize pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species and impacts on associated or dependent species, in particular endangered species, through measures including the development and use of selective, environmentally safe and cost-effective fishing gear and techniques[397]. Furthermore, these States must take measures to prevent or eliminate over-fishing and excess fishing capacity and to ensure that levels of fishing effort do not exceed those levels commensurate with the sustainable use of fishery resources[398]. The global assessment of fisheries' bycatch and discards has been estimated as being between 18 and 40 million tonnes per year, with a mean estimate of 27 million tonnes[399]. This practice seriously threatens the long-term sustainability of fisheries. The improvement in the selectivity of fishing gear and fishing methods has been proposed as a major tactic to reduce the levels of discards.

A modern form of a traditional technique is drifnet fishing, which involves the use of nylon nets up to 30 miles wide suspended vertically to depths of about 30 feet. Larger and stronger driftnet fishing made of new synthetic fibres has allowed the gear to be employed for indiscriminate fisheries. This has precipitated a crisis in conservation as several of the most important pelagic stocks have been over-exploited[400]. Reflecting general concern over the use of large-scale pelagic drifnet fishing, the United Nations General Assembly adopted, at its 1989 Session, Resolution 44/225, calling for a moratorium on large-scale fishing. The implementation of this Resolution has been specifically recommended by Agenda 21.

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[397] 1995 SSA, Art. 5.f.

[398] 1995 SSA, Art. 5.h.

[399] FAO Fisheries Department, A Global Assessment of Fishery's Bycatch and Discards, (Rome, FAO - FTP No. 339, 1994), p. 233.

[400] Coull, *World Fisheries*, supra, note 3, p. 46.

The present reporting system for fisheries, although adequate for recording catches, does not cover by catch/discards, fishing used and fishing effort. The Agreement on SFS establishes, for the first time, requirements for systematic collection, analysis, verification and sharing of data regarding catch, bycatch, discard and fishing effort[401]. However, the Agreement fails in providing specific provisions related to the use of drifnet fishing. The international community acknowledges that the accurate collection and reporting of fisheries' bycatch and discards data are also an important part of monitoring, control and surveillance systems[402].

3.3.5 Monitoring, control and surveillance (MCS)

Three principles relate directly to fishing activities, implicit in which is the requirement that coastal and fishing States promote and conduct scientific research and develop appropriate technologies[403] as well as implement and enforce conservation and management measures through effective MCS[404]. Correlative to these principles, is also the obligation to collect and share complete and accurate data concerning fishing activities on vessel position, catch of target and non-target species and fishing effort, as well as information from national and international research programmes[405]. Additionally, Annex I of the 1995 SSA provides specific standard requirements for collection and sharing of data.

Although MCS are essential elements for efficient high seas fishing activities, they are not provided for in the 1982 UNCLOS. Unauthorized fishing and lack of effective

[401] 1995 SSA, Art. 5.f. Driftnets of 2-90 Kms in length function as "walls of death" for nearly everything they encounter. See Anthony Laughton, 'Using the Ocean Wisely', *Marine Policy*, 18 (1994), pp. 453-456. On December 1989 the UNGA expressed alarm at the over exploitation of living marine resources of the high seas by driftnets and the likelihood that driftnet fishing would have an adverse impact on the EEZ. See Michel Savini, 'La réglementation de la pêche en haute mer par l'Assemblée Genérale des Nations Unies', *AFDI*, 36 (1990), pp. 777-817 and William Burke et al, 'United Nations Resolutions on Driftnet Fishing: An Unsustainable Precedent for High Seas and Coastal Fisheries Management', *ODIL*, 25 (1994), pp. 127-186.

[402] 1995 SSA, Art. 14 and Annex I, Art. 3.1.

[403] 1995 SSA, Art. 5.k.

[404] 1995 SSA, Art. 5.l.

[405] 1995 SSA, Art. 5.j.

MCS, however, have always undermined fisheries regulations and continue to threaten the sustainability of fisheries. The purpose of MCS systems is both to ensure the implementation of fisheries' policies and management decisions and to ensure compliance with agreed measures for enforcement. The MCS measures are itemized in Part V of the 1995 SSA, which deals with the duties of flag States[406] and will be discussed in detail in Chapter 6, Section 3.

3.3.6 Interests of artisanal and subsistence fishers

Article 5.i of the 1995 SSA requires that coastal and fishing States take into account the interests of artisanal and subsistence fishers. States are also required to take into account the vulnerability of those developing States which are dependent on the exploitation of living marine resources, to meet the nutritional requirements of their populations or parts thereof[407] and to ensure access to fisheries by subsistence, small-scale and artisanal fishers and women fish workers, as well as indigenous peoples in developing States[408].

Almost 50 per cent of total world landings are estimated to come from small-scale capture fisheries, most of which fish is used for direct human consumption[409]. 'Small-scale fisher' is a useful term to describe fishers-artisans who fabricate much of their own gear, weave their own nets, fashion fish traps and use small-motorized watercraft. Small-scale fishing implies a small-scale capital commitment and use of small-scale power. Thus, in developing countries in particular, small-scale fishers are unable to influence fish markets and can only inefficiently protect fisheries against the environmental degradation produced by external developments[410]. Frequently, they have little representation on the formulation and implementation of fisheries management policies. Article 61.3 of UNCLOS makes explicit reference to the need to take into

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[406] See 1995 SSA, Art. 18.

[407] 1995 SSA, Art. 24.2.a

[408] 1995 SSA, Art. 24.2.b.

[409] FAO Fisheries Department, The State of World Fisheries, supra, note 16, p. 17.

[410] McGoodwin, *Crisis in World Fisheries*, supra, note 4, p. 10.

account "the economic needs of coastal fishing communities". However, provisions related explicitly to artisanal and subsistence fishers are new in the international law of fisheries[411].

Another important UNCED principle adopted by the 1995 SSA is the precautionary approach which is now a key element of international fisheries law[412]. Accordingly, an important development is inherent in the 1995 SSA which includes the 'precautionary approach' as a principle in Article 5.c., to be applied in accordance with Article 6 Annex II, both Articles relating to the Application of the Precautionary Approach. As it is established, the 1995 SSA provides the necessary legal and administrative procedures and institutionalizes caution in the conservation and management of straddling stocks. The principles of the Agreement relating to conservation and management of straddling and highly migratory fish stocks mark an advance in conventional international standards for the international law of fisheries[413]. Taking into account its importance and scope, the precautionary approach is discussed in more detail in the following Section.

3.3.7 The precautionary approach

The policy stance of taking precautionary action before prevailing doubt and uncertainty about possible environmental damage can be resolved has been referred to as 'the precautionary principle', the 'precautionary approach', 'principle of precautionary action', 'precautionary management', 'precautionary policy' and 'precautionary action'. Elen Hey has pointed out that these different terms do not imply substantial differences in content

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[411] However, the interests of indigenous aboriginal peoples are taken into account in some whaling and sealing Conventions, notably of the Schedule of the International Convention on the Regulation of Whaling (Whaling Convention), Washington, 2 December 1946, in force 10 November 1948, as amended the 19 November 1956, (161 UNTS 72 and 338 UNTS 336).

[412] The precautionary approach was developed in relation to polluting discharges into the oceans and its application to fisheries is difficult to identify. It is not mentioned in UNCLOS but is gradually creeping into the practice of fisheries commissions. The SSA provisions regarding the precautionary approach are thus a breakthrough on this matter.

[413] David Anderson, 'The Straddling Stocks Agreement of 1995. An Initial Assessment', *ICLQ*, 45 (1996) 463-75.

and that delineation of these terms has not been pursued systematically[414]. According to this author, "principle" implies a rule adopted as a guide for developing international environmental policy whereas "approach" means a way of considering or handling environmental problems[415].

The precautionary approach has raised considerable controversy and there is no consensus regarding its legal status in international law. Some authors suggest that there is sufficiently broad support for it to be considered as a principle of customary law[416]. However, at the present stage, it is difficult to conclude the precautionary principle or precautionary approach has been established as part of customary international law[417]. This is because a universal definition of precautionary approach is non-existent at present and, thus, its implications and economic consequences need to be analyzed on a case-by-case basis[418].

First, elaborated in the 1970s in the Federal Republic of Germany, the 1982 UNCLOS founded its provisions regarding conservation of marine living resources on the best available scientific evidence. Elizabeth Mann-Borghese comments that "at that time, there was less emphasis on the uncertainty principle and, therefore, on the necessity of a

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[414] Ellen Hey, 'The Precautionary Concept in Environmental Policy and Law: Institutionalizing Caution', *Georgetown International Environmental Law Review* , 4 (1992) 303-318.

[415] Ibid., at 309. Daniel Bodansky has pointed out that although the precautionary principle provides a general approach to environmental issues, it is too vague to serve as a regulatory standard because it does not specify how much caution should be taken. In addition, according to Bodansky, the precautionary principle seems to suggest that the choice is between one risk and another. See Daniel Bodansky, 'The Precautionary Principle', *Environment*, Volume 33, Number 7, September 1991, pp. 4-5 and 43-44.

[416] Ellen Hey maintains, however, that to be introduced successfully in international law, the precautionary approach requires that consideration of the relationship between the environment and development be reflected in the rules and procedures to be adopted; supra, note 414, p. 318. See also, David Freestone, 'The Road to Rio: International Environmental Law after the Earth Summit', *Journal of Environmental Law*, 6 (1994), pp. 193-211 and Sands, *Principles*, supra, note 211, p. 213; James Cameron and Juli Abouchar 'The Precautionary Principle: A Fundamental Principle of Law and Policy for the protection of the Global Environment', *Boston College of International and Comparative Law Review*, 14 (1991), pp. 1-27. On the scope of the precautionary approach as a principle of customary international law relating to the environment, see also the Dissenting Opinions of Judges Weeramantry and Palmer in the Request for an Examination of the Situation in Accordance with Paragraph 63 of the Court's Judgement of 20 December 1974 in 'The Nuclear Tests Case (New Zealand v. France)', ICJ, General List No. 97, 22 September 1995.

[417] Birnie and Boyle, supra, note 213, p. 98; and Grant J. Hewison, 'The Precautionary Approach to Fisheries Management: An Environmental Perspective', *IJMCL*, 11 (1996), pp. 301-332, at 315.

[418] Pierre-Marie Dupuy, 'Oú en est le Droit International de l'Environnement à la Fin du Siecle?', *RGDIP*, 101 (1997), pp. 873-903.

precautionary approach"[419]. However, the obligations and principles in the Convention have set the pace for international environmental law and supported a preventive approach, even if conceived at the time in a different language[420]. The "precautionary principle" and the "precautionary approach" relate equally to the concept of caution in management and more often than not the two terms remain undifferentiated by scholars. However, the term "approach", which is the more appropriate for fishery's management, is generally preferred by governments as being the "softer" of the two in terms of obligation.

The 1992 UNCED stressed the need for a precautionary approach to the protection of the environment in Principle 15 of the Rio Declaration and Chapter 17 of Agenda 21. Principle 15 of the Rio Declaration states that "in order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation". Thus, the substance of the principle recognizes the different local capabilities and accepts cost-effectiveness as a consideration in applying the approach.

There are numerous definitions of the precautionary approach or precautionary principle offered in the relevant literature. Cameron and Abouchar advance the following definition: "the precautionary principle ensures that a substance or activity posing a threat to the environment is prevented from adversely affecting the environment, even if there is no conclusive scientific proof linking that particular substance or activity to environmental damage"[421]. The authors make explicit the guiding character of the principle and its purpose, to encourage and possibly oblige decision makers to consider the likely harmful effects of their activities on the environment before they pursue those activities and take all appropriate measures to prevent harm[422].

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[419] Mann-Borghese, supra, note 321, p. 53.

[420] Lee Kimball, 'The United Nations Convention on the Law of the Sea: a Framework for Marine Conservation', in IUCN – The World Conservation Union, *The Law of the Sea: Priorities and Responsibilities in Implementing the Convention*, (Gland, IUCN and WWF, 1995), pp. 5-122, at 17.

[421] Cameron and Abouchar 'The Precautionary Principle', supra, note 416, pp. 1-27, at 2.

[422] Ibid.

Regarding fisheries, the precautionary approach has been defined as "the taking of preventive conservation measures, where there are threats of serious or irreversible environmental damage, even in the absence of clear scientific evidence as to the necessity of such measures"[423]. Garcia offers a definition of the precautionary approach as "a set of agreed cost-effective measures and actions, including future courses of action, which ensures prudent foresight, reduces or avoids risks to the resources, the environment and the people, to the extent possible, taking explicitly into account existing uncertainties and the potential consequences of being wrong".[424] The author declares that, paradoxically, there is no definition of a precautionary approach that is generally related to the need to take action even in the absence of "full scientific certainty"[425].

The Precautionary Approach had been suggested in several International Technical Consultations as well as in international agreements related to the protection of marine living resources[426]. Thus, in the 1992 Technical Consultation on High Seas Fishing, the FAO stressed the uncertainty always implicit in the "best scientific evidence available" for management and drew attention to issues of precaution and burden of proof, the precautionary nature of the traditional MSY reference point, and the need for more and different reference points to be used as a basis for more precautionary management strategies[427]. The 1995 FAO Code of Conduct for Responsible Fisheries, although voluntary, includes a section on the precautionary approach on fisheries management. According to the Code,

> "States and sub-regional and regional fishery's management organizations should apply a precautionary approach widely to

[423] FAO, 'Report of the Technical Consultation on High Seas Fishing', Doc. A/CONF.164/INF/2, Rome, 7-15 September 1992. Reproduced in Levy et al. (eds.), *Selected Documents*, supra, note 113, p. 288.

[424] S. M. Garcia, 'The Precautionary Approach to Fisheries and its Implications for Fishery Research, Technology and Management: An Updated Review', in Precautionary Approach to Fisheries. Part 2: Scientific Papers, (Rome, FAO Fisheries Department, FTP No. 350/2, 1996), pp. 1-75, at 4.

[425] Ibid.

[426] Ibid. Possibly the most relevant provision on the matter has been the application of the precautionary approach to multispecies interaction in the Convention on the Conservation of Atlantic Marine Living Resources. See Convention on the Conservation of Atlantic Marine Living Resources, reproduced in 19 ILM (1980) 837, Conservation Measures 68/XII, 67/XII, 66/XII.

[427] Garcia, supra, note, 424, p. 7.

> conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment, taking account of the best scientific evidence available. The absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and not-target species and their environment"[428].

The implementation of the Code regarding the precautionary approach is facilitated by a set of specific guidelines based on the best scientific evidence available, which include general principles for fisheries management, as well as explicit and detailed management objectives; management framework and procedures; data gathering and management advice; management measures; implementation; and financial institutions[429]. These provisions should be applied in accordance with specific guidelines for the implementation of the precautionary approach. The precautionary approach promoted by FAO through the Code and other international instruments is being progressively reflected in the fishery sector in reality[430].

As requested by the UN Conference on Straddling and Highly Migratory Fish Stocks, FAO submitted constructive recommendations related to the precautionary approach during the negotiations leading to the adoption of the 1995 SSA. Two papers were presented by FAO: one on the precautionary approach in fisheries management[431] and the other on management reference points[432]. Taking into account the uncertainties in fisheries' systems and the need to take action despite incomplete information, FAO has identified the elements involved in the application of the precautionary approach in fisheries management. These elements include:

> "consideration of the needs of future generations and avoidance of changes that are not potentially reversible; prior identification of

[428] Art. 6, Code of Conduct for Responsible Fisheries.

[429] Art. 7.2, Code of Conduct for Responsible Fisheries.

[430] Garcia, supra, note 424, p. 11.

[431] 'Reference Points for Fisheries Management: their Potential Application to Straddling and Highly Migratory Resources', Doc. A/CONF.164/INF/9, in Levy et al. (eds.), *Selected Documents*, supra, note 113, pp. 578-607.

[432] 'Suggested Guidelines for Application of Precautionary Reference Points in Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks', Doc. A/CONF.164/22, Annex 2, in Levy et al. (eds.), *Selected Documents*, supra, note 113, pp. 649-655.

undesirable outcomes and of measures that will avoid them or correct them promptly; that any necessary corrective measures are initiated without delay, and that they should achieve their purpose promptly, on a time scale not exceeding two or three decades; that where the likely impact of resource use is certain, priority should be given to conserving the productive capacity of the resource; that harvesting and processing capacity should be commensurate with estimated sustainable levels of the resource, and that increases in capacity should be further contained when resource productivity is highly uncertain; that all fishing activities have prior management authorization and be subject to periodic review; an established legal and institutional framework for fishery management, within which management plans that implement the above points are instituted for each fishery, and, appropriate placement of the burden of proof by adhering to the requirements above"[433].

During the Second Session on the UN Conference on SFS and HMFS in July 1993, the Delegations of Argentina, Canada, Chile, Iceland and New Zealand submitted a paper proposing selected precautionary measures on the high seas that differentiate between newly discovered stocks and existing fisheries[434]. For existing fisheries the text proposed *inter alia* that the Total Allowable Catches (TACs) must be established below the level of MSY or, if the population is below that required for traditional levels that can produce the MSY, the TAC must be established at a level that allows the stock to rebuild. Another proposal that dealt with TACs suggested that fishing be reduced to levels aimed at arresting the decline, and any subsidies for fishing operations must be ended. Regarding newly discovered stocks, the text proposed evenly that TACs must be established below the MSY level and that the coastal State should have special prerogatives to adopt interim management measures in the case of discovery of a new straddling or highly migratory fish stock and in the event of a coastal State establishing that an emergency existed. The intensive discussions regarding the latter proposal obscured other important aspects of the text. Moreover, no consensus was reached at the Conference for adopting precaution as a principle; there was support only for the proposition that the precautionary approach admits the possibility of adapting

[433] FAO Fisheries Department, Precautionary Approach to Fisheries. Part 1: Guidelines on the precautionary approach to capture fisheries and species introductions, (Rome, FAO Fisheries Department, FTP No. 350/1, 1995), p. 4.

[434] Doc. A/CONF.164/L.11/REV.1, in Levy et al. (eds.), *Selected Documents*, supra, note 113, pp. 147-161.

technology and measures to socio-economic conditions, consistent with the requirements for sustainability.

The precautionary approach, therefore, has not been defined in the 1995 SSA. Rather, the Agreement affirms that States must apply the precautionary approach widely to conservation, management and exploitation of SFS and HMS in order to protect the living marine resources and preserve the marine environment[435]. Furthermore, the Agreement not only asserts that the absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures, but also substantiates the obligation of States to be more cautious when information is uncertain, unreliable or inadequate[436]. In case of high uncertainty about critical areas or species, in particular, and to avoid potentially irreversible changes, the precautionary approach has been extended to the management of straddling fish stocks.

In addition, the 1995 SSA sets out specific provisions for the implementation of the precautionary approach for management of SFS. According to these provisions, to improve decision making procedures, States are required to: obtain and share the best scientific information available[437]; apply the guidelines set out in Annex II[438]; take into account reference points and uncertainties relating to the size and productivity of the stocks[439]; and to assess the impact of fishing on non-target and associated or dependent species and their environment[440].

The decision-making procedures for fisheries management and the goal of optimizing social benefits from fishery development and management can be achieved in different ways, according to national values and systems[441]. Therefore, the duty stressed in

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[435] 1995 SSA, Art. 6.1.

[436] 1995 SSA, Art. 6.2.

[437] 1995 SSA, Art. 6.3.a.

[438] 1995 SSA, Art. 6.3.b.

[439] 1995 SSA, Art. 6.3.c.

[440] 1995 SSA, Art. 6.3.d.

[441] W. C. Mackenzie, 'An Introduction to the Economics of Fisheries Management', (Rome, FAO Fisheries Department, FTP No. 226, 1992), p. 9.

Article 6.6.a is a general obligation. Notwithstanding this, the innovatory aspect of the Agreement lies in the introduction of two mechanisms for improving decision making procedures: obtaining and sharing of best scientific information available on the one hand and, on the other, the implementation of improved techniques for dealing with risk and uncertainty.

Obtaining and sharing the best scientific information is a crucial element for fisheries management. Regarding the conservation of the living resources of the EEZ, the 1982 UNCLOS provides that available scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks must be contributed and exchanged on a regular basis through competent international organizations[442]. The present reporting system and the fishing effort statistics for fisheries on the high seas have not proved satisfactory. Thus, during the UN Conference on SFS, FAO advocated improvement of the data requirements for the high seas, which should encompass catches/discards and specific fishing gear used in terms of numbers of vessels and fishing effort[443]. This data can provide inputs for the improvement of the scientific information available[444].

Hilborn and Peterman have defined risk as "expected loss" and not simply "the probability of some undesirable event occurring" identifying on these grounds seven sources of uncertainties and risks that can affect the success or failure of fisheries management which are:

> "(a) estimates of fish abundance or other measures of the state of the system; (b) model structure; (c) estimated model parameters; (d) response of users to regulation; (e) future environmental conditions; (f) future social, political and economic conditions, and (g) future management objectives". They add that "whether future losses would occur by taking scientific advice into account depends on how the uncertain information is used. There are now many computational and

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[442] UNCLOS, Art. 61.5.

[443] FAO, Doc. 164/INF/2, in Levy et al. (eds.), *Selected Documents*, supra, note 113, p. 317.

[444] D. D. Huppert, 'Risk Assessment, Economics, and Precautionary Fishery Management', in Precautionary Approach to Fisheries'. Part 2: Scientific Papers, (Rome, FAO Fisheries Department, FTP No. 350/2, 1996), pp. 103-128.

statistical mechanisms which can incorporate the assessments of expected consequences of alternative actions"[445].

Article 6.3.c of the 1995 SSA establishes that States shall apply the guidelines set out in Annex II and determine, on the basis of the best scientific information available, stock-specific reference points and the action to be taken if they are exceeded. The Annex II of the Agreement sets out guidelines for application of precautionary reference points in conservation and management of SFS and HMFS. These guidelines include a definition of precautionary reference point[446]; the two types of precautionary reference points that must be used[447]; the pattern that precautionary reference points should be stock-specific[448]; the pattern that management strategies shall seek to maintain or restore populations of harvested stocks at levels consistent with previously agreed precautionary reference points[449]; the pattern that fishery management strategy shall ensure that the risk of exceeding limit reference point is very slow[450]; the setting of provisional reference points when information for determining reference points for a fishery is poor or absent[451]; and finally, the pattern that fishing mortality rate which generates MSY should be regarded as a minimum standard for limit reference points[452].

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[445] R. M. Hilborn and R. M. Paterman, 'The Development of Scientific Advice with Incomplete Information in the Context of the Precautionary Approach, in Precautionary Approach to Fisheries. Part 2: Scientific Papers, (Rome, FAO Fisheries Department, FTP No. 350/2, 1996), pp. 77-97.

[446] "A precautionary reference point is an estimated value derived through an agreed scientific procedure, which corresponds to the state of the resource and of the fishery, and which can be used as a guide for fisheries management". Annex II, Guideline 1, 1995 SSA.

[447] For conservation, limit reference points which like boundaries are intended to constrain harvesting within safe biological limits within which the stocks can produce MSY and, on the other hand, for management, target reference points which are intended to meet management objectives. Annex II, Guideline 2, 1995 SSA.

[448] Precautionary reference points should be stocks-specific to account for the reproductive capacity, the resilience of each stock and the characteristics of fisheries exploit ting the stock, as well as other sources of mortality and major sources of uncertainty. Annex II, Guideline 3, 1995 SSA.

[449] Such reference points shall be used to trigger pre-agreed conservation and management action. Annex II, Guideline 4, 1995 SSA.

[450] Fishery management strategies shall ensure that target reference points are not exceeded on average. Annex II, Guideline 5, 1995 SSA.

[451] Provisional reference points may be established by analogy to similar and better know stocks. In addition, the fishery shall be subject to enhanced monitoring so as to enable revision of provisional reference points as improved information become available. Annex II, Guideline 6, 1995 SSA.

[452] For stocks, which are not over-fished, fishery management strategies shall ensure that fishing mortality does not exceed that which corresponds to MSY and that the biomass does not fall bellow a pre-defined

According to Article 48 of the Agreement, Annexes I and II form an integral part of it and references to the Agreement include references to the Annexes. There is now a clear obligation on States parties at least to be cautious and to utilize the procedures set out in Annex II[453].

Caddy and Mahon have defined reference points as "a conventional value, derived from technical analysis, which represents a state of the fishery or population, and whose characteristics are believed to be useful for the management"[454]. In similar terms, the 1995 SSA defines reference points as "an estimated value derived through an agreed scientific procedure, which corresponds to the state of the resource and of the fishery, and which can be used as a guide for fisheries management"[455]. Therefore, the "technical analysis" or "the scientific procedure" must be agreed in the context of sub-regional and regional fisheries management organizations and arrangements, according to Article 10.a of the 1995 SSA.

In consonance with the Guidelines, two types of precautionary reference points should be used. First, Limit Reference Points, which set boundaries intended to constrain harvesting with safe biological limits allowing stocks to produce MSY. Second, Target Reference Points, intended to meet management objectives[456]. Other guidelines for application of the precautionary reference points include management strategies to maintain or restore populations of harvested stocks; to ensure that the risk of exceeding Limit Reference Points is very low; to set out Provisional Reference Points; and, to ensure that fishing mortality does not exceed the MSY. If the reference points are exceeded, States must, following the guidelines, take action to restore the stocks. The precautionary reference points should be stock-specific to account, *inter alia*, for the reproductive capacity of the stock, the resilience of each stock and the characteristics of fisheries exploiting the stock, as well as the other sources of mortality and major

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threshold. For over-fished stocks, the biomass, which would produce MSY, can serve as a rebuilding target. Annex II, Guideline 7, 1995 SSA.

[453] David Freestone, 'International Fisheries Law Since Rio: the Continued Rise of the Precautionary Principle' in Boyle and Freestone (eds.), *International Law*, supra, note 81, p. 160.

[454] Caddy and Mahon, 'Reference Points for Fisheries Management', supra, note 376, pp. 8 and 17.

[455] 1995 SSA, Annex II, Paragraph 1.

[456] 1995 SSA, Annex II, Paragraph 2.

sources of uncertainty. States shall regularly revise the conservation and management measures in the light of new information, where the status of target stocks or non-target or associated or dependent species is of concern.

For the application of the precautionary approach, States shall take into account uncertainties relating to the size and productivity of the stocks[457]; develop data collection and research programmes to assess the impact of fishing on non-target and associated or dependent species[458]; and adopt conservation and management measures on an emergency basis in the case of a natural phenomenon having a significant adverse impact on the status of SFSF and HMFS[459]. Furthermore, for new or exploratory fisheries, States shall adopt cautious conservation and management measures including catch and effort limits[460].

The precautionary approach provisions included in the 1995 SSA are not as forceful as sought by a number of NGOs and do not go as far as to prohibit fishing when stocks are threatened[461]. The precautionary approach, as adopted by the Agreement, can be regarded as a qualified step forward for two main reasons: firstly, the adoption of the much criticized concept of MSY; and secondly, the conditionality of State compliance established in terms only of "should" not of "shall" and thus not binding, in particular in Annex II, as indicated above. In addition, as Nelson has pointed out, despite the fact that the 1995 SSA does not expressly rule out the application of moratoria on fishing activities[462], the perception of the nature of the threat, should determine the severity of

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[457] 1995 SSA, Art. 6.3.c.

[458] 1995 SSA, Art. 6.3.d.

[459] 1995 SSA, Art. 6.7.

[460] 1995 SSA, Art. 6.6.

[461] The fear of fishing States was that a reversal of burden of proof would be adopted that could paralyse all fishing effort. See Peter Davies and Catherine Redgwell, 'The International Legal Regulation of Straddling Fish Stocks', *British Yearbook of International Law*, (1996), p. 261. See also Greenpeace International Fisheries Campaign, *Analysis of the United Nations Treaty for the Conservations and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*, (Greenpeace International, Amsterdam, 1995), pp. 2-3.

[462] At the UN Conference on SFS and HMFS, the Negotiating Text prepared by the Chairman envisaged where necessary, the application of moratoria on fishing activities. Document UN A/CONF.164/13 (1993), in Levy et al. (eds.), *Selected Documents*, supra, note 103, pp. 73-

the measures to be taken, which may include moratoria, to be applied with caution, given the subsequent socio-economic impact[463].

These provisions affirm a global trend emerging in fisheries management[464], confirmed in other international legal instruments dealing with fishery's management, e.g. the FAO Code of Conduct for Responsible Fisheries and the FAO Compliance Agreement. The effectiveness of these provisions will depend on the subsequent modification of agreements, legislation and fishing practices at regional and national levels[465], as well as regional and subregional fisheries organizations. According to Freestone, the precautionary approach adopted by the 1995 SSA, having become proactive in methodology, changes the underlying presumption from freedom of exploitation to conservation[466].

3.3.8 The general obligation of co-operation

Co-operation is an intrinsic element in the operation of conservation and management measures. The general obligation to co-operate in the conservation and management of marine living resources on the high seas is contained in Article 118 of the 1982 UNCLOS: States must co-operate with each other in the conservation and management of living resources in the areas of the high seas. The Convention does not specify the modalities of such co-operation, although the same Article provides that States must co-operate to establish sub-regional or regional fisheries' organizations to that end.

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[463] Dolliver Nelson, 'The Development of the Legal Regime of High Seas Fisheries', in Alan Boyle and David Freestone (eds.), *International Law*, supra, note 81, pp. 113-134, at 129. According to Freestone, it should be argued that moratoria are preventive rather than precautionary. See David Freestone, 'International Fisheries Law Since Rio: the Continued Rise of the Precautionary Approach', in Boyle and Freestone (eds.), ibid, p. 160, footnote 119.

[464] Tahindro, 'Conservation and Management of Transboundary Fish Stocks', supra, note 163, pp. 1-58, at 13.

[465] According to Edeson, to judge the real impact of the precautionary approach, it would be necessary to consider governmental policy papers, approaches adopted in fisheries management plans, application of concepts like precautionary reference points and decisions taken by fisheries organizations. William Edeson, 'Towards Long-term Use: Some Recent Developments in the Legal Regime of Fisheries', in Boyle and Freestone (eds.), *International* Law, supra note 81, pp. 165-203, p. 203.

[466] Freestone, 'International Fisheries Law', supra note 463, pp. 162-163.

As Yturriaga notes, Article 118 adds the supplementary requirement of management to the already recognized principle of conservation[467]. However, this obligation to co-operate is more general than the specific obligation to enter into negotiations required in Article 63 for straddling stocks, and still more so than the obligation to regulate by agreement which is implied in Article 67 in the case of catadromous species[468]. Article 119.1 of the 1982 UNCLOS, as already noted, provides that States shall take measures to maintain or restore harvested species at levels that can produce MSY of the resource as qualified by environmental and economic factors. As Burke has observed, the most significant innovation in this Article permits departure from the MSY as the goal of modification measures because "there may be sound environmental or economic reasons for measures that seek the lower level of abundance that will produce the MSY"[469]. These factors include: the special requirements of developing States; interdependence of stocks; fishing patterns; the effects on dependent and associate species, and any generally recommended international minimum standards whether sub-regional, regional or global[470].

Regarding SFS, Article 63.2 of the 1982 UNCLOS obliges the parties to negotiate with a view towards reaching agreement on necessary conservation measures or *'pactum de negotiando'*, whereas for HMFS, Article 64 obliges the parties to reach an agreement on a particular result or *'pactum de contrahendo'*. Some authors have drawn attention to the fact that this distinction is no longer of significance because in both cases good faith is required[471]; on the other hand, there is real content in a *'pactum de negotiando'* as the ICJ has evidenced in the North Sea Continental Shelf Case:

> "the parties are under an obligation to enter into negotiations with a view to arriving at an agreement, and not merely to go through a formal process of negotiations as a sort of prior conditions for the automatic application of a certain method of delimitation in the absence of agreement; they are under an obligation so to conduct themselves that the negotiations are meaningful, which will not be the

[467] J. A. de Yturriaga, *The International Regime*, supra, note 181, p. 159.

[468] Moritaka Hayashi, 'The Management of Transboundary Fish Stocks under the Law of the Sea Convention', *IJMCL*, 8 (1993), pp. 245-261, at 251.

[469] Burke, supra, note 110, p. 112.

[470] UNCLOS, Article 119.

[471] Tahindro, supra, note 163, p. 19.

> case when either of them insists on its own position without contemplating any modifications of it. The parties are under an obligation to act in such a way that, in the particular case, and taking all the circumstances into account, equitable principles are applied"[472].

International organizations are the bodies through which States, with the support of the appropriate organization, co-ordinate their activities regarding conservation and management of living resources on the high seas. Considering the biological and geographical specificities of fisheries in different regions of the world, subregional and regional organizations are the most efficient device for furtherance of international co-operation. Jean Carroz argued that although there are a considerable number of fisheries' agreements and organizations, there is little doubt that many of them will have to adjust themselves to prevailing circumstances in order to be able to achieve their goals within the new regulatory framework established by the 1982 UNCLOS[473].

Part III of the 1995 SSA deals with "mechanisms for international co-operation concerning SFS and HMFS". Article 8, entitled "co-operation for conservation and management", establishes the basic provisions for such a co-operation. Article 8.1 indicates that according to UNCLOS, Coastal States and States Fishing on the High Seas shall pursue co-operation in relation to SFS and HMFS either directly or through appropriate sub-regional or regional fisheries' organizations or arrangements, taking into account the specific characteristics of the subregion or region, with the view to ensuring effective conservation and management of such stocks.

The obligation of international co-operation regarding the utilization of marine living resources on the high seas, established in Articles 56.2, 58.2, 58.3, 87.2 and 117 to 119 of the 1982 UNCLOS, is embodied in Articles 8, 20, 21 and 25 of the 1995 SSA. Moreover, provisions on this obligation are included in Article 5 of the Convention on Biological Diversity; Article V.1 of the FAO Compliance Agreement; and Article 6.12 of the FAO Code of Conduct for Responsible Fisheries. The co-operation set out by the 1995 SSA refers to four levels: first, the participation of States in sub-regional or

[472] North Sea Continental Shelf Case, Judgement, I.C.J. Reports 1969, p. 47, Paragraph 85.
[473] J. Carroz, 'Institutional Aspects of Fishery Management under the New Regime of the Oceans', *San Diego Law Review*, 21 (1984), pp. 517-519.

regional fisheries' organizations or arrangements[474]; second, co-operation for the control of vessel fishing on the high seas[475]; third, co-operation in enforcement, which includes boarding and inspecting vessels for the purpose of ensuring compliance with conservation and management measures[476]; and fourth, co-operation with developing States[477].

Conclusions

High seas cannot be appropriated by any State and to date, the international legal system has not been effective for the protection of fisheries in this part of the oceans. Furthermore, there are no market mechanisms through which access to common property fisheries' resources can be allocated among users. The 1982 UNCLOS provided the broad legal framework for the conservation and management of marine living resources on the high seas, but did not develop specific provisions for the settlement of conflicting claims to specific fisheries beyond national jurisdictions nor did it establish decision-making procedures to enable adequate governance of these resources.

As illustrated in this Chapter, the 1995 SSA adopted a system for the rational management of fisheries on the high seas, qualified by a set of principles and rules. This new system will clearly limit the principle of freedom of fishing on the high seas. In developing a "balance of interests" between coastal States and fishing States on the high seas, the 1995 SSA incorporates the basic concepts for conservation and management of marine living resources on the high seas established by the 1982 UNCLOS and other relevant international treaties and "soft law" instruments for fisheries management adopted since the conclusion of the Convention. However, on many issues, the Agreement goes beyond UNCLOS, providing, in conjunction with the support of other international legal instruments, in particular the Code of Conduct for Responsible

[474] 1995 SSA, Arts. 9, 10, 12 and 13. See Chapter IV.

[475] 1995 SSA, Art. 18.

[476] 1995 SSA, Art. 21.

[477] 1995 SSA, Arts. 24, 25 and 26. The three latter specific mechanisms for co-operation will be analysed in Chapter 6, "Compliance and Enforcement Mechanisms".

Fisheries and the FAO Compliance Agreement, the basis for a new international regime for fisheries on the high seas.

The 1995 SSA provides specific rules for the conservation and management of SFS and HMFS which are more precise by far than those contained in the 1982 UNCLOS. The adoption of concepts like Large Marine Ecosystem, sustainability and protection of marine biodiversity, protection of the marine environment, monitoring, control and surveillance and taking account of the interests of artisanal and subsistence fishers, mark an advance in international standards for conservation and management of fisheries. The establishment of mechanisms for international co-operation as well as the adoption of the precautionary approach[478] also constitute major improvements, although the latter does not go so far as to declare a moratorium on fishing on the high seas.

The legal status of the provisions adopted by the 1995 SSA, their meaning, and the consequences of their application to the complexity of fisheries on the high seas remain open. In the final analysis, the effectiveness of these provisions will depend on the modification of other fisheries related agreements, national legislation and fishing practices at regional and national levels, as well as on the future activities of fisheries management organizations. These will be will be analysed in Chapter 4.

[478] The precautionary approach represents a major change in the traditional approach of fisheries management. Although the precautionary approach has been accepted in agreements such as the 1994 Bering Sea Agreement (reproduced in 10 *IJMCL* (1995), 127) and in principle in the implementation of agreements and conventions such as CCAMLR (supra, note 357) and the International Convention for the Regulation of Whaling (supra, note 411) through the International Whaling Commission, this is the first time that precaution has been specifically mentioned in an international fishery convention or applied to straddling and highly migratory stocks.

Chapter 4

Fisheries Management Organizations

Introduction

Unregulated and open-access fishing is not only economically wasteful but has become unacceptable to the international community because it neither maintains fisheries at the qualified maximum sustainable yield level required by the 1982 UNCLOS nor leads to attainment of the goals established by the 1992 UNCED instruments[479]. Since the 1960's, many fisheries management organizations have been established with specific mandates for the conservation and management of stocks in high seas areas. Article 118 of UNCLOS lays down as a general obligation that States must co-operate with each other in the conservation and management of living resources in the high seas. For three main reasons existing fisheries management organizations at global and regional level perform these tasks with different degrees of effectiveness. First, because their members often procrastinate in adjusting measures to the changes brought about by UNCLOS and UNCED; secondly, because of increasing conflicts, depletion and complexity of fisheries management consequent upon overexploitation of many stocks, and thirdly, because they are not always able to ensure that their recommendations and decisions are effectively implemented by their contracting parties.

International organizations are institutions with structures which provide a forum for political communication as well as formal procedures for its conduct, able to constrain the behaviour of their members, in general numbering three or more countries[480]. International organizations, which are necessary for the operation and implementation of regimes, cannot be established without a high degree of domain consensus defining their mission[481]. Although the consensus process has not been defined in any general

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[479] Christopher Stone, 'Can the Oceans be Harboured? A Four Step Plan for the 21st Century, *RECIEL*, 8 (1999), pp. 37-47. See also Chapter 3, Section 1.

[480] A. LeRoy Bennett, *International Organizations. Principles and Issues*, Englewood Cliffs, Prentice Hall, 6th edition, 1995), pp. 8-14.

[481] Friedrich Kratochwill, 'Contract and Regimes. Do Issue Specificity and Variations of Formality Matter?', in Rittberger (ed.), *Regime Theory*, supra, note 43, pp. 73-93, at 74.

treaty or customary law[482], Article 161.8.e of UNCLOS, in the context of voting procedures in the Council of the International Seabed Authority, defines 'consensus' as the absence of any formal objection. UNCLOS requires negotiations to continue when objections are raised to proposed articles until an article acceptable to all emerges[483].

In International Regime Theory, it is recognized that regimes promote effective co-operation among institutions through mechanisms of membership rules; centralization of tasks; issues covered; rules for controlling the institution and flexibility of arrangements.

This chapter examines the role and effectiveness of regional fisheries organizations and arrangements for fisheries management in high seas areas and in particular, for SFS and HMFS. It concludes that, in order to be effective, fishery management organizations must have adequate powers, involvement and commitment on the part of their members and adequate financial support and personnel. Therefore, this chapter analyses the main institutional arrangements envisaged in the 1995 SSA in relation to existing organizations and arrangements (section 1); new organizations and new arrangements (section 2); new members or participants (section 3) and non-members and non-participants (section 4). The chapter then examines the issue of transparency in relation to the activities of fisheries management organizations which States must observe both in the decision-making process and in all the other activities of these bodies (section 5). The final section discusses whether fisheries management organizations are capable of creating new forms of authority that will better influence the behaviour of their member States (section 6).

The main conclusion to be drawn from this analysis is that the 1995 SSA, together with other related international legal instruments, will strengthen the existing fisheries management organizations and promote the creation of new fisheries bodies in areas that are not now covered by any existing bodies, in particular on the high seas. However, no mention is made in the 1995 SSA of fisheries management organizations

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[482] Patricia Birnie, supra, note 72, p. 55.

[483] Ibid.; UNCLOS establishes a particular process for achieving this in the Council of the International Sea-bed Authority.

for shared stocks occurring in the EEZ of two or more States. In addition, the existing instruments establishing such bodies do not provide permanent mechanisms for ensuring co-operation and co-ordination, that is to say, an effective link between all concerned fisheries' organizations. If not resolved, this deficiency could have serious implications for the future implementation of an effective international regime.

4.1 Existing organizations and arrangements

International organizations have been defined as a formal, continuous structure established by agreement between members (governmental and/or non-governmental) from two or more sovereign States with the aim of pursuing the common interest of the membership[484]. In International Regime Theory, international organizations are purposive entities, with bureaucratic structures and leadership, which permits them to respond to events, while international institutions encompass formal intergovernmental or transnational organizations, established by international regimes as well as conventions[485]. International organizations refer to multilevel linkages, norms and institutions and in this sense they are also another type of world political structure[486]. The United Nations is a very appropriate body to look to for indications of developments of international law, for international custom is to be deduced from the practice of States, which includes their international dealings as manifested *inter alia* by their diplomatic delegations and public pronouncements. The votes and views of States have come to have legal significance as evidence of customary law. According to Rosalyn Higgins, "the existence of the United Nations, and especially its accelerated trend towards universality of membership since 1955, now provides a very clear, very concentrated focal point for State practice"[487].

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[484] Clive Archer, *International Organizations*, (London, Routledge, 1995), p. 37

[485] Robert Keohane, 'The Analysis of International Regimes', in Rittberger (ed.), *Regime Theory*, supra, note 50, p. 28.

[486] One way to think of the structure of world politics is in terms of the distribution of capabilities, overall or within issue areas among the major actors of world politics. See Robert Keohane and Joseph Nye, *Power and Interdependence*, (Harvard, Harper Collins, Second Edition, 1989), p. 54.

[487] Rosalyn Higgins, *Problems and Process. International Law and How We Use It*, (Oxford, Clarendon Press, 1994), pp. 22-23.

Therefore, United Nations practice is a field that can be looked at in order to ascertain the directions of the development of international law. International organizations play a significant role in the process of creating norms in the international system[488].

By the end of the 19th century, in the Bering Sea Fur Seals Arbitration[489], as is well known the arbitral tribunal found in favour of the arguments put forward by Great Britain and upheld the freedom of the high seas; it hence made conservation more difficult, especially in relation to enforcement. However, the tribunal recognized that freedom was not absolute and strongly supported the need for restraint in exploitation, indicating the requisite measures[490]. Before the First World War, the only Convention to address the conservation of fisheries was the 1911 Convention on the Bering Sea Fur Seals[491]. The origins of this Convention were of great significance to the development of the international law of fisheries and its provisions were successful in restoring the stocks concerned. The earliest conventions on fisheries provided for only three basic legal requirements (jurisdiction, regulation and enforcement); they did not provide for scientific research or establish permanent institutions[492].

The 1982 UNCLOS provides the general basis for conservation and management of the living resources of the high seas. Under Articles 116 to 120, which reflect Articles 61 and 62 relating to the EEZ, States have the right to engage in fishing on the high sea subject to their treaty obligations (Article 116), their duty to adopt measures for the conservation of the living resources of the high seas (Article 117), and their obligation to co-operate with other States in conservation and management of living resources in the areas of the high seas (Article 118). Article 63.2 deals with stocks that straddle the outer limit of the EEZs and the high seas while Article 64 refers to highly migratory

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[488] Ibid., p. 28.

[489] I. Moore, *International Arbitration Awards*, 1898, 755-761; Douglas Johnston, *International Law of Fisheries: a Framework for Policy Oriented Inquiries*, (New Haven: New Haven Press; Lancaster: Kluwer 1987).

[490] Birnie and Boyle, supra, note 213, p. 495.

[491] Convention between the United States of America, the United Kingdom of Great Britain and Northern Ireland, and Russia, for the Preservation and Protection of Fur Seals, Washington, 7 July 1911, in force 15 December 1911, Berndt Rüster, Bruno Simma and Michael Bock (eds.), *International Protection of the Environment: Treaties and Related Documents*, (Dobbs Ferry and NY, Oceana, 1983).

[492] Birnie and Boyle, supra, note 213, p. 496.

species, which are listed in Annex I of UNCLOS. In both cases it is the responsibility of the States whose nationals are engaged in the fishing of these resources on the high seas and the coastal State concerned to negotiate directly or through sub-regional or regional fisheries organizations to agree upon the measures necessary for the conservation of those resources. Finally, Article 119 refers to the need to take account of any generally recommended standards exchanged through competent international organizations, whether subregional, regional or global.

In 1996 there were 35 international fisheries' organizations for the conservation and management of the marine living resources of the high seas throughout the world[493]. It is difficult, even after study of these, to specify the characteristics that make one fishery body more effective than another. However, a fisheries management organization is more likely to exert beneficial impact when its member States' have congruent interests in fisheries, a consistent management focus conduct adequate scientific research on the fisheries, and the political will and technical means to implement recommendations and decisions, but the lack of disposition to stop the decline in stocks evidences that this is rare.

4.1.1 A Case Study: the Northwest Atlantic Fisheries Organization

The Northwest Atlantic Fisheries Organization (NAFO), established in 1978 by the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries[494] is one of the most relevant and instructive of existing fisheries' bodies for the high seas' areas. The NAFO membership currently comprises sixteen contracting parties[495]. NAFO itself consists of three bodies: a General Council; a Fisheries Commission, which is the

[493] S. H. Marashi, 'Summary Information on the Role of International Fishery and Other Bodies with Regard to the Conservation and Management of Living Resources of the High Seas', (Rome, FAO Fisheries Circular No. 908, 1996), pp. 98 and seq. See also Section 6 of this Chapter.

[494] The Convention on Future Multilateral Cooperation in the on Future Multilateral Co-operation in the Northwest Atlantic Fisheries was signed on 24 October 1978 in Ottawa, Canada and came into force on 1 January 1979 following the deposit with the Government of Canada of the instruments of ratification, acceptance and approval by seven signatories: Canada, Cuba, the European Economic Community (EEC), German Democratic Republic (GDR), Iceland Norway and the Union of Soviet Socialist Republics (USSR). NAFO Handbook, Second Edition, Dartmouth, Nova Scotia, Canada, 1996, p. 10.

body that manages the NAFO Regulatory Area (NRA)[496], and Scientific Council. NAFO holds a regular annual meeting in September of each year, to establish the management measures for the NRA for the following year[497]. This meeting is preceded by a regular annual meeting of its Scientific Council in June of each year. This body provides scientific advice to the Fisheries Commission in accordance with the terms of reference previously specified by the Commission or, in certain circumstances, on its own initiative[498]. Additional meetings of any of the bodies can be and have been held at other times of the year as required[499]. The pivotal provisions for the adoption of management measures are contained in Article XI of the Convention establishing NAFO.

These provisions include optimum utilization, management measures for straddling stocks outside 200 miles (which must be consistent with management measures inside 200 miles), respect for traditional fisheries, and special consideration for Canada in allocations of the TAC. The system for implementing management measures is as follows: the Fisheries Commission, based on the advice of the Scientific Council, adopts, by majority vote, Total Allowable Catches and other relevant measures for the NRA; it then adopts, by majority vote, quotas for each stock for each of the NAFO members. Following the NAFO meeting the Executive Secretary mails the relevant texts to the members, who then have 60 days within which to lodge written objections to any or all of the measures adopted. When an objection is lodged, the lodging member is not legally bound by the relevant measure or measures, and further objection periods are

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[495] Bulgaria, Canada, Cuba, Denmark in respect of the Faroe Islands and Greenland, Estonia, the European Union, Iceland, Japan, Korea, Latvia, Lithuania, Norway, Poland, Romania, the Russian Federation and the United States of America.

[496] The NAFO Convention Area covers the waters of the Northwest Atlantic Ocean north of 35°00' north latitude and 42°00' west longitude to 59°00' north latitude, thence due west to the Convention Area. Article I, NAFO Convention, supra, note 425.

[497] Article III of the Convention on Future Multilateral Cooperation in the on Future Multilateral Co-operation in the Northwest Atlantic Fisheries, supra, note 425 and NAFO Handbook, Second Edition, Dartmouth, Nova Scotia, Canada, 1996, p. 20.

[498] Article VIII of the Convention on Future Multilateral Cooperation in the on Future Multilateral Co-operation in the Northwest Atlantic Fisheries, supra, note 425, NAFO Handbook, Ibid, p. 20

[499] Ibid.

opened up for other NAFO members, within which they can lodge objection to the same measure. This procedure is not original to NAFO[500].

NAFO has been widely recognized as the most advanced and influential regional fishery management organization. However, two main criticisms can be made in relation to its role and effectiveness in the management and conservation of fish stocks in its area. In summary these are: first, that it is difficult to achieving an appropriate balance between the rights of the Coastal State and States fishing on the high seas; a difficulty which has indirectly contributed to the collapse of Canadian fisheries[501]; secondly, that effective management cannot be achieved when member States can free themselves from restrictions adopted by the majority by resort to a legitimate procedure of formal unilateral objection. In addition, the fact that nonetheless several States fishing on the high seas remained outside the regional arrangement has weakened the role of NAFO[502].

4.1.2. The 1992 FAO Technical Consultation

A set of factors that can contribute to the variable performance of international fisheries' bodies was summarised by the FAO Technical Consultation on High Seas Fishing held in 1992. These factors include: *i*) a lack of funds and properly constituted and staffed secretariats; *ii*) disagreement over scientific advice concerning management and a refusal of contracting parties to accept such advice as binding; *iii*) conflict of interests among contracting parties and an inability to agree fully on the parameters necessary for management; *iv*) unregulated fishing by non-contracting parties that undermines efforts to promote rational resource use by fishery bodies; *v*) inability to make binding recommendations and decisions concerning management; *vi*) a lack of legal and real capacity to enforce management recommendations and decisions, and *vii*) the impact of

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[500] The 1946 Whaling Convention, supra, note 411, appears to have been the first to introduce it.

[501] B. Applebaum, 'The Straddling Stocks Problem: The Northwest Atlantic Situation, International Law, and options for Coastal State Action', in Alfred Soons (ed.), *Implementation of the Law of the Sea Convention Through International Institutions*, (Proceedings of the Law of the Sea Institute, Hawaii, 1990), pp. 122-163, and D. G. Symes, 'Fisheries Management in the North Atlantic: National and Regional Perspectives, Special Issue', *Ocean and Coastal Management*, 35 (1997).

[502] Lawrence Juda, 'The 1995 Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks: A Critique', *ODIL*, 28, (1997), pp. 147-166, at 149.

management recommendations and decisions adopted by fisheries' bodies which is weakened by the veto of recommendations and decisions by contracting parties, requirements to take unanimous decisions, the use of simple majority voting procedures or the use of consensus decision making [503]. The Consultation agreed that there was a need for regional and sub-regional international fisheries' bodies to provide the institutional mechanisms necessary to achieve effective high seas fisheries management[504].

During the second session of the UN Conference, held in July 1993, for the negotiation of the 1995 SSA, FAO stressed the need realistically to address the constraints facing fisheries' bodies, to operate or initiate fundamental changes concerning their objectives, structure, purposes and powers and to equip them to deal more effectively with high seas' issues. According to FAO, in formulating and implementing measures to meet the demands of the international community, fisheries' bodies need to address concepts such as responsible fisheries and the precautionary approach and introduce new scenarios concerning the burden of proof. The condition *sine qua non* for such restructuring is that high priority must be accorded by contracting Parties and members of fisheries' bodies to the need for enacting fundamental changes concerning the objectives, the structure, the purpose and the powers of fisheries organizations[505].

The importance of co-operation for conservation and management of living resources on the high seas has been tackled in a number of international instruments recently adopted by the international community; in particular those adopted by the 1992 UN Conference on Environment and Development, especially Agenda 21 (Chapter 17); the Rome Consensus on World Fisheries adopted by the FAO Ministerial Conference on Fisheries held in Rome in March 1995[506]; the 1995 Code of Conduct for Responsible Fishing[507]; the 1993 FAO Agreement to Promote Compliance with International

[503] Report of the Technical Consultation on High Seas Fishing, Doc A/CONF. 164/INF/2. Reproduced in Lévy et al. (eds.), *Selected Documents*, supra, note 113, pp. 273-371.

[504] Ibid. p. 349.

[505] Ibid at 348. See also David J. Doulman, 'Structure and Process', supra, note 225, p. 15.

[506] Paragraph 9; the Rome Consensus on World Fisheries was adopted unanimously by the FAO Ministerial Conference on Fisheries, Rome, 14-15 March 1995. This document, in its electronic form, is available on http://www.fao.org/waicent/faoinfo/fishery/agreem/consensu/conef.htm. Consulted on 1st March 2000.

[507] Code of Conduct, supra, note 223.

Conservation and Management Measures by Fishing Vessels on the High Seas[508]; and, obviously, the 1995 SSA[509]. These international legal instruments globally acknowledged the importance of continuing international co-operation and co-ordination in establishing sustainability of world fisheries exercised through fisheries management organizations.

4.1.3 The 1995 Straddling Stock Agreement

For straddling fish stocks and highly migratory fish species, the 1995 SSA identifies, in Part III, the necessary mechanisms for international co-operation concerning those stocks. In general, coastal States and States fishing on the high seas must co-operate in relation to the stocks concerned either directly or through appropriate subregional or regional fisheries management organizations or arrangements[510]. The purpose of this co-operation is to agree on conservation and management measures with respect to particular fish stocks where there is evidence that such stocks may be under threat of over-exploitation or where a new fishery is being developed for any such stocks. Where a regional or sub-regional fisheries body already exists and has the competence to establish conservation and management measures for SFS and HMFS, States fishing for the stock on the high seas and coastal States with a real interest in the stock must give effect to their duty to co-operate by participating in the work of that body. States with an interest in the stock that are not parties to an existing fishery organization or arrangement is encouraged to participate in the work of the organization. Only those States which are members of such an organization or participants in such an arrangement, or which agree to apply the conservation and management measures established by such an organization or arrangement, are to have access to the fishery resources to which those measures apply. This final provision, crucial for the implementation of the 1995 SSA, goes beyond existing treaties or customary law and certainly beyond UNCLOS.

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[508] FAO Agreement to Promote Compliance, supra, note 222.

[509] 1995 SSA, supra, note 38.

[510] 1995 SSA, Art. 8.1.

Regarding subregional and regional fisheries management organizations and arrangements, the 1995 SSA provides that in establishing or on entering into such organizations, States must agree *inter alia* on:

> "*i*) the stocks to which conservation and management measures apply, taking into account the biological characteristics of the stocks directly concerned and the nature of all the fisheries involved;
> *ii*) the area of application, taking into account the characteristics of the subregion or region, including socio-economic, geographical and environmental factors;
> *iii*) the relationship between the work of the new organization or arrangement and the role, objectives and operation of any relevant existing fisheries management organizations or arrangements; and
> *iv*) the mechanisms by which the organization or arrangement will obtain scientific advice and review the status of the stocks, including, where appropriate, the establishment of a scientific advisory body"[511].

In addition, the provisions embodied in Article 10 of the SSA concerning functions of sub-regional and regional fisheries management organizations and arrangements are of particular relevance to the future role of the existing regional fisheries bodies and their success in conserving the stocks concerned. The two main functions that may be fulfilled by fisheries management organizations are those concerning provision of scientific advice and management. The degree to which each organization exercises these functions varies with each body and depends on its constitution. The scientific function includes the collection, exchange and assessment of scientific information and data. The management functions embrace the formulation of appropriate measures, standards and guidelines for States and the promotion of their implementation[512].

According to Article 10 of the 1995 SSA, in fulfilling their obligation to co-operate through sub-regional or regional fisheries management organizations or arrangements, States must: i) agree on and comply with conservation and management measures to ensure the long-term sustainability of SFS and HMFS; ii) agree, as appropriate, on particular rights such as allocations of allowable catch or levels of fishing effort; iii) adopt and apply any generally recommended international minimum standards for the responsible conduct of fishing operations; iv) obtain and evaluate scientific advice,

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[511] 1995 SSA, Article 9.

[512] UN DOALOS Publication, *The Law of the Sea*, supra, note 116, p. 14.

review the status of the stocks and assess the impact of fishing on non-target and associated or dependent species; v) agree on standards for collection, reporting, verification and exchange of data on fisheries for the stocks; vi) compile and disseminate accurate and complete statistical data to ensure that the best scientific evidence is available, while maintaining confidentiality where appropriate; vii) promote and conduct scientific assessments of the stocks and relevant research and disseminate the results thereof; viii) establish appropriate co-operative mechanisms for effective monitoring, control, surveillance and enforcement; ix) agree on means by which the fishing interests of new members of, or participants in, the organization or arrangement will be accommodated; x) agree on decision-making procedures which facilitate the adoption of conservation and management measures in a timely and effective manner; xi) promote the peaceful settlement of disputes in accordance with Part VIII; xii) ensure the full co-operation of their relevant national agencies and industries in implementing the recommendations and decisions of the sub-regional or regional fisheries management organization and arrangement; and xiii) give due publicity to the conservation and management measures established by the organization and its arrangements. The ambiguities in many of these obligations should be noted. All these provisions will require further interpretation either through the national legislation of States Parties or through negotiations within the relevant fisheries organizations of which they are members.

Many of the existing fisheries organizations have already adapted their mandates and functions in the light of the changes brought about by the 1982 UNCLOS[513] and for the most part, they have undergone a radical restructuring according to the requirements of the new Law of the Sea[514]. One example of a step to radical restructuring is that the

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[513] Tullio Treves, 'The Role of Universal International Organizations in Implementing the 1982 UN Law of the Sea Convention' in Alfred Soons (ed.), *Implementation of the Law of the Sea Convention Through International Institutions*, (Proceedings of the Law of the Sea Institute, Hawaii, 1990), pp. 208-239. See also Moritaka Hayashi, 'Implementing the Law of the Sea Convention: FAO'S Contributions', Paper Presented at the Thirty-First Annual Law of the Sea Institute Conference on "Building New Regimes and Institutions for the Sea", University of Miami, 30-31 March 1998.

[514] According to Satya Nandan, "in addition to the efforts of individual institutions to reinvigorate themselves, existing mechanisms for coordinating their activities must be strengthened and new mechanisms for securing more integrated and comprehensive coordination must be explored". Satya Nandan, 'Existing Institutional Framework and Mechanisms" in Peter Bautista Payoyo (ed.), *Ocean Governance. Sustainable Development of the Seas*, (Tokyo, United Nations University Press, 1994), at 30..

Council of NASCO at its 15th Meeting, Edinburgh, 8-12 June 1998 adopted an *Agreement on Adoption of a Precautionary Approach*[515]. The biggest change UNCLOS brought about during its negotiation, circa 1976 onwards was the widespread acceptance of EEZs and EFZs[516]. Therefore, the specific and detailed mechanisms provided by Articles 9 and 10 of the 1995 SSA will be helpful in the restructuring process of the existing fisheries organizations. These provisions can be considered as a major contribution to the international law of fisheries, enabling it to meet the new challenges, principles and rules of the emerging regime for fisheries on the high seas.

4.2 New organizations and new arrangements

Despite the abundance of fisheries organizations and the firmly established network for co-operation and co-ordination that exists in the world, the progress of international organizations today in breaking down the barriers that divide the peoples of the world often seems discouraging[517]. Curiously, the study of international organizations from the sociological approach has not made much progress over the past few decades[518]. Notwithstanding this rather morose panorama, after the end of the Cold War and references to an uncertain 'new' world order[519], international organizations and

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[515] Council of NASCO (15th Meeting, Edinburgh, 8-12 June 1998), *Agreement on Adoption of a Precautionary Approach*, Freestone, 'International Fisheries Law', in Boyle and Freestone, supra, note 394, at 163, footnote 137.

[516] See Brown, *International Law of the Sea*, supra, note 169, pp. 216-217 and Burke, *The New International Law*, supra, note 110, p. 37. According to Orrego Vicuña, "the recognition of national jurisdiction over the EEZ provided a clear source of authority as to the conservation and management of the world's most important fishing grounds, not excluding third States' interests in and access to those resources'. Francisco Orrego Vicuña, *The Changing International Law*, supra, note 81, p. 51

[517] Bennett, *International Organizations*, supra, note 411, 433. According to this author, "New agencies are created in substantial number but are unable to realize much of their potential. Organizations are based on the principle that the sovereignty of the members will remain intact and undiminished. States retain all their prerogatives of ultimate decision making and cooperate through international organizations when their perceived national interests are enhanced rather than diminished or threatened by such cooperation". Ibid., at 435.

[518] See the essay by Pierre de Senarclens, 'Regime Theory and the Study of International Organizations', *ISSJ*, UNESCO, No. 138, (1993), pp. 453-462.

[519] The notion of world order does not yet have a clear focus in the international relations literature. See A. J. R. Groom and D. Powell, 'From World Politics to Global Governance. A Theme in Need of a Focus' in A.J.R. Groom and Margot Light (eds.), *Contemporary International Relations: A Guide to Theory*, (London, Pinter Publishers, 1994), at 81-90. The most complete account of the world-system approach is to be found in the work of Immanuel Wallerstein, *The Modern World-System*, (San Diego, Academy Press, 1989). Also worth consulting, Eric Hobsbawm, *Age of Extremes. The Short Twentieth*

international co-operation have become key actors in international law and international relations. International Organizations help to build gradually the human foundations for a more orderly and just world in the area of assistance for economic and social development; contribute to the security and well-being of humanity providing channels and programmes for dealing with short and long-range crisis and disasters; concern themselves with denials of human rights and justice; and finally, contribute to the integration and aggregation of interests across national boundaries[520]. Yet, analyzed within the larger context of the international system, international organizations, both in their dependent and independent exercise of functions, are essentially 'system-preserving'[521].

The international organization as well as its member states, is the primary guardian and enforcer, on the international level, of the regulatory norms expressed in the treaty that creates the former. The major existing international organizations are the product of an uncommon burst of institutional innovation in the aftermath of World War II. It has become apparent that the world is in a period of intensive international law-making in the environmental field. To be effective, this effort must be accompanied by a renewed and further imaginative burst of institutional creation. International organizations are agents of "institutionalized compromise". Marie-Claire Smouts appeals for a return to the study of international organizations within a renewed sociology able to tackle the extended changes in the world of international relations and international politics (violence, debt, mass migrations, resurgent nationalism and global environmental degradation, to name but a few)[522]. International environmental norms, however sound in theory, will only be effectively applied within international organizations capable of implementing the regime they have established and adapting it to the exigencies of rapid change backed by the assurance of compliance adequate to induce continued commitment.

Century 1914-1991, (London, Abacus, 1997), in particular Ch. 19 'Towards the Millennium', pp. 558-585. According to Hobsbawm, "it is highly likely that the present phase of Post-Cold War breakdown will be temporary, even though it already looks like lasting rather longer than the phases of breakdown and disruption which followed the two world wars". Ibid., at 584.

[520] Bennett, *International Organizations*, supra, note 480, pp. 436-440.

[521] Susan Strange, *The Retreat of the State. The Diffusion of Power in the World Economy*, (Cambridge, Cambridge University Press, 1997), p. 171.

[522] Marie-Claude Smouts, 'International Organizations and Inequality Among States', *ISSJ*, 144 (1995), pp. 229-241.

Although, in an ever-changing world, regime theory cannot be considered as a panacea for global environmental change, it has made a fundamental contribution to the study of International Organizations (IOs), a study which otherwise has made little progress over the past few decades. The primary contribution of regime theory in this field has been to develop and apply the theory of games[523] in order to investigate the different kinds of institutional arrangements that states could devise faced with different types of incentives[524]. Regime theorists try to provide answers to three essential questions relating to international institutions: first, why do they exist to deal with some issues but not others; secondly, how can the differences in the forms of institutions be explained; thirdly, why do some institutions establish a bureaucracy to monitor the actions of their member states and to impose sanctions while others are more or less self-enforcing?

James Caporaso has summarized the answers to these questions. He points out that institutions can be established in those situations where mutual benefits exist but cannot be realized through unrestricted non-institutionalized exchange and where some sort of problem exists that inhibits collective action so that private bargaining and exchange alone are unsuccessful. In some cases relating to co-operation, multilateral norms are likely to work, but in other circumstances, including the harvesting of common property resources, multilateral norms are, according to the author, less likely to bring desired results[525].

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[523] Game Theory or the Theory of Games, which derives from a mathematical approach, is concerned with identification of the optimum choice of strategy in situations involving a conflict of interests in an anarchic setting. Both Liberal Institutionalism and Realism have drawn on some of the concepts developed by game theorists in order to enhance their own theoretical appreciation of the factors that inhibit collaboration and the means by which self-interested actors can nonetheless co-operate in the face of anarchy and important conflicting interests. See Robert Jervis, 'Realism, Game Theory and Cooperation', *World Politics*, 40 (1988), pp. 317-334, at 319. Other applications of the Game Theory are discussed in Section 1.1, Chapter 3 (Game Theory: the Prisoners' Dilemma) and in Section 5, Chapter 5 (Participatory Rights) of this thesis.

[524] Ogley distinguishes 'game' from 'debate'. In a 'game', each party is trying to maximise its own payoff in terms of its interests and preferences, and does not expect the other party's interests or preferences to change. In a 'debate', each party believes its policy to be based on some important truth, which it must make others see and act upon, because it is, or should be, a truth for them as well as for itself. In other words, in a game, the question is, what incentives can you devise for others so that it becomes rational for them, in terms of their original preferences, to act what you want them to act whereas in a 'debate' the question is how you can induce others to see the world as you see it. Roderick Ogley, 'Between the Devil and the Law of the Sea', in John Vogler and Mark Imber (eds.), *The Environment and International Relations*, (London, Routledge, 1996), pp. 159-171, at161.

[525] James Caporaso, 'International Relations Theory and Multilateralism: the Search for Foundations', *IO*, 46 (1993), 599-632.

Pierre de Senarclens criticizes Regime Theory for downplaying the role of power and for overemphasizing the co-operative activities of international organizations on the basis that even in voluntary organizations, power is always in play. According to this author, there is a tendency within RT to produce idealistic pictures, to neglect the fact that there are winners and losers in favour of a rosy view that co-operation is to everyone's benefit and to ignore the fact that the relative differentiated power of members of the international organization concerned can distort the politics of organizational behaviour[526]. There is a measure of truth in such a view, but RT has presented the issue of power as one of distinguishing "power to" from "power over". "Power to" is the co-operative power or the power that can be exercised in the service of the common good. Much more political in character is "power over" which gives rise to conflict, coercion, sanctions, winners and losers. Krasner has provided a theoretical bridge which connects both concepts in pointing out that where conflicts of interest are salient and power is uneven, strong states have generally done as they pleased; whereas where conflicts have been less severe, and power more evenly distributed, regimes can be established[527].

International organizations are not created *de novo*. On the contrary, they emerge from prior institutionalized contexts, the most fundamental of which cannot be explained as if they were contracts among rational individuals maximizing some utility function. In a broad sense, international organizations are created, first, to harmonize the actions of states in the attainment of common ends, as aptly expressed in the United Nations Charter; secondly, to develop and implement a very special kind of regulation appropriate to international interchange; and thirdly, to programme and co-ordinate the cross-national mobilization and utilization of resources for human welfare, that is, to manage international development[528].

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[526] Pierre de Senarclens, 'Regime Theory and the Study of International Organizations', *ISSJ*, 138 (1993), pp. 453-462.

[527] Stephen Krasner, 'Global Communication and National Power', *World Politics*, 43 (1991), pp. 336-366.

[528] P. Jacob, A. Atherton and A. Wallestein, *The Dynamics of International Organization*, (Homewood, Illinois, The Dorsey Press, 1972), pp. 684-685.

Public international organizations have proliferated since the Second World War. Amerasinghe points out two important legal problems relating to the acts of global organizations. The first relates to the applicability, scope and effect of the doctrine of *ultra vires* in regard to these acts. In the opinion of the author, where a constituent instrument deals with review and the effects of *ultra vires* acts, these provisions will govern. *Ultra vires* are decisions beyond the legal power or authority of an organization. The second concerns the effects of acts performed by organs of organizations[529].

The kernel of the legal status of an international organization lies in its possession of international legal personality. In this regard, the acts of organs must be accepted as a whole and have supremacy over other treaties whether concluded by the member States or by the Organization itself[530]. The possession of international personality means that international organizations are subjects of international law and capable of having international rights and being subject to duties and of enforcing their rights by bringing international claims.

The need for more effective conservation and management organizations for fisheries has been stressed in several studies and international fora. The recent changes in the legal regime of the oceans have effected a great alteration in the conditions under which fisheries beyond the limits of national jurisdiction are managed. In this context, it should be underlined that there are a number of regional economic and other organizations: the OECD, the APEC, the EU, ASEAN, and the GCC, among others, which play a role in fisheries[531].

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[529] C. F. Amerasinghe, *Principles of the Institutional Law of International Organizations*, (Cambridge, Cambridge University Press, 1996), p. 163.

[530] Nguyen Quoc Dinh, Patrick Daillier et Alain Pellet, *Droit International*, (Paris, Librerie Générale de Droit et de Jurisprudence, 1994), pp. 558-569.

[531] The OECD's Committee for Fisheries, for example, decided in 1997 to study the implications on the fishing sector, fishers and processors alike, and public policy institutions of adopting responsible fisheries frameworks. The outcome is the document "Transition to Responsible Fisheries: Economic and Policy Implication", which highlights the social implications of moving to responsible fisheries and explores the impact of government financial transfers in supporting a move to responsible fisheries; information as available on http://www.oecd.org/agr/fish/docrespfish.htm, on October 24, 2000. On the other hand, the European Union has established a European Commission Directorate-General for Fisheries and has adopted a Common Fisheries Policy aimed at setting up fisheries agreements and negotiating at the international level within regional and international fisheries organisations for common conservation measures in deep-sea fisheries; information, as available on 24/10/00 on the Web Site http://www.europa.eu.int/comm/dgs/fisheries/index_en.htm

Strengthening or restructuring the capacity of fisheries bodies to execute conservation and management functions in respect of high seas stocks is now the primary concern of regional and sub-regional fisheries organizations. A number of regional fisheries organizations have been established within the framework of FAO, either by separate agreements adopted under Article XIV of the FAO Constitution[532], or directly by Resolutions of the FAO Conference or Council under Article VI of the FAO Constitution[533]. Other organizations have been established outside the framework of FAO. Therefore, the main question to be answered is whether fisheries organizations established within the framework of FAO can be more effectively managed than those established outside the framework of FAO.

The main advantages of establishing a regional fisheries management organization within the framework of FAO are that such organizations and consequently their members are assured of the technical and financial support of FAO in both management and development functions and can rely on the impartiality and competence of the scientific work carried out in fulfilment of these functions. The disadvantages of bodies established within the framework of FAO are that such organizations are often noted as being too closely related to FAO and are consequently perceived as neither belonging nor adequately representing the specific conservation and management interests of the region. This can be especially true with respect to regional organizations established under Article VI of the FAO Constitution which are, in effect, an integral part of the organization, wholly financed by and responsible to, FAO. Commissions established by agreements adopted under Article XIV of the Constitution have a greater degree of autonomy and flexibility, including the possibility of having their own independent budgets financed by their own members and decision-making powers of their own[534].

Article 8.5 of the 1995 UN Agreement on SFS and HMFS states that where there is no sub-regional or regional fisheries organization for a specific stock, coastal States and States fishing on the high seas for such stock must co-operate to establish such an

[532] IPFC, APFIC, GFCM. See Marashi, 'Summary Information', supra, note 225.

[533] IOFC, WECAFC, CECAF, CARPAS. See also Marashi, 'Summary Information', supra, note 225.

[534] FAO has taken the view that 'old fashioned', detailed fishery agreements are too technical and difficult to operate for developing countries which have poor infrastructures and budgets and lack trained fishery scientists and administrators and have never before set up a fisheries organizations. Thus the aim is to adopt a simple text that brings them in and can be upgraded later.

organization or enter into other appropriate accord or arrangement to ensure conservation and management of such a stock and must participate in the work of the organization or arrangement. Article 9 provides a set of conditions for the endowment of regional and sub-regional fisheries management organizations and arrangements. According to that Article, States must agree on the stocks to which measures apply, the area of application, the relations between the new organization and the role, objectives and operations of other existing fisheries organizations and the mechanisms by which the organizations will obtain and use scientific advice and data. In addition, States participating in the formation of new fisheries bodies must inform other States having a real interest in the work and co-operation for the protection of the fishery in order to encourage them to join the new organization. These are important provisions in avoiding any adverse legal effects of the act of one international organization upon another, and enhance legal consistency among fisheries organizations. In practice, in relation to both substantive and procedural matters, the activities of fisheries organizations will take into account activities of other organizations on a legal basis[535].

The provisions of the 1995 SSA relating to creation of new regional and sub-regional fisheries organizations will strengthen the capacity of those bodies to make effective management decisions and to enforce them. Also relevant, depending on specific circumstances, are the provisions of Article 9 which can be useful for purposes of reviewing the legal status, procedural matters and capacity building of existing fisheries organizations and coping with inefficiencies related to the conservation and management of straddling and highly migratory fish stocks.

4.3 The problem of new members or participants

Among the other conservation and management functions, under the 1995 SSA, regional and subregional fishing organizations will have to deal with the issue of new members and participants in these organizations. Taking into account that all States have a qualified right to fish on the high seas[536], procedures have to be adopted to deal with the problem of new entrants to particular high seas fisheries while ensuring

[535] Philippe Sands, *Principles*, supra note 211, pp. 116-117.

[536] Article 116 of UNCLOS

stabilization of extraction rates. In this case, the shares of the TAC already allocated to existing participants in a fishery will need to be reduced or transferred through some other type of arrangement supervised by the fisheries organization concerned[537].

Two general principles govern the membership of international fisheries organizations: first, matters concerning membership depend primarily on the provisions of the constituent instruments establishing the international organizations concerned and on the practice of each organization[538]; and secondly, the general principle that all States have the right to participate in high seas fisheries still has to be observed[539]. During the UN Conference on SFS, the UN Division of Ocean Affairs and the Law of the Sea prepared a document which was then submitted by the Secretariat as a 'Background Paper'[540]. This document made a logical contribution to the debate stressing that a new entrant refusing to comply with an arrangement properly established in accordance with UNCLOS could not claim a right to fish the stock concerned or to fish in the area to which the conservation arrangement applies[541].

Article 11 of the 1995 SSA establishes the basis for determining the nature and extent of participatory rights for new members or new participants in a sub-regional or regional fisheries management organization. Accordingly, States must take into account, *inter alia*: the state and the existing level of fishing effort in the stock concerned; the respective interests, patterns and practices of the existing and new members or participants; the respective contributions to the collection and provisions of accurate data and to the conduct of scientific research on the stocks that can be provided by existing and new participants to the fishery organization; the needs of coastal fishing communities dependent mainly on fish stocks and the needs of coastal States whose economies depend overwhelmingly on the exploitation of marine living resources; and

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[537] The issue concerning the reallocation of resources of new entrants, in particular in fisheries that are already fully exploited, will be discussed in Chapter 5, Decision-making procedures, Section 5, "Participatory rights").

[538] Felice Morgenstern, *Legal Problems of International Organizations*, (Cambridge, Cambridge University Press, 1986), at 46; and, Amerasinghe, supra note 529, p. 105.

[539] Article 87 of UNCLOS

[540] Doc. A/CONF. 164/INF/5, 8 July 1993, in Levy, *Selected Documents*, supra, note 113, pp. 399-432.

[541] Ibid, par. 83, p. 423.

finally, the interest of developing states from the subregion or region concerned in whose areas of national jurisdiction the stocks also occur.

The specific objective of this Article is to balance the right or interest of all States to engage in fishing on the high seas, with the conservation and management measures that a group of States may already have established in the context of a sub-regional or regional fishery body, including imposition of some restraints to protect the stocks concerned. Two issues arise from this Article. The first concerns what portion of the TAC must be allocated to a new entrant to a specific fishery organization. The new entrants are under an obligation to respect the conservation measures already adopted. The existing member States fishing the stock are under an obligation to grant reasonable access to a new entrant, except where a complete ban on all fishing is to be imposed in the interest of conservation of a stock. In this case, pressure to resist reduction in quotas is likely to undermine the consensus established in the context of a specific organization[542]. The difficult question remains, of course, that regarding what is to be done when parties fail to agree[543]. Theoretically, all States are under an obligation to accept "reasonable"[544] proposals. In practice, this will depend on the existence and use of effective dispute settlement mechanisms[545].

The second issue concerns the criteria available to guide States and fisheries organizations in dealing with the conditions and merits of new entrants. The needs of coastal fishing communities, as well as the needs of coastal and developing States must be taken into account in the process of determining the nature and the extent of

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[542] Miles and Burke, 'Pressures', supra, note 106, p. 355.

[543] Another question concerning to what extent the provisions of the 1995 SSA regarding new entrants are reflected in the international customary law on that issue. Some authors maintain that to the extent that these measures become more common in practice, legislation and agreements, they may also be considered either as a part of the ancient rule or as qualifying as a new rule in customary international law. See Orrego, *The Changing International Law*, supra, note 81, p. 266. In the same direction, Habib Gherari, 'L'accord du 4 Aout 1995 sur les stocks chevauchants et les stocks de poissons grands migrateurs', RGDIP, 100 (1996), pp. 367-390. However, Davies and Redgwell argue, on the other hand, that DWFS, unhappy with the balance of rights and interests in the 1995 SSA, could search for alternatives to participation therein. Davies and Redgwell, supra, note 461, p. 265.

[544] Study of the numerous decisions providing for a definition of the term of 'reasonable' reveals that international case-law on this retains a rather conventional appeal and the content of the concept is determined by reference to law and follows a positivist model, aiming at ascertaining the will of the parties. See Olivier Corten, 'L'interpretation du "raisonnable" par les juridictions internationales: au-delà du positivisme juridique?', *RGDIP*, 102 (1998), 5-44

[545] Chapter 6, Section 5.

participatory rights. It is important to emphasize that the provisions of Article 11 can be seen as aiming to secure greater food supplies and food security[546] for countries which depend mainly on the exploitation of marine living resources[547]; questions concerning availability of global food supplies persist[548]. This Article establishes a link between food production, environmental concerns, and the role of fishing communities[549]. As an offspring of Agenda 21, the 1995 SSA is a mainstream instrument for achieving the sustainable development as required by all UNCED instruments, in particular for achieving the sustainable development of marine living resources.

The developing countries most likely to want to participate in high seas fisheries are small islands, in particular in the Caribbean[550] and the South Pacific[551], where there is a

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[546] Food security depends, *inter alia*, on sustainable management of fish, forests and wildlife. The World Food Summit, convened at the invitation of FAO on 13-17 November 1996, adopted the Rome Declaration on World Security and World Food Summit Plan of Action. In order to combat environmental threats to food security, this Plan of Action adopted as its objective 3.2, *inter alia*, the promotion of early ratification of the 1995 SSA. The Rome Declaration and the Plan of Action are available on http://www.fao.org

[547] In November 1999, the report entitled "Climate Change: Impacts, Adaptation and Vulnerability" submitted by leading climate scientists to the Working Group II of the Intergovernmental Panel on Climate Change evaluated impacts of climate change for particular sectors, stating that existing stresses on fish stocks could worsen as water temperature, salinity and entire ecosystems change. This report is available on http://www.ipcc.ch.

[548] Discussions about the future of global agriculture take place in an unusual context: production is generally growing and is likely to continue to grow, but globally, the rate of growth is slowing. In the face of world's food production declines, many experts are concerned about the capacity of the world agricultural system to continue to increase production over the coming decades to feed an ever-larger world population. See Lester Brown, *Full House. Reassessing the Earth's Population Carrying Capacity*, (London, Earthscan, 1995); *State of the World. Millennial Edition 1999*, a Worldwatch Institute Report on Progress Toward a Sustainable Society, (New York, Norton and Company, 1999) in particular Ch. 7 by Lester Brown, 'Feeding Nine Billion'; Anne Platt McGinn, *Safeguarding the Health of Oceans*, Worldwatch Paper No. 145, (Washington, Worldwatch Institute, 1999); Le défi alimentaire. Nourrir le Monde en 2010, *Alternatives Economiques*, No. 141, Paris, Octobre 1996; La securité alimentaire à long terme, Food for Development (Commission Européenne, Direction Générale du Developpement) and Courrier de la Planete, Montpellier, France, Octobre 1996.

[549] According to Davies and Redgwell, the sum total of these provisions is to ensure that no party acting in accordance with its obligations under the SSA may fish unilaterally and unrestrictedly on SFS and HMFS without being a member or participant in the relevant regional organization or agreeing to apply regional measures. Peter Davies and Catherine Redgwell, supra, note 461, p. 265. In the opinion of Freestone and Makuch, "membership criteria will continue to be restrictive rather than expansive because of existing member's desire to exclude others seeking access to the relevant fisheries resources, as well as the difficulties that attend monitoring and enforcement of the conservation and management resources in relation to individual fishing vessels and distant water vessels of States". D. Freestone and Zen Makuch, 'The New International Environmental Law of Fisheries: the 1995 UN Straddling Stocks Agreement', *Yearbook of International Environmental Law*, 7 (1996), pp. 3-51, at 31.

[550] FAO Caribbean Technical Cooperation Network on Artisanal Fisheries and Aquaculture, Circular Letter No. 33, January 1996.

high dependency on fisheries and the oceans. According to FAO, to acquire high seas fishing capabilities, developing countries need to take into account the following considerations: how to overcome the constraints imposed by their lack of technology, because fisheries resources are dispersed and difficult to harvest; cost factors which are high compared with the investment requirements for fishing industries within the EEZ; how to develop appropriate marketing policies for target species and resist the intense international competition of existing fleets as well as prevailing tariff and non-tariff barriers[552]. The last is by far the most difficult problem given the relative poverty of the developing States concerned.

In sum, the provisions of Articles 11 of the 1995 SSA provide realistic grounds on which the regional and subregional fisheries organizations can strengthen fisheries policy formulation in determining the nature and extent of participatory rights for new members or new participants.

4.4 Non-members and non-participants

The effectiveness of high seas fisheries management can be considerably reduced if important fishing states are not bound by the decisions of a fishing organization and do not participate in the process of determining and adopting management decisions. The legal issue of non-members and non-participants was therefore an important legal issue that had to be addressed in the 1995 SSA.

The main legal issue to be addressed in this section is thus what the situation will be from legal view point, if third States, which are non-members and non-participants in a

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[551] The main objective of the South Pacific Forum Fisheries Agency has been to affirm the right to exercise sovereign rights over HMFS, their most important resource, without interference or direction from DWFS, even if cooperation in form of access agreements would be realized. See Judith Swan, 'Highly Migratory Species. The South Pacific Forum Fisheries Agency', in Alfred Soons (ed.), *Implementation of the Law of the Sea Convention Through International Institutions*, (Proceedings of the Law of the Sea Institute, Hawaii, 1990), pp. 147-163, at 156. The new environment in the South Pacific is characterized by a shift in the Pacific Island Countries' development strategy that entails developing their own, locally based tuna industries. See Rachel Schurman, 'The Future of Regional Fisheries Cooperation in a Changing Economic Environment: The South Pacific Island Countries in the 1990', *ODIL* 28 (1997), pp. 369-383, at 371.

relevant subregional or regional fisheries organization refuse to co-operate as required by UNCLOS (Articles 61 and 120) and as a result are banned from fishing in areas managed by the organization. In this regard, Article 8.4 of the Agreement now establishes that only States which are members of an organization or party to the arrangement concerned or which agree to apply the conservation and management measures established by such an organization or arrangement, will have access to the fishery resources to which those measures apply. This raises challenging questions concerning enforcement and is a major break from the previously existing situation under relevant international law.

As pointed out earlier, the general principle is that all States now have a qualified right to engage in fishing on the high seas. Addressing freedom of the high seas generally, a very long standing principle of public international law, Article 87 of UNCLOS stresses clearly that "the high seas are open to all States, whether coastal or land-locked"[553]. In addition, Article 119.3 reinforces this principle in stating that "States concerned shall ensure that conservation measures and their implementation do not discriminate in form or in fact against the fishermen of any State". In this regard, most of the conventions establishing sub-regional and regional fisheries organizations have provisions allowing third States interested in participating in the fisheries to join as "participants" in such organizations, rather than as full members, for the purpose of encouraging and providing for stability in the fisheries. However, this obligation is conditioned by an obligation to co-operate with other States in agreeing upon the measures necessary for the conservation of straddling and highly migratory fish stocks[554].

The 1995 SSA confirms the general principle that even non-members and non-participant States which have not agreed to apply the conservation and management measures of a concerned sub-regional or regional fisheries organization are not discharged from the obligation to co-operate, in accordance both with the 1982 UNCLOS and the SSA itself (Article 17.1). In addition, such States must not authorize vessels flying their flag to engage in fishing operations for the stocks concerned (Article

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[552] Doc. A/CONF.164/INF/2, FAO 1992 Technical Consultation on High Seas Fishing, in Levy et al (eds.), Selected Documents, supra note 113, pp. 329-337.

[553] UNCLOS, Article 87.1.

[554] UNCLOS, Art. 63.2, 64 and 118.

17.2). The effectiveness of fisheries management would be considerably reduced if any high seas fishing States did not participate in the decision-making relating to management measures and was not bound by those decisions. Therefore, these provisions aim at preventing the effectiveness of any decision taken in the context of a specific organization from being put in the jeopardy by non-contracting parties.

Regarding non-members and non-participants, another set of rules adopted by the SSA (Article 17.3), is designed to promote rational exploitation, imposing certain duties on member States of regional and sub-regional fisheries management organizations to request any fishing entity which has fishing vessels in the relevant area to co-operate fully in the implementation of conservation and management measures established by the organizations (Article 17.3). The SSA sets out for such fishing entities what might be called a 'principle of commensurate participation'; taking into account that Article 17.3 provides that "such fishing entities shall enjoy benefits from participation in the fishery commensurate with their commitment to comply with conservation and management measures in respect of those stocks". According to this provision, such entities must enjoy benefits proportional or equivalent to their commitment to comply with conservation and management measures in respect to the stocks concerned.

Furthermore, States which are members of or participants in a regional or subregional organizations must exchange information with respect to the activities of fishing vessels flying the flags of States which are neither members of nor participants in the organization but which are engaged in fishing operations on the relevant stocks (Article 17.4). These States must take measures consistent with the Agreement and within international law to deter the activities of fishing vessels, which undermine the effectiveness of the measures adopted by the organizations concerned. In this regard, the 1993 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, provides that States parties to this Agreement must co-operate in a manner consistent with international law to the end that fishing vessels entitled to fly the flag of non-Parties do not engage in activities that undermine the effectiveness of international conservation and management measures[555]. In addition, the Parties must encourage any State not party to this

[555] FAO Compliance Agreement, Art. VIII.2

Agreement to accept it, exchange information amongst themselves and encourage non-parties to adopt laws and regulations consistent with the provisions of the Agreement (Article VIII). Other provisions restricting the access of non-contracting parties are the 1994 Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea[556]; the 1992 Convention for the Conservation of Southern Bluefin Tuna[557]; and the 1992 Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean[558].

The Commission of the CCAMLR has adopted, in its Schedule of Conservation Measures in Force for 1999-2000, a 'Scheme to Promote Compliance by Non-contracting Party Vessels with CCAMLR Conservation Measure'. According to that scheme, a non-Contracting Party vessel sighted engaging in fishing activities in the CCAMLR Area is presumed to be undermining the effectiveness of CCAMLR conservation measures; information must be transmitted immediately to the Commission which will transmit this information to all Contracting Parties within one business day, and to the flag State of the sighted vessel as soon as possible. According to this Scheme, when a non Contracting Party vessel referred to above enters a port of any Contracting Party, it shall be inspected by authorised Contracting Party officials and shall not be allowed or tranship any fish until the inspection has taken place. Information on the results of all inspections of non Contracting Party vessels conducted in the ports of Contracting Parties, and of any subsequent action, must be transmitted immediately to the Secretariat of the Commission, which will transmit this information immediately to all Contracting Parties and to the relevant flag State(s)[559]. Similar schemes of conservation measures concerning non Contracting Parties have been

[556] 1994 Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea, Article XII.3. Reproduced in (1995) 34 ILM 67.

[557] 1992 Convention for the Conservation of Southern Bluefin Tuna, Article 15.4. Law of the Sea Bulletin, No. 26, 1994.

[558] 1992 Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean, Article IV.4. Law of the Sea Bulletin, No. 22, 1993.

[559] Commission for the Conservation of Antarctic Marine Living Resources, CCAMLR, 'Scheme to Promote Compliance by non Contracting Party Vessels with CCAMLR Conservation Measures', Conservation Measure 118/XVII, Schedule of Conservation Measures in Force 1999/2000. Document in electronic form as available on 2/11/00 on the Web Site of the CCAMLR: http://www.ccamlr.org/Englisdh/e_pubs/e_measures/e_cm99_00/e_cm99_00 page5.htm

recently implemented by the Indian Ocean Tuna Commission[560] and the International Commission for the Conservation of Atlantic Tunas[561].

On the other hand, FAO organized in October 2000, in Rome, a Technical Consultation on Illegal, Unreported and Unregulated (IUU) Fishing, subsequent to an Expert Consultation on that issue organized by the Government of Australia in Co-operation with FAO in Sidney, in May 2000. This Technical Consultation addressed IUU fishing in a substantive manner, identifying a number of mutually consistent measures that must be implemented. In the first instance, the full and effective implementation of recently concluded international fishery instruments should be encouraged (viz. Code of Conduct for Responsible Fisheries, Compliance Agreement, UN Fish Stocks Agreement and the three FAO international plans of action (IPOA)). The implementation of these instruments will facilitate in different, but mutually reinforcing ways, greater national control and supervision over fishing vessels operations[562]. As regards the difficulty experienced by regional fisheries bodies in applying responsible fisheries management measures to the vessels of non-Parties, particularly those on the fishing vessel registers of some "open register" States, the Technical Consultation has fostered various proposals, ranging from making efforts to encourage such non-Parties to join the regional fisheries bodies and/or comply with their management measures, to implementing bans of various sorts against them, such as denying port access, banning imports of fish, outlawing transhipments, etc[563].

Other international fora have addressed, and are continuing to address, issues relating to IUU fishing. The Seventh Session of the UN Commission on Sustainable Development (CSD) in April 1999 considered the issue noting that FAO would give priority to

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[560] Indian Ocean Tuna Commission, 'Resolution 99/04 On the Status of Cooperating Non-Contracting Parties'. Document in electronic form as available on 2 November 2000, on the web site http://www.seychelles.net/iotc/EIOTCRes.htm

[561] International Commission for the Conservation of Atlantic Tunas, 'Recommendation Concerning the Ban on Landings and Transhipments of Vessels from non Contracting Parties Identified as Having Committed a Serious Infringement'. Recommendation adopted by the Commission at its 11th Special Meeting (Santiago de Compostela, Spain, November 1998). Report for Biennial Period, 1998-1999, entered into force on June 21, 1999. Document in electronic form as available on 2 November 2000, on the web site http://www.iccat.es

[562] 'Technical Consultation on Illegal, Unreported and Unregulated Fishing', FAO Document FI:IUU/2000 Inf. 4, Rome, July 2000.

develop an IPOA to deal effectively with any form of IUU fishing. The CSD underscored the importance of flag State and port State issues in combating IUU fishing. In doing so, the Commission invited IMO to develop, as a matter of urgency, measures in binding forms to ensure that ships of all flag State meet international rules and standards so as to give full and complete effect to the 1992 United Nations Convention of the Law of the Sea (Article 91) as well as other relevant conventions[564].

In summary, regarding the position of non-members of and non-participants in a specific regional and sub-regional fishing organizations, the 1995 SSA now qualifies the open access regime of high seas fisheries by restricting the access of non contracting parties to specific areas. This provision is in alignment with other recently adopted international instruments, such as the FAO Compliance Agreement and the above-indicated schemes implemented by international fisheries organizations. The conditions for restricting access are clearly specified in the Agreement itself and must be consistent with international law. In voluntarily becoming members or participants of a fisheries organization, States parties to it are complying with an international obligation confirmed in the SSA, to co-operate. In the context of the balancing of the obligations and duties of the fishing and the coastal States established by the 1995 SSA this allows States parties to it to deter those fishing States which are non-members and non-participants from fishing a specific stock[565]. The residual problem, once the SSA enters into force, will be the position and activities of those DWFS, which do not become parties to it. Even if non-parties to the SSA undermine the effectiveness of international management measures the fact is that, according to the 1969 Vienna Convention on Treaties [Art. 38], treaty law binds only States parties to a treaty unless they have otherwise indicated that they accept it or the obligation already exists in customary international law. The efforts to achieve sustainable use of high seas fisheries, therefore, may yet be jeopardized by unregulated fishing by States that are not parties to the SSA. The effectiveness of fisheries management will be reduced significantly if some high

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[563] Ibid.

[564] See 'Responsible Fisheries and Illegal, Unreported and Unregulated Fisheries: Moving from Principles to Implementation', UNICPOLOS Document in electronic form as available on 11 November 2000, on the Web Site http://www.un.org/Depts/los/Docs/UNICPO/ICPO fish.htm

[565] The question remains as whether these provisions are consistent with the freedom of fishing on the high seas and the extent to which the Agreement's further elaboration of the duty to co-operate is reflected in customary international law on this matter.

seas fishing States do not participate in the management decisions and are not bound by those decisions[566]. It might be maintained that the non-fishing provisions of the SSA are declaratory, have the nature of an implementation of provisions of the 1982 UNCLOS[567] and consequently binding on all UNCLOS parties, whether or not the high seas fishing States concerned are parties to the Agreement[568].

Regarding the problem of participation, the essential issue is the consequence of non-participation, on which the SSA has highly innovated the law of high seas fisheries. Although the evolution of the law of the sea had been pointing in that direction, the conditions for restricting access specified in the Agreement is a major mechanism for the implementation of the new regime.

4.5 Transparency in activities of fisheries management organizations

Transparency is another important legal issue now needing to be addressed regarding the activities of regional and subregional fishing activities. Regimes, even without the benefit of binding substantive agreement, can build and enforce norms simply by making individual and national acts transparent. "The process of improving the shared international data set and integrating national and international policies is a mechanism by which national actors become more transparent, and norms can be shaped by the international organizations that fulfil that functions"[569].

The general principle in international law, which is also reflected in the law of treaties[570], is that all treaties must be executed in good faith by both States parties and

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[566] Tahindro, supra note 163, pp. 25. This point will be discussed in the following section.

[567] In this regard it should be stressed that the title of the Agreement is "Agreement for the Implementation of Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Species". See supra, note 38.

[568] See Juda, supra, note 502, pp. 155.

[569] David Victor, Abraham Chayes and Eugene Skolnikoff, 'Pragmatic Approaches to Regime Building for Complex International Problems', in Choucri (ed.), *Global Accord*, supra note 74, pp. 453-474, at 468.

[570] Vienna Convention, Article 26. See Sh. Rosenne, *A Guide to the Legislative History of the Vienna Convention*, (Layden, Sijthoff, 1970); Robert Ago, 'Le droit des traités à la lumière de la Convention de Vienne', *RCADI*, 134 (1971), pp. 303-330; I. Sinclair, *The Vienna Convention on the Law of Treaties*, (Manchester, Manchester University Press, 1984); Julio Barberis, 'Le concept de traité international et ses limites', *AFDI*, (1984), pp. 239-270.

international organizations. This principle has been reflected in many treaties and relied upon by international courts and tribunals in adjudicating numerous international decisions. Thus, in the Pacific Fur Seal Arbitration, the President of the Tribunal found that the exercise of a right for the sole purpose of causing injury to another is prohibited[571]. The award of the Trail Smelter Arbitration (United States *vs.* Canada), though now outdated following the principles recently endorsed by UNCED in Agenda 21, can also be cited as an example of reliance upon the principle of good faith in order to ensure a proper balance between States' rights and obligations and recognition of the interdependence of a person's rights and obligations[572]. The ICJ, in the Nuclear Tests Cases, has also recognized the principle of good faith as "one of the basic principles governing the creation and performance of legal obligations, whatever their source"[573]. Principle 21 of the Stockholm Declaration as well as Principles 2 and 27 of the Rio Declaration affirm this in declaring that States and people shall co-operate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in the latter declaration and in the further development on international law in the field of sustainable development and to ensure that their activities do not cause damage to the environment of other States or areas beyond the limits of national jurisdiction. The 1995 SSA affirms the principle of good faith in Articles 34 and 8.2.

4.5.1 The Principle of Good Faith and the Abuse of Rights

The 1982 UNCLOS refers to the concept of abuse of rights in Article 300. This Article requires States Parties to fulfil in good faith the obligations assumed under that Convention and to exercise the rights, jurisdiction and freedoms recognized in the Convention in a manner which would not constitute an abuse of right. The doctrine of abuse of rights (*'sic utere iure tuo ut alienum non laedas'*) implies a prohibition of activities constituting a repugnant exercise of a legitimate right and is generally

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[571] Pacific Fur Seal Arbitration. Reproduced in Philippe Sands, R. Tarasofsky and Mary Weiss (eds.), *Documents in International Environmental Law*, (Manchester, Manchester University Press, 1994) Vol. IIA, 881.

[572] Trail Smelter Arbitration (United States *vs.* Canada). Reproduced in Sands et al. (eds.), ibid, n. 571, p. 85.

[573] Nuclear Tests Cases. ICJ Reports, 1974, at 267.

recognized in most legal systems[574]. Its validity is asserted by many authors as a principle of international law[575]. However, regarding fisheries on the high seas, there appears to be significant contemporary disagreement about the scope and meaning of the doctrine[576]. As Smith has pointed out, commentators on the doctrine of abuse of rights tend to fall into three categories: first, in its broadest formulation, abuse of rights is conceived as a general principle of the international law of torts; secondly, abuse of rights is conceived as a viable rule of decision, but Smith rejects this expansive perspective in favour of a narrow interpretation focusing on the purpose of the exercise of the right; and thirdly, a significant number of commentators deny entirely the function of abuse of rights as a rule of international decision[577]. Birnie and Boyle have pertinently stressed that "abuse of rights is not an independent principle, but simply an expression of the limits inherent in the formulation of certain rights and obligations which now form part of international law"[578].

In the international law of fisheries on the high seas, the question of abuse of rights might arise in the following three stances. First, the concept might apply to the activities of a coastal State on the high seas areas adjacent to its EEZ. In this context, the doctrine of abuse of rights could in theory be relevant to the extent to which a coastal States can claim to exert any specific rights or jurisdictions over activities occurring in the high seas areas, on the basis of Articles 63.2 and 64. The problem here is that many States do not recognize any specific rights of the coastal State in this regard. Secondly, the concept might apply to the activities of States fishing on the high seas. Consequently, a number of situations are currently regulated only in the context of a generic duty to co-

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[574] J. I. Charney, 'Universal International Law', *AJIL*, 87 (1993), pp. 529-551; Oscar Schachter, *International Law in Theory and Practice*, (Dordrecht, Nijhoff, 1991); G. Battaglini, 'Il riconoscimento internazionale del principi generali del diritto', Mélanges Ago, Vol I, (Paris, Pédone, 1989), pp. 97-140; Geraldo E. do Nascimento e Silva, *Direito Ambiental International*, (Rio de Janeiro, Thex, 1995), p. 14.

[575] Alexandre Kiss, *Droit International de l'Environnement*, (Paris, Pédone, 1989), p. 72; P. Sands, *Principles*, supra note 211, p. 123; A. Pellet, Recherches sur les principes généraux du droit en droit international, Thèse Université de Paris, LXIII, 1974; Ian Brownlie, *Principles of Public International Law*, (Oxford, Clarendon Press, 1990).

[576] Burke, *The New International Law*, supra, note 110, p. 142.

[577] Brian Smith, *State Responsibility and the Marine Environment: the Rules of Decision*, (Oxford, Clarendon Press, 1988), pp. 84-85

[578] Birnie and Boyle, supra, note 213, p. 126.

operate[579], which might invoke application of the doctrine. These situations include the refusal to negotiate in good faith in order to reach appropriate conservation agreements; fishing in high seas areas adjacent to an EEZ while deliberately ignoring, to the detriment of the stock in question, the coastal State's conservation measures; or if fishing on the high seas by vessels flying their flag was permitted by the flag State in reckless disregard of basic conservation measures. Thirdly, the concept of abuse of rights might arise in relation to the activities of a coastal State in its EEZ. Thus, the concept might apply to a coastal State which permitted fishing activities in its EEZ of such a kind (e.g. use of driftnets) or for such an amount of species that the conservation of a high seas stock (including SFS and HMFS) was endangered. The problems could arise in all these cases but may never be resolved by courts or tribunals since the UNCLOS provisions limiting the scope of compulsory dispute settlement (Article 297.3 of UNCLOS) would inhibit the applicability of article 300 to such a situations[580].

At the present stage of the development of the international law of the sea, it is sufficient to do no more that mention the three theoretical possibilities of invocation of the abuse of rights doctrine as referred to above. According to Burke, the realism of invoking the doctrine of abuse of rights, and its limitations, would need to be assessed in the context in which it is advanced[581]. One point that would need to be clarified concerns the right to invoke dispute settlement procedures. Can any State contest another State's fishing activities on the high seas on the grounds that they do not comply with fishing management measures? Should any State be free to object to improper management of high seas fisheries? Or should the right to object be limited to members of the international fisheries organizations concerned? According to Miles and Burke, UNCLOS affords a plausible basis for coastal State action to prescribe needed measures and, more importantly, it provides for compulsory resort to third-party dispute settlement for settling differences over the scientific and non-discriminatory basis for the measures proscribed by the coastal State[582]. Lucchini and Voeckel maintain that rather than resolving the problem on the grounds of the preferential rights of coastal

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[579] UNCLOS, Articles 117-119.

[580] FAO 1992 Technical Consultation on High Seas Fishing, Levy et al. (eds.), *Selected Documents*, supra, note 113, pp. 61.

[581] Burke, supra note 110, pp. 144.

[582] Miles and Burke, 'Pressures', supra, note 106, p. 356.

States, Article 286 of UNCLOS could be relied on since it facilitates the search for a solution leading to a 'droit souhaitable' of *'lege ferenda'* [583]. However, the question remains which of the choices of procedure should be adopted given the numerous limitations and options.

It is relevant to emphasize that, according to Article 34 of the 1995 SSA, States are required to fulfil in good faith the obligations assumed under the Agreement and to exercise their rights in a manner which would not constitute an abuse of rights. In this regard, it is important also to mention that, concerning the UNCLOS, the Agreement does not refer to these obligations in terms of "jurisdiction" or "freedoms"; only of "obligations" and "rights". Thus, Article 12 of the 1995 SSA affirms the "obligation" of States to provide for transparency in the decision-making process and other activities of sub-regional and regional fisheries management organizations and arrangements. It should also be noted that in Regime Theory, the need for transparency in relation to every activity of the organization is regarded as a very important matter in relation to the effectiveness of the regime. Studies of international environmental regimes indicate that such regimes, even in the absence of binding substantive agreements[584], can build and progressively enforce norms simply by making individual and national actions transparent. The process of improving the shared international data and integrating national and international policies is a mechanism by which national actions become more transparent and norms can be shaped by the international organizations that fulfil these functions[585].

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[583] Laurent Lucchini et Michel Voeckel, *Droit de la Mer*, (Pédone, Paris, 1996), Vol. 2-Tome 2, p. 665. Following on the same argument, Applebaum states: "current developments in a number of areas of the world suggest the possibility that the time has come for a reassessment of the international legal principles in play regarding fisheries conservation and environmental protection in order to determine if these principles can be developed so as to strengthen international institutions and make them more effective". Applebaum, supra, note 501, p. 151.

[584] Although exceptional, singular and non-existent in the field of international fisheries, this kind of regime has been identified theoretically in International Regimes Theory. The Prior and Informed Consent (PIC) system, managed jointly by FAO and UNEP under the *International Regime to Manage Trade in Hazardous Chemicals and Pesticides*, based on non-binding instruments, has been considered as highly effective. See, e.g. David Victor, '"Learning by Doing" in the Non-binding International Regime to Manage Trade in Hazardous Chemicals and Pesticides', in David Victor, Karl Raustiala, and Eugene Skolnikoff (eds.), *The Implementation and Effectiveness of International Environmental Commitments. Theory and Practice*, (IIASA, Laxenburg; MIT Cambridge), pp. 221-281. For a legal approach on this issue see Sands, *Principles*, supra note 211, pp. 465-468.

[585] David G. Victor, Abram Chayes and Eugene B. Skolnikoff, 'Programmatic Approaches', supra, note 569, p. 468.

4.5.2 Participation of NGOs

The other mechanism for securing or enhancing transparency is the participation at the international level, of specialized non-governmental organizations (NGOs). In the area of the international environment, NGOs have played a major part in the formation of policy by identifying priority subjects for international action, producing innovative approaches to public policy, providing thoughtful analyses of environmental trends and other data, and creating pressure through stimulating public and political consciousness[586]. They have become increasingly effective in these fields, especially in obtaining consultative status with international and regional organizations, despite the opposition of some States. Their representation and the personal lobbying of delegates may influence the negotiation and thus the negotiating process[587]. In some cases, their documents may be formally circulated and their representatives allowed to speak in certain committees. Regarding creation and maintenance of regimes, Haufler distinguishes two types of relationship between State and non-state actors[588]. First, States can involve non-state actors at an early stage in developing the normative basis of a regime, or in implementing its programmes. Secondly, non-state actors can either act independently in establishing a regime or they may exert influence to determine State preferences through formation of domestic or transnational coalitions. In either case, the activities of non-state actors can have a large impact on the shaping of global regimes[589].

The 1995 SSA accords representatives from IGOs and NGOs an important role in subregional and regional fisheries management organizations and arrangements. According to Article 12.2, these representatives must be afforded the opportunity to take part in meetings of regional and sub-regional fisheries organizations whether as observers or otherwise, as appropriate, in accordance with the procedures of the

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[586] James Cameron and Ruth Mackenzie, 'State Sovereignty, Non-Governmental Organizations and Multilateral Institutions', FIELD Document, on file with the author of this thesis.

[587] Birnie and Boyle, supra, note 213, p. 76.

[588] Virginia Haufler, 'Crossing the Boundary between Public and Private: International Regimes and Non-State Actors', in Rittberger, *Regime Theory*, supra, note 50, pp. 94-110, at 109.

[589] Some NGOs lobbies are very powerful, i.e. the International Chamber of Shipping on the one hand and IUCN and Greenpeace on the other, at the International Maritime Organization; representatives of the whaling industry at the International Whaling Commission, but at this Commission so also are the conservationist NGOs; DWFNs at FAO; Greenpeace, IUCN and the WWF worldwide.

organizations or the arrangements concerned. The issue of transparency and NGO participation was intensively debated during the UN Conference on SFS. Greenpeace, as well as other NGOs pleaded for the adoption of provisions which would establish public participation and public accountability as a fundamental principle related to fisheries decision-making at national, regional and global levels, in addition to specific provisions relating to the rules of procedure for regional organizations[590]. Regrettably, however, the final wording of the provisions of the SSA relating to transparency applies only to the functioning of regional and sub-regional organizations, not global ones.

According to Article 12 of the SSA, the procedures concerning transparency adopted by regional and sub-regional fisheries management organizations must not be "unduly restrictive" in relation to the participation of NGO's. The scope of the concept 'unduly restrictive' is, however, somewhat unclear. In this regard, it is relevant to refer to FAO's progressive policy concerning its relations with international NGOs. The FAO Conference, which is the supreme governing body of the FAO[591], decided in 1998 that in future, intergovernmental organizations that do not have an agreement with FAO and NGOs in liaison status with FAO may be invited to send observers to Conference and Council sessions if, in the judgement of the Director-General, there are concrete reasons for inviting them which would advance the work of the organization[592]. It also required that international NGOs be "sufficiently representative"[593].

FAO was one of the first organizations to lay down guidelines for relationship agreements with public international organizations (IGOs) setting out criteria to determine the nature of other organizations: an IGO should be set up by a formal convention concluded between States; its governing body should be composed of members designated by governments; its income should be derived mainly from

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[590] Greenpeace International Fisheries Campaign, *Analysis of the United Nations Treaty for the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (Greenpeace, Amsterdam, December 1995), p. 6.

[591] "The Conference shall determine the policy and approve the budget of the Organization and shall exercise the other powers conferred upon it by this Constitution", FAO Constitution, Article IV.1. Document in electronic form as available on http://www.fao.org/UNFAO/bodies/conf/conf-e.htm, on 19/08/98.

[592] FAO Conference, Resolution No. 44/57. FAO Basic Texts Part Q, Observer Status in Respect of International Governmental and Nongovernmental Organizations. Document in electronic form as available on http://www.fao.org/legal/basictxt/h226.f.htm, on 19/08/98.

[593] Ibid.

governmental contributions; and it should have legal capacity to enter into agreements with other organizations[594]. Regarding international NGOs, many international organizations make provision for a variety of consultative relationships with such bodies, which include the right to attend meetings and to circulate documents[595]. The 1995 SSA affirms the right for IGOs as well as for NGOs to have timely access to the records and reports of regional and sub-regional fisheries organizations and arrangements, subject to the procedural rules on access to them (Art. 12.2).

Article 13 of the 1995 SSA provides that States must co-operate to strengthen existing sub-regional and regional fisheries management organizations and arrangements in order to improve their effectiveness in establishing and implementing conservation and management measures for SFS and HMFS. Effectiveness addresses the question whether the agreement has achieved its stated objectives and whether the agreement successfully addresses the problem it was intended to resolve[596]. Coastal States and high seas fishing States must co-operate in spite of different interests, if the exploitation of high seas fish stocks is to be rationally conducted and resources sustainably used. To be effective for high seas management purposes, fisheries organizations need to have a significant degree of independence in the execution of their functions, be assigned powers consistent with their management tasks and receive support from contracting parties. They have to address matters such as: objectives and purposes; membership; species coverage; management area; collection of catch data and related information; the provision of scientific advice; establishment of a management body; the problems of flag state responsibility; finance; management decisions; the position in relation to non-contracting parties and the admission of new entrants; monitoring, control and surveillance of fishing activities; dispute settlement procedures; and imposition of penalties[597].

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[594] Morgenstern, 'Legal Problems', supra, note 538, p. 76. See also FAO Conference, Tenth Session held in Rome, November 1959. Document in electronic form as available on 3/03/00, on http://www.fao.org/docrep/x5394c/x5394e01.htm.

[595] Morgenstern, 'Legal Problems', supra, note 538, p. 86.

[596] Edith Brown-Weiss, 'National Compliance with International Environmental Agreements' in ASIL, Proceedings 91st Annual Meeting, *Implementation, Compliance and Effectiveness*, (Washington, ASIL, 1997), pp. 56-59.

[597] FAO 1992 Technical Consultation on High Seas Fishing in Levy, *Selected Documents*, supra note 113, pp. 47-53.

Within regional or sub-regional fisheries organizations, States parties are likely to be required to have the competence to implement and abide by management decisions and initiate measures to ensure that flag State vessels comply with such decisions. High seas management mechanisms will involve both developing and developed coastal States or DWFS. Some States may press for the adoption of criteria to determine eligibility for participation in such mechanisms, although this approach may not be widely accepted since it could be disadvantageous for developing countries. In the oceans area, international organizations have greatly increased the number of developing countries active on these issues, at the expense of the influence of major maritime powers[598]. This trend is relevant because it can contribute to the rebalancing of powers within international fisheries organizations.

In summary, transparency in relation to all their activities can considerably contribute to the strengthening of the effectiveness of regional and sub-regional fisheries management organizations and arrangements. The need for greater transparency, openness and participation is now virtually a mantra of modern governance. Public participation and influence in fisheries management, based on better and unbiased information can strengthen the management capabilities of fisheries organizations[599]. The 1995 SSA is a major step forward in that direction. International fisheries organizations, both regional and sub-regional, will need now a clear legal mandate to manage the resources concerned, the active participation of contracting parties and effective compliance by those states with the conservation and management measures adopted within the organization's framework.

4.6 Towards authoritative global institutions?

Efforts to control international environmental problems are generally exerted incrementally rather than in a holistic manner, each set of issues being considered *ad hoc* separately, i.e. independently of consideration of possible common underlying causes such as population growth, patterns of consumer demand and the practices of

[598] Keohane and Nye, *Power and Interdependence*, supra, note 486, pp. 124-126.

[599] Tahindro, supra, note 163, p. 28. See also Greenpeace, 'Analysis', supra note 590, p. 6.

modern industrial production[600]. This section will thus examine the extent to which international fisheries organizations are capable to deal efficiently with the complex problem of exploitation of fisheries on the high seas, without encroaching upon State sovereignty. It will also look at whether there is any move towards co-ordinating or integrating bodies established to protect and conserve (including restore) the marine environment, which provides the habitat of fisheries, with those established to regulate the fisheries, including setting quotas, choice of gear, etc., as advocated in Agenda 21.

4.6.1 Global interdependence on environmental issues

Environmental problems became a major focus of international concern and activity only in the late twentieth century. Many such problems are international or global in scale as are fisheries themselves and thus have stimulated international political activity in response. Institutions or regimes for collective management have and are being developed aimed at preventing further degradation of the global commons and, where necessary, restoring them to a status of sustainability. These institutions now form a complex of interlinked networks shaping the activities and expectations of all relevant actors across a wide range of activities. This development enhances a tendency towards globalization which has emerged in the second half of the 20th century and has led to expansion of international rules to cover many fields that formerly either fell within the exclusive jurisdiction of States, such as human rights, labour conditions, health care, etc., or were not subject of legal regulation as in the case of the protection of the environment and such other issue areas as the economic development of poor countries, control of drug trafficking, the fight against terrorism, etc.[601]

The political problem presented by ecological interdependence arises from the intricate web of relationships that exist between the international legal boundaries of the State system independently of the boundaries of the ecological causal networks. List and

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[600] Marc A. Levy, Robert O. Keohane and Peter M. Haas, 'Improving the Effectiveness of International Environmental Institutions', in Peter Haas et al. (eds.), *Institutions for the Earth*, supra, note 12, pp. 397-425, at 423.

[601] Alexandre Kiss, 'Future Directions in International Regimes. The Implications of Global Change for the International Legal System', in Edith Brown Weiss (ed.), *Environmental Change and International Law. New Challenges and Dimensions*, (Tokyo, United Nations University Press, 1992), pp. 315-339.

Rittberger claim that it is here that international regime theory assumes importance. "The demand for international regimes arises from tasks thrust upon states and non-state actors when they have to cope with interdependence and the problems and conflicts that arise from it"[602]. In Regime Theory, international institutions are assumed to include formal intergovernmental or transnational organizations, international regimes, and conventions. International organizations are purposeful entities, with bureaucratic structures and leadership, permitting them to respond to events. International regimes are institutions with explicit rules, agreed upon by governments that pertain to particular sets of issues in international relations and international law. They can include conventions, which are institutions, with implicit rules and understandings that shape the expectations of actors[603].

Alexandre Kiss has expressed a similar view in his study on the implications of global environmental change for international institutions. Kiss argues that global change encourages present trends in the international community leading it to behave like a real system, i.e., an increasingly intricate web of dynamic relationships. He concludes that the protection of common interests of human kind needs a fundamental basis which can be found in the emergence of a true world ethic[604]. In a study of ethics and the economics of world order, Ruben Mendez argues that the present pattern of international public administration and financing is obsolete and that, due to the rapid and accelerating pace of change, international common interests need a new system of global governance for their protection and benefit[605]. He suggests, as have others, that this could consider a new method of financing the international public sector, which includes international taxation[606], including taxes on foreign exchange transactions, on

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[602] M. List and V. Rittberger, 'Regime Theory and International Environmental Management', in Hurrell and Kingsbury (eds.), note 72, pp. 85-108, at 86.

[603] Robert O. Keohane, 'The Analysis of International Regimes: Towards a European-American Research Programme', in Rittberger (ed.), *Regime Theory*, supra, note 50, pp. 23-48, at 28-29.

[604] Kiss, supra, note 575, at 339.

[605] Ruben Mendez, 'The Provision and Financing of Universal Public Goods', supra, note 309, pp. 39-59, at 40-41.

[606] International taxation for the protection of the environment is not a new issue in international relations or in international law. See Michael Boskin and Charles McLure (Eds.), World Tax Reform, (San Francisco, ICS Press, 1990); Thomas Stemer, 'An International Tax on Pollution and Natural Resource Depletion', *Energy Policy*, April 1990, 300-304; Sanford Gaines and Richard Westin, *Taxation for Environmental Protection*, (New York, Quorum Books, 1991) and, *Taxation and the Environment*, a publication of the OECD, Paris, 1993.

military expenditures, arms transfers and polluters; monetary measures, including a new issue of Special Drawing Rights (SDR) and a SDR-development link; the sale by the IMF of its remaining gold for development purposes; and finally, with specific relevance to this thesis, charges for the use of the global commons, including charges on ocean freight and overflight, fishing on the high seas and the Southern Ocean, and the mining of the deep ocean bed[607].

The question regarding how, by whom and by what mechanisms these taxes could be set and collected, remains unclear. Despite positive signs, the efforts to establish new forms of governance, in particular for the oceans, have been summarized as follows by the Independent World Commission on the Oceans: first, the resistance from those who benefit disproportionately from current arrangements or from the absence of them; secondly, the ideological barrier, mainly in the economic sphere, that shape perceptions of the need for change; thirdly, the barriers in the form of the behaviour of individuals such as consumption patterns; fourthly, the increased number of nation states and therefore, the difficulties of balancing the needs and priorities of an increasingly heterogeneous community of nations; and fifthly, the complexity of scientific issues concerning ocean problems which make it difficult to forge a consensus[608]. These obstacles hamper the implementation of mechanisms required to regulate more effectively the uses of the oceans and to ensure that the benefits of the oceans are shared more equitably.

4.6.2 Global management of fisheries

The still rudimentary patterns of management regarding fisheries can be illustrated with reference to two main features. First, eighty percent of the total world marine catches are taken by only 20 states[609]. Secondly, according to a report by Greenpeace International, of the 3.5 million fishing boats in operation, the industrial fleet, consisting of approximately 35,000 fishing vessels, accounts for only about 1% of the total number

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[607] Mendez, supra, note 309, p. 40.

[608] *The Oceans our Future*, The Report of the International World Commission on the Oceans, (Cambridge, Cambridge University Press, 1998), pp. 30-31

[609] 1995 FAO Report, supra, note 11. See also Chapter 1, Section 1.

of boats in operation. Between 1991 and 1996, 1,654 new vessels were added to the world's large-scale industrial fishing fleet, of which four states (Japan, Honduras, Russia and Peru) and the European Union accounted for 60%. Morever, this industrial fleet receives annually most of the 25 to 50 billion US dollars that is paid by governments in the form of taxpayer-funded subsidies to the fishing industry[610]. In essence, the high seas fisheries problem, as it relates to SFS and HMFS, stems from increasing fishing effort on stocks, principally from DWFN fleets and, on the other hand, from high seas fleet overcapacity and the subsidization of operations, which have generally exacerbated management difficulties and masked the real cost of fishing, leading to irrational exploitation[611].

The elimination or reduction of these subsidies would not, in themselves, provide the solution to the problems of world's fisheries. However, as Christopher Stone has pointed out, the elimination of subsidies would at least relieve national budgets of perverse expenditures, ease the task of fisheries managers, remove distortions of trade, help foster a larger, more valuable catch in the long term, and better protect the environment[612]. In the same direction, proposing changes that would allow the power of the markets to be put work to protect the environment, Robert Roodman has stressed that governments can grab the attention of business decision-makers by translating environmental costs into prices and also help consumers to better understand the true environmental costs of their purchases and investments[613].

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[610] C. Newton and J. Fitzpatrick, *Assessment of the World's Fishing Fleet, 1991-1997.* (Amsterdam, Greenpeace International Fisheries Campaign, 1998). All forms of economic failure, national and international, need to be addressed. According to Pearce, it has to be questioned whether global agreements carry with them the financial power to make other than cosmetic differences to the state of the global environment. See David Pearce, 'New Directions for Financing Global Environmental Change', *Global Environmental Change*, 5 (1995), pp. 27-40.

[611] FAO Fisheries Department, 'Some High Seas Fisheries Aspects Relating to Straddling Fish Stocks and Highly Migratory Fish Stocks', FAO Fisheries Circular NO. 879, FIPP/C879, FAO, Rome, 1994, p. 13.

[612] Christopher Stone, 'Too Many Fishing Boats, Too Few Fish: Can Trade Laws Trim Subsidies and Restore the Balance in Global Fisheries?', *Ecology Law Quarterly*, 24 (1997), pp. 505-537.

[613] David Malin Roodman, *The Natural Wealth of Nations: Harnessing the Market for the Environment*, (Washington D.C., Worldwatch Institute, 1998), p. 28. According to this author, subsidies for the global fishing fleet-some $14 – 20.5 billion a year, or 14-28 percent of industry revenue, have helped produce enough boats, hooks, and nets to catch twice the available fish, contributing to overfishing and industry collapse. Ibid, p. 174.

According to leading experts, the capacity of the world's industrial fishing fleet should be cut by 50 percent and not sustained at all by subsidies[614]. Although international taxes cannot be considered to be a panacea, as has been argued since the time of Grotius, the high seas are considered free resources and the oceans have the status of *res communis*; as a means of transport, providers of a carbon sink and a regulator of weather, they are an international public good. It would be in order therefore for the international community to charge user fees for the use of those parts of the global commons that are so used[615]. This seems, however, to be very distant prospect at the present time and in addition, this cannot apply to high seas fisheries, since fisheries resources are limited and their consumption is 'rival'[616].

The movement that has drawn attention to the possibilities of global environmental change[617] has played an important role in providing an intellectual framework within which to consider systematic interactions between physical and biological systems, on the one hand, and human systems, on the other. It must be acknowledged that this movement is still in its infancy and that there is much that we do not understand about the systemic interactions[618]. Of particular relevance to international law and international relations is the question of national sovereignty. Since the beginning of the

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[614] Newton et al, Assessment, supra, note 610, p. 28.

[615] Mendez, supra, note 309, p. 53.

[616] In environmental economics, when consumption is rivalrous, the total amount consumed is the sum of the amounts consumed by each individual. The market demand curve is, therefore, the horizontal summation of individual demand curves. With non-rivalrous use of a public good, people do not just consume a good simultaneously; they consume the *same* good, like people watching television or breathing the same air quality in a given area. For a detailed discussion on this point, see Lesser et al. (eds.), *Environmental Economics*, supra, note 305, pp. 137-143.

[617] Meyer et al. define global change as having two main features: first, 'global' refers to the spatial scale or functioning of a system, because of the planet-fluidity and connectedness of the system affected; secondly, a worldwide scale, which represents a significant fraction of the total environmental phenomenon or global resource. Global changes have the potential to produce effects around the world, albeit far from uniform ones. The systemic impacts of human activities, notably greenhouse climate change and ozone depletion, were central to the emergence of the current scientific and popular interest in global change. William Meyer and B. L. Turner, 'The Earth Transformed: Trends, Trajectories, and Patterns', in R. J. Johnston, Peter Taylor and Michael Watts (eds.), *Geographies of Global Change. Remapping the World in the Late Twentieth Century*, (Oxford, Blackwell Publishers, 1995), pp. 302-317, at 304-305.

[618] The discussion of the global climate-ecosystem linkage is fragmented, because a consensus has not yet emerged and even the key questions have not been properly sorted out. For a detailed analysis of this point see F. Kenneth Hare, 'Climatic Variation and Global Change', in Douglas et al. (eds.), *Companion Encyclopedia of Geography*, supra, note 107, pp. 482-507, in particular pp. 499-502. See also Oran Young, 'Negotiating an International Climate Regime: The Institutional Bargaining for Environmental Governance, in Choucri (ed.), *Global* Accord, supra, note 74, pp. 431-452, at 438.

1970's, many countries have increasingly demonstrated a willingness to control internal activities in response to international norms and demands, backed by scientific advice and information, in essence subordinating national political control to international environmental requirements[619]. As international organizations have been established with certain formal controls over the exercise of external sovereignty, the concern that national sovereignty may be curtailed by international co-operation does not appear in fact to have been a major inhibition to co-operation. Obviously there are many restricted limits to co-operation. But a full explanation of the secular change in environmental treaty making can only be developed by approaches that address the diplomatic processes, the diminution of uncertainty, and the application of consensual knowledge to an unfamiliar technical domain[620]. As regards the oceans, UNCLOS III initiated a process later confirmed by the UNCED instruments of global recognition of the need for certain actions to be taken by the world community to combat the destruction of the world's commons; this may be regarded as a positive encouraging sign for the future progress of environmental negotiations in that field[621].

Agenda 21, which was endorsed by all UNCED participants, reflects a global consensus and political commitment at the highest level towards implementation of national strategies, plans, policies and processes which need to be supported and supplemented by international co-operation[622]. As regards international law, Agenda 21 may be regarded as reflecting a consensus on the principles, practices and rules which might contribute to the development of new rules of customary law[623]. Chapter 38 of Agenda 21 proposed a framework for institutional arrangements to implement Agenda 21 and called for a the establishment of a new Commission to ensure the effective follow-up of the UNCED requirements and proposals, enhance international co-operation and rationalise intergovernmental decision-making on the integration of environmental and

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[619] See Peter Haas and Jan Sundgren, 'Evolving International Environmental Law: Changing Practices of National Sovereignty', in Choucri (ed.), *Global Accord* supra, note 74, pp. 401-430, at 408-419.

[620] Ibid, p. 416.

[621] Christopher Joyner and Elizabeth Martell, 'Looking Back to See Ahead: UNCLOS III and Lessons for Global Commons Law', *ODIL*, (1996) 73, at 90.

[622] Agenda 21, Para. 1.2.

[623] Sands, *Principles*, supra, note 211, at 53.

development issues[624]. The UN General Assembly, in December 1992, adopted Resolution 47/191 on the Institutional Arrangements to Follow up on UNCED[625]. This Resolution required the following actions: it requested ECOSOC to set up a high-level Commission on Sustainable Development; requested all UN specialised agencies and related organizations of the UN system to strengthen and adjust their activities, programmes and plans in line with Agenda 21; invited the World Bank and other international, regional and subregional financial and development institutions to provide financial support; requested UNEP, UNDP, UNCTAD, the UN Sudano-Sahelian Office and the UN's regional economic commissions to submit reports of their plans to implement Agenda 21 to the Commission on Sustainable Development; and endorsed the view of the UN Secretary General concerning the establishment of a High Level Advisory Board[626].

UNCED and associated developments have encouraged the establishment of innovative international legal and institutional mechanisms. The institutional arrangements recommended by UNCED sought to improve integration between agreed policies and the programmes developed within the UN system of organizations to support them[627]. The whole purpose of the UNCED strategy in relation to the oceans was to meet the need to identify and bring together within one integrated regime the disparate and discrete regimes for protection and prevention of pollution of the seas, conservation of their living resources, and related issues that so far had been developed only pragmatically, responding to particular needs as they had arisen, often in crisis situations when particular marine industries, such as fishing, were in a state of near collapse[628]. Agenda 21 tried to combine problems that traditionally had been envisaged and addressed separately, and approaches that may not necessarily appear to be

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[624] Agenda 21, Para. 38.11

[625] UNGA Resolution 47/191 on the Institutional Arrangements to Follow up on UNCED, December 1992. Reproduced in Philippe Sands, Richard Tarasofsky and Mary Weiss (eds.), *Documents in International Environmental Law*, Vol. IIA, (Manchester, Manchester University Press, 1994), pp. 72-81.

[626] Ibid, p. 79.

[627] Lee A. Kimball, 'UNCED and the Oceans Agenda', *Marine Policy*, November 1993, pp. 491-500, at 492.

[628] Patricia Birnie, 'The Law of the Sea and the United Nations Conference on Environment and Development', *Ocean Yearbook*, 10, (1993), 21. See also E. Mann Borghese, 'UNCLOS, UNCED, and

consistent[629]. None of the Rio decisions is self-implementing and their impact depends on the extent to which the UNCED requirements are effectively implemented[630].

There are currently a score of global institutions which are exclusively or partially engaged in activities concerning some aspects of ocean management, in a broad sense, and of fisheries management, in particular. Most of them come within the United Nations framework. The major agencies and other UN bodies involved are as follows[631]: (*i*) Agencies: the UN Food and Agriculture Organization, the International Maritime Organization, the World Health Organization, the World Meteorological Organization, and the International Labour Organization; (*ii*) UN Programmes: the United Nations Environment Programme, the United Nations Conference on Trade and Development (UNCTAD), and the United Nations Development Programme (UNDP). Inter-agency Coordination: the Intergovernmental Oceanographic Commission and the United Nations Division of Ocean Affairs and the Law of the Sea; (*iii*) UN Advisory Scientific Group: the Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP); (*iv*) Autonomous Organizations: the International Atomic Energy Agency. The International Whaling Commission (IWC), created by the 1946 International Convention for the Regulation of Whaling[632], which is, however, outside the UN system, is another global institution established in order to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry[633].

In the field of fisheries, six regional bodies have been established by FAO: the Indo-Pacific Fishery Commission (IPFC); the General Fisheries Council for the

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the Restructuring of the United Nations System', in R. S. Macdonald (ed.), *Essays in Honour of Wang Tieya*, (London, Martinus Nijhoff, 1993), pp. 66-77.

[629] Tullio Treves, 'The Protection of the Oceans in Agenda 21 and International Environmental Law', in Luigi Campiglio et al. (eds.), *The Environment after Rio. International Law and Economics*, (London, Graham and Trotman, 1994), 161-171, at 161.

[630] Biliana Cicin-Sain and Robert Knecht, 'Implications of the Earth Summit for Ocean and Coastal Governance', *ODIL*, 24 (1993), pp. 323-346.

[631] Official Web Site Locator for the United Nations System of Organizations. Official Classification of the United Nations System available on http://www.unsystem.org/index on 23/01/00.

[632] International Convention for the Regulation of Whaling, supra, note 411.

[633] Birnie and Boyle, supra, note 213, pp. 37 and 76.

Mediterranean (GFCM); the regional Fisheries Advisory Commission for the Southwest Atlantic (CARPAS); the Fishery Committee for the Eastern Southwest Atlantic (CECAF); the Indian Ocean Fishery Commission (IOFC); and the Western Central Atlantic Fishery Commission (WECAF). These bodies share, by and large, the common objectives of promoting, co-ordinating and assisting national and regional programmes of research and development aimed at rational utilization of the resources concerned; formulating measures for the management and conservation of the resources, and encouraging exchange of information and studies as well as training. Apart from the FAO affiliated bodies, in addition to the IWC, the following are, at present, the principal regional and sub-regional fisheries organizations: (*i*) for the Atlantic Ocean: the North-East Atlantic Fisheries Commission (NEAFC); the North Atlantic Salmon Conservation Organization (NASCO); the Northwest Atlantic Fisheries Organization (NAFO); the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the International Commission for the Southeast Atlantic Fisheries (ICSEAF); (*ii*) for the Pacific Ocean: the International North Pacific Fisheries Commission (INPFC); the Inter-American Tropical Tuna Commission (IATTC); the Council of the Eastern Pacific Tuna Fishing Agreement (CEPTFA); the Eastern Pacific Tuna Fishing Organization (OAPO); the South Pacific Permanent Commission (PCSP) and the South Pacific Forum Fisheries Agency (FFA); (*iii*) for other regions: a Latin American Organization for the Development of Fisheries (OLDEPESCA) has been established within the Latin American Economic System; and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)[634], a unique body for Antarctica fisheries.

In the twentieth century, a cleavage in the study of international organizations between advocates of universalism and supporters of regionalism has created a dichotomy between these two approaches. The universalists argue that world interdependence has created an increasing number of political, economic and social problems that require global solutions across regional borders and that regional resources are often inadequate to resolve the problems of states within the limited context of a region. On the other hand, regionalists argue that there is a natural tendency toward regionalism based on the homogeneity of interests, traditions, and values within small groups of neighbouring states, and that, therefore, political, economic and social integration is more easily

[634] S. H. Marashi, The Role of International Fishery and other Bodies with Regard to the Conservation and Management of Living Resources of the High Seas, FAO Fisheries Circular No. 908, Rome, 1996.

attained among a lesser number of states within a limited geographic area than on a global basis. Despite these dichotomies, in fact, an accommodation exists between both universalism and regionalism. Although the relationship of regional and international organizations may be either antagonistic or harmonious, as Bennett has pointed out, "the choice is not necessarily one of either regionalism or universalism but allows for both regionalism and universalism coexisting in sometimes competing and sometimes mutually supporting relations"[635]

International fisheries organizations focus around decision-making by international bodies such as the UN General Assembly, the Governing Bodies of FAO and the Committee of Fisheries (COFI) which have the task of adopting policy and legal instruments that provide the framework for fisheries governance. On the other hand, subregional and regional fisheries organizations focus on cooperative management of shared resources, including stocks occurring on the high seas. The framework for fisheries management at the subregional and regional level is specified in global and regional instruments. However, sound regional fisheries governance depends on effective input from members of these regional bodies which includes the political willingness of States to participate openly and cooperatively for the good governance of stocks subject to management, and the national capacity to meet commitments and obligations technically and financially.

The effectiveness of regional fisheries organizations has been undermined mainly by a series of issues constraining their efficient operation that were grouped into four categories at a FAO Meeting of FAO and Non-FAO Regional Fishery Bodies or Arrangements, held in Rome, in February 1999. The first category of issues is related to the expectations of the international community. The adoption of the FAO Code of Conduct, the FAO Compliance Agreement and the SSA, have impacted on the perception of the international community regarding world fisheries resources and their sustainable management and utilization. These international legal instruments direct States and fisheries organizations to be responsible for adopting more detailed conservation and management measures which must take into account and promote an integrated ecosystem-wide conservation and management scheme and to apply the

[635] Bennett, *International Organizations*, supra, note 480, p. 231.

precautionary approach, giving a central role to fisheries organizations in the sharing of data and information collected by States. Secondly, issues related to the mandate and functions of regional fisheries organizations, which include scientific research, compilation and analysis of data, formulation of conservation and management measures, determination of total allowable catch, and allocation of quotas, a precautionary approach, decision-making procedures, implementation of decisions and settlement of disputes. Thirdly, issues related to the structure of the bodies such as geographical areas of competence and species covered, membership, participation and subsidiary bodies. Fourthly, issues related to budgetary levels and financing, such as the lack of technical and financial resources[636]. Despite the past difficulties of regional fisheries organizations in securing more effective management, they have the potential to be instruments for sound fisheries management provided that they nonetheless have realistic mandates, the required political backing, and the financial and human capacity to function as they are intended[637].

In order to ensure efficiency and to promote effective co-operation for fisheries management, regional fisheries organizations need to address and fulfil key issues such as equitable participation of members; adequate funding; improved co-operation between organizations or arrangements, private sector interests and NGOs in order to broaden stakeholder participation; better co-ordination between organizations, irrespective of whether they are FAO and non-FAO organizations; promote maritime boundary delimitation, which is essential for fisheries management, resource allocation and resolution of disputes; and finally, to influence the participation of non-members which can be done through international scrutiny and publicity and even through moral and political pressure when the activities of non-members openly undermine the work and efforts of regional fisheries organizations.

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[636] 'Major Issues Affecting the Performance of Regional Fishery Bodies', Document FI:RFB/99/2, FAO, Rome, December 1998. Document submitted at the Meeting of FAO and Non-FAO Regional Fishery Bodies or Arrangements, Rome, Italy, 11-12 February 1999.

[637] David Symes, 'Fisheries Management: in Search of Good Governance', *Fisheries Research*, 32 (1997), pp. 107-110

4.6.3 The problems of global co-ordination

The vital remaining problems of global co-ordination between international organizations have not yet been properly addressed [638] and this is particularly evident in the case of international fisheries organizations for the high seas. No single international authority for fisheries on the high seas exists, unlike the situation governing the international seabed[639], nor does a world international authority able to deal with global ocean issues as such yet exist either. Conceived as having a potentially wider application, the revolutionary concept articulated by Arvid Pardo in 1967[640], asserting that the resources beyond national jurisdiction should be regarded as the 'common heritage of mankind' eventually was applied only to the seabed beyond national jurisdiction[641], not to fisheries in the "commons". Institutional mechanisms for coordination and joint programming at the international level have been notoriously weak, sometimes more symbolic than operational in nature, and can be considered as barriers to good ocean governance[642]. According to Pardo, to manage common heritage resources, the world community must create not merely an International Seabed Authority but also a balanced international system for ocean space as a whole[643].

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[638] Birnie and Boyle, supra, note 213, pp. 80.

[639] UNCLOS Part XI. See Chapter 3, Section 3.

[640] Going far beyond his 1967 proposal, which political wisdom constrained him to restrict to the seabed, in a *Draft Ocean Space Treaty* submitted by Malta as a working paper to the Seabed Committee in 1971, Arvid Pardo proposed that ocean space beyond national jurisdiction was a common heritage of mankind. See E. Mann Borghese, 'The Process of Creating an International Ocean Regime to Protect the Ocean's Resources', in Van Dyke et al. (eds.), *Freedom for the Seas*, supra, note 97, pp. 23-37, at 32. See also Alexandre Charles Kiss, "La notion de patrimoine commun de l'humanité", *RCADI*, 1982, Vol. 175-II, (The Hague, Martinus Nijhoff, 1983), pp. 198.

[641] The 1967 Outer Space Treaty states that the exploration and use of outer space, including the moon and other celestial bodies, is to be carried out for the benefit and interests of all countries and shall be 'the province of all mankind'. See 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies; UNGA Res. 1962 XVIII (1963). Text in Ian Brownlie (ed.), *Basic Documents in International Law*, (Oxford, Oxford University Press, fourth edition, 1995). See Birnie and Boyle, supra, note 213, pp. 415-418.

[642] *The Ocean, Our Future*, supra, note 608, pp. 146-147.

[643] Pardo's proposed that there must be international agreement on the concept of the common heritage of mankind, as well as international agreement on the concept of regional development within the framework of a global organization. Arvid Pardo, 'Perspectives on Ocean Governance', in Van Dyke et al. (eds.), *Freedom for the Seas*, supra, note 97, pp. 38-40, at 40.

The creation of new global fora where all ocean issues can be discussed periodically with the participation of all relevant organizations has been strongly advocated[644]. A Workshop jointly sponsored in 1995 by the Brazilian and British Governments stressed, however, that there was general consensus regarding the fact that no new international institutions should be established[645]. However, in the same Workshop, the need for some form of mechanism to crystallise political will and provide a high-level platform for greater coordination between regional and global initiatives was highlighted, given the plethora of existing institutions with relevant responsibilities[646]. Although ocean management will not be achieved by a single institution, institutionally, the General Assembly of the United Nations remains the forum that is competent to consider in an integrated manner developments related to the Law of the Sea and ocean affairs[647].

The 1995 SSA does not, however, solve the problem of co-ordination between fisheries management organizations. To bridge the gap, the FAO Fisheries Department is now proposing that all fisheries bodies, including non-FAO bodies, should meet together in order to discuss common issues and adopt permanent mechanisms for ensuring better co-operation and co-ordination of their work and should establish an effective link to COFI, the FAO Committee on Fisheries, which is currently lacking[648]. Better co-ordination among regional fisheries organizations and a closer linkage between them

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[644] See Satya Nandan, 'Existing Institutional Frame-work and Mechanisms', in Peter Bautista Payoyo (ed.), *Ocean Governance. Sustainable Development of the Seas*, (Tokyo, United Nations University Press, 1994), pp. 28-43, at 30; Mann Borgese, supra note 321, p. 244. For a more general approach, see Geoffrey Palmer, New Ways to Make International Environmental Law, *AJIL*, 86 (1992), pp. 259-283; Julie Ayling, 'Serving Many Voices: Progressing Calls for an International Environmental Organization', *Journal of Environmental Law*, 9 (1997), pp. 243-269; and R. S. Pathak and R. P. Dhokalia (eds.), *International Law in Transition, Essays in Memory of Judge Nagendra Singh*, (Dordrecht, Martinus Nijhoff, 1992), pp. 87-93.

[645] The London Workshop On Environmental Science, Comprehensiveness and Consistency in Global Decisions on Ocean Issue, Sponsored by the Governments of Brazil and the United Kingdom, Commission on Sustainable Development Review of Progress on Strategies Under Chapter 17 of Agenda 21 Oceans and all Seas. Final Report, Panel 2 on Successful Policy Formulation, Para. 2.2.

[646] Ibid.

[647] *The Oceans Our Future*, supra, note 608, p. 158. Christopher Stone has proposed an institutional Guardian for the oceans, which would be authorized to monitor the health of the ocean, monitor compliance with applicable law and treaties, and exercise a legislative advisory function. See Christopher Stone, 'Can the Oceans be Harboured?', supra, note 479.

[648] Moritaka Hayashi, 'Implementing the Law of the Sea Convention: FAO's Contributions', and, Judith Swan, 'Implementation of the Law of the Sea Convention. Straddling and Highly Migratory Fish Stocks and High Seas Fishing', Papers Presented at the Thirty-First Annual Law of the Sea Institute Conference, University of Miami, 30-31 March 1998.

and COFI would greatly improve global governance in fisheries. The twenty-third session of the COFI was held in Rome, in February 1999, to discuss common issues relating to fisheries organizations and the possible institutional linkage between COFI and these organizations, particularly non-FAO bodies[649]. The twenty-third session of the COFI urged FAO to continue the systematic analysis of these Regional Fishery Bodies, especially concerning their institutional and financial arrangements, the strategies used to implement decisions and the recommendations and measures taken to address current international fishery issues[650]. The COFI also commended FAO for convening meetings of FAO and Non-FAO Regional Fishery Organizations or Arrangements to be held on a regular basis, preferably prior to regular sessions of COFI[651].

Concerning the effectiveness of global environmental management, Choucri and North have identified five principles which aptly apply to fisheries on the high seas. First, responses to environmental challenges must be assumed by all actors, governmental and non-governmental, as legitimate, in both content and in the processes of adoption. Secondly, policy responses must be viewed as fair and appropriate both among existing countries and among present and future generations in the context of ensuring inter-generational equity[652]. Thirdly, approaches and instruments for global environmental management should be effective and aimed at pragmatic efficacy. Fourthly, responses must be voluntary, predicated on a shared recognition of environmental problems which is based on shared interpretations of the scientific evidence and the strategies for solution, rather than on geopolitics or considerations of power and domination. And

[649] FAO Report of the Twenty-second Session of the Committee on Fisheries. Rome, 17-20 March 1998. FAO Fisheries Report No. 562, Rome, FAO, 1998.

[650] FAO Report of the Twenty-third Session of the Committee on Fisheries, Rome, 15-19 February 1999. FAO Fisheries Report No. 595, Rome, FAO, 1999, p. 65.

[651] Ibid.

[652] Equity is an important principle that allows the international community to take into account considerations of justice and fairness in the establishment, operation or application of a rule of international law. Sands, *Principles*, supra note 211, p. 124. But equity is also a mode of introducing justice into resource allocation. For detailed analysis of this issue see Thomas M. Franck, *Fairness in International Law and Institutions*, (Oxford, Clarendon Press, 1995); Amanda Wolf, *Quotas in International Environmental Agreements*, (London, Earthscan Publications, 1997) and Emmanuel Agius and Salvino Bussutil (eds.), *Future Generations and International Law*, (London, Earthscan Publications, 1997).

fifthly, there should be participation of all actors, governments, peoples, governmental and non-governmental organizations to ensure universality[653].

Conclusions

It is commonplace to assert the critical role of international organizations in international law and international relations. The emergence of formal international organizations has been recognized as necessary for the implementation of international regimes in the broader sense.

The specific and detailed mechanisms provided by the 1995 SSA will be helpful to the process of restructuring existing fisheries organizations and the creation of any necessary subsequent organizations. The Agreement also qualifies the open access regime of high seas fisheries by restricting the access of non-contracting parties to specific areas. The Schemes of Conservation Measures to Promote Compliance by non Contracting Party Vessel adopted by CCAMLR, IOTC and ICCAT regarding non-members and non-participants (Section 4.4. of this Chapter), as well as the 'International Plan of Action for the Management of Fishing Capacity' adopted by FAO[654], are good examples in that direction.

By accepting membership of a regional or subregional fishery organization, States are complying with their international legal obligation to co-operate, and therefore, are allowed to take action to deter other States, non-members and non participants from non compliance; i.e. from fishing in a specific area covered by the organization concerned if one exists. If not, one should be created. With regard to improving transparency in the

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[653] Nazli Choucri and Robert C. North, 'Global Accord: Imperatives for the Twenty-first Century', in Choucri (ed.), *Global Accord*, supra, note 74, pp. 477-507, at 506-507.

[654] 'The Plan of Action for the Management of Fishing Capacity' is a voluntary Plan adopted by FAO in La Jolla (USA), in 1998. The immediate objective of the Plan is for States and regional fisheries organizations to achieve world-wide an efficient, equitable and transparent management of fishing capacity, on the grounds of four major strategies: the conduct of national, regional and global assessments of capacity and improvement of the capacity for monitoring fishing capacity; the preparation and implementation of national plans to effectively manage fishing capacity; the strengthening of regional fisheries organizations and related mechanisms for improved management fishing capacity at regional and global levels; and immediate actions for major transboundary, straddling, highly migratory and high seas fisheries requiring urgent measures. Document in electronic form available on 11/11/00 on http://www.fao.org/fi/ipa/capace.asp.

activities of member States, the provisions of the Agreement can contribute considerably to the strengthening of international fisheries organizations. All such provisions can be considered as representing a major contribution to the international law of fisheries because they have the capacity to meet the new challenges, principles and rules emerging in the form of a new regime for fisheries on the high seas.

To what extent will these 'new' fisheries organizations succeed in improving conservation of fisheries through effective management maintaining the long term sustainability at levels that safely permit their harvesting whilst still achieving the goal of sustainable development of the harvesting States? With regard to the institutional aspects, in reviewing the situation as a whole, the 1995 SSA both confirms and expands the provisions contained in UNCLOS, with a view to assisting States the better to implement conservation and management measures for fisheries on the high seas. A number of international fisheries organizations have already adapted themselves to their responsibilities of co-operation under the Convention. In this sense, the Agreement is a positive development, proceeding in the right direction. However, one of the main remaining difficulties, which gives rise to concern, is the lack of any form of co-ordination of international organizations for fisheries in general, and those for fisheries on the high seas, in particular. Although there are many organizations, the existing organizations have not yet resolved the problem, nor has the 1995 SSA.

According to Articles 72.2, 118, 119.2 and 276 of the 1982 UNCLOS, FAO seems a suitable organization to take a lead role and to foster required extensive institutional developments for the protection of marine living resources[655]. However, taking into account that 40 percent of fish and fish products enter international trade, which suggests that trade can play an important role in the fisheries crisis[656] the World Trade

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[655] UNCLOS, the central regime for ocean governance, created a subregime for the sustainable management of marine living resources. The focus for that subregime is FAO, including its network of regional fisheries commissions and conventions. *The Oceans Our Future*, supra note 608, p. 157.

[656] At the Third WTO Ministerial Conference in Seattle, the Draft Ministerial Text contained the following paragraph on the fisheries crisis, in the section on subjects for negotiation in a new round of trade talks, under the heading "WTO Rules": "Subsidies and countervailing measures: the rules shall be reviewed, and where necessary amended, on the basis of proposals by participants, taking into account, *inter alia*, the important role that subsidies may play in the economic development of developing countries, and the effects of subsidisation on trade. In the context of these negotiations, the areas to be considered shall include, *inter alia*, certain subsidies that may contribute to over-capacity in fisheries and over-fishing or cause other adverse effects to the interests of Members. The work on fisheries subsidies shall be carried out in cooperation with the FAO and drawing also on relevant work under way within

Organization can also play a role in the coordination of international and regional fisheries organizations[657]. In the final analysis, it is only on the basis of careful planning and mutual trust among States that the international community will be able to ameliorate the political concerns that currently inhibit international co-operation, and create the necessary conditions for a comprehensive, more integrated and transparent approach to the management of the global commons which will ensure the successful implementation of the SSA as well as UNCLOS.

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other intergovernmental bodies, including regional fisheries management organisations". Information in electronic form as available on 2/11/00 on the web site http://www.ictsd.org/html/fish.htm

[657] See 'Legal Developments Relevant to Fisheries Management and Why These are Being Brought to the WTO', Document in electronic form by Caroline Dommen, available on 2 November 2000, on http://www.ictsd.org/dialogueweb/Dialogues/23-10-00-dommen.pdf, and 'Fish for Thought: Fisheries, International Trade and Sustainable Development. Initial Issues for Consideration by a Multi-stakeholder Policy Dialogue, Research, and Information Exchange Process', document in electronic form by Caroline Dommen for the International Centre for Trade and Sustainable Development and the World Conservation Union, Washington, 1999, available on 2 November, 2000, on http://www.ictsd.org/html/fish.pdf

Chapter 5

Decision-making procedures

Introduction

In contrast with 'terrestrial' resources, the history of ocean management is partially the history of control over access to marine space and entitlements to the ownership of marine resources[658]. International regimes are capable of co-ordinating management activities more efficiently when they have a restricted membership composed exclusively of those who have real interests in and over the decision-making procedures concerning the relevant issues[659]. Thus, decision-making procedures, as prevailing practices for making and implementing collective choice, are an important element of regimes. They require an interaction in which interests are mutually adjusted on the basis of rules. They include procedures of international conferences or organizations as well as those procedures which translate the internationally contracted obligations into domestic law and which set the standard operating procedures for national bureaucracies implementing the regime[660]. If the decision-making procedures of a regime become less coherent, or if actual practice is increasingly inconsistent with principles, norms, rules and procedures, then the regime will weaken[661].

The decision-making approach to international organizations is based on analysis of how different factors interact with the prevailing hegemony -the environment- and it seeks to understand the extent to which these interactions support the status quo or promote change in the structure of existing power relations[662]. Institutions have strong decision-making procedures when changes are carried out according to a preceding plan

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[658] Alastair D. Couper, 'History of Ocean Management', in Paolo Fabbri (ed.), *Ocean Management in Ocean Change*, (London, Elsevier, 1992), pp. 1-17, at 15.

[659] Vogler, *The Global Commons*, supra, note 39, p. 156.

[660] Friedrich Kratochwil, 'Contract and Regimes: Do Issue Specificity and Variations of Formality Matter?', in Rittberger (ed.), *Regime Theory*, note 50, pp. 73-93, at 87.

[661] Krasner, 'Structural Causes', supra, note 46, p. 5.

[662] Robert W. Cox and Harold K. Jacobson, 'Decision Making', in Robert W. Cox and Timothy J. Sinclair, *Approaches to World Order* (Cambridge, Cambridge University Press, 1996), pp. 349-369.

or, in other words, a procedure spelled out in the regime itself. In these cases, the appropriators design basic operational rules, create organizations to undertake the operational management of the Common Property Resources, and modify their rules over time in the light of past experience according to their own collective-choice rules[663].

The large number of disparate international organizations dealing with fisheries, each with their own rules and procedures, leads to lack of focus and inefficient decision-making[664]. The 1995 SSA is realigning interests by means of redesigning the structure of decision-making procedures. For example, the Agreement reorganizes decision-making procedures in various ways analyzed in this chapter, regarding compatibility of conservation and management measures (Section 1), collection and sharing of data (Section 2), setting of minimum standards (Section 3), scientific assessments (Section 4) and participatory rights (Section 5). In this respect, compared to the 1982 UNCLOS, the 1995 SSA is an obvious improvement. Furthermore, the Agreement readdresses certain problems, in particular those regarding participatory rights of new members and new participants, which otherwise would have the potential to undermine the decision-making procedures. It seems, however, that the Agreement is providing fishing States, indirectly and through regional organizations, with a framework for asserting property rights to the resources, albeit these must be shared with the relevant coastal States.

5.1 Compatibility of conservation and management measures

In order to analyse the provisions of the 1995 SSA regarding the compatibility of conservation and management measures, it is necessary first to discuss the rights and obligations of coastal and high seas fishing States established by the 1982 UNCLOS. Modern conceptions of ocean management have made it clear that an integrated management policy is one in which the diverse policy components are unified according to conceptual notions of the whole range of interests involved[665]. Furthermore, it must

[663] Ostrom, *Governing the Commons*, supra, note 285, p. 58.

[664] Joy Hyvariden, Elizabeth Wall and Indrani Lutchman, 'The United Nations and Fisheries in 1998', *ODIL*, 29 (1998), pp. 323-338.

[665] James Wilson and Rebecca Lent, 'Economic Perspective and the Evolution of Fisheries Management: Towards Subjectivist Methodology', *Marine Resources Economics*, 9 (1994), pp. 353-373. Hance Smith

meet the tests of comprehensiveness, aggregation and consistency. In this connection, comprehensiveness is measured in terms of space, time, actors, and issues. It is most important at the initial stage. Aggregation is the critical component of the input processing where the choice of policy options would depend on the aggregate evaluation of consequences in the short and long-term. Consistency has both vertical and horizontal dimensions. In the vertical dimension, it means that specific actions taken by different agencies conform to general guidelines. In the horizontal dimension, it means that only one policy is being pursued at any specific period in time[666]. Thus, the integration of policies must be one of the principal objectives of ocean management.

As regards the Exclusive Economic Zone (EEZ), the 1982 UNCLOS recognizes coastal States "sovereign rights" for the purpose, *inter alia*, of conserving and managing the living resources within the area extending to 200 nautical miles measured from the concerned coastal States territorial sea baselines. As the Convention makes clear, this means that the coastal State has the exclusive authority to prescribe conservation and management laws for such resources and to enforce them in the EEZ. Taking into account its broad discretion under Article 62 to determine and set the conditions of access for other States wanting to fish in the EEZ, the coastal State can effectively either exclude or allow foreign vessels to fish within its zone. Moreover, where the coastal State does not have the capacity to harvest the entire allowable catch as determined by it, it must give other States access to the surplus of the allowable catch[667]. However, in exerting its rights and performing its duties in the EEZ, the coastal State must have due regard to the rights and duties of other States and must act in a manner compatible with the provisions of the Convention. This jurisdictional "revolution" is of great global significance because it consolidates coastal State control over an additional 35% to 36% of the surface of the planet and precisely over those areas of the oceans most intensively utilized by human beings[668].

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has stressed the changing nature of the State, the trend towards growth of informal agreements due to interstate relationships and the close relationship between management and policy. Hance Smith, 'The Role of the State in the Technical and General Management of the Oceans', *Ocean and Coastal Management*, 27 (1995), pp. 5-14.

[666] Edward Miles, 'Future Challenges in Ocean Management: Towards Integrated National Ocean Policy', in Paolo Fabbri (ed.), *Ocean Management*, supra, note 658, pp. 595-617, at 597.

[667] UNCLOS, Article 62.

[668] Miles, supra, note 666, p. 596.

These Articles have a long history. At the resumed ninth session of the Third Conference on the Law of the Sea in 1980, a group of 15 coastal States, including Chile, Ecuador, Australia, Argentina and Canada, proposed a change in Article 63.2 calling for the coastal State and fishing States to co-operate in adopting measures 'necessary for the conservation of the stocks in the adjacent area'. At the eleventh session in 1982, a final effort was made to amend Article 63 along the lines proposed by Argentina at the ninth session calling for the inclusion of a provision for the settlement of disputes through "the appropriate tribunal" regarding the conservation measures to be taken, in order to ensure that even in the event of disagreement, conservation measures for straddling stocks would be prescribed[669]. Several other States continued to support and yet others to oppose that proposal. In opposing it, Japan stated that any arrangements for the conservation of such stocks should be based on voluntary agreements between the parties concerned; Korea objected that the proposal introduced 'mandatory elements' and involved 'unnecessary complicated procedures'; the USSR argued that the amendment would curtail freedom to fish on the high seas; and finally, the German Democratic Republic opposed it contending that, by widening the rights of coastal States in the maritime areas adjacent to their coasts, the amendment was restricting the fishing rights of third States on the high seas[670]. In accordance with the procedure in force for the treatment of formal amendments at that stage of the Conference, and in response to an appeal by the President, the sponsors of the proposals announced that the amendments would not be pressed to a vote[671].

As regards the high seas, the 1982 UNCLOS affirms that the high seas are open to all States, whether coastal or land-locked (Articles 87 and 116). However, several conditions limit this right and need to be considered. First, a State fishing on the high seas has the duty to take conservation measures on the high seas, either for its own nationals alone or in co-operation with other States (Arts. 116.b and 63.2, 64, 65, 66 and 67). In this regard, in the Fisheries Jurisdiction Case which the United Kingdom brought against Iceland, the International Court of Justice's decision established the principle

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[669] Document A/CONF.62/WS/4 (1980), as cited in Myron Nordquist (ed.), *A Commentary*, supra, note 342, Vol. II, p. 644.

[670] Document A/CONF.62/L.114 (1982), as cited in Myron Nordquist (ed.), ibid, pp. 645-646.

[671] Myron Nordquist (ed.), Ibid, p. 647.

that States fishing on the high seas have the duty to attend to the need to conserve the living resources affected[672]. Secondly, such States have an obligation to co-operate with other States in the taking of conservation measures (Article 117). Thirdly, they have an obligation to negotiate with the other States in the fishery in order to take the necessary conservation measures. In the North Sea Continental Shelf Case, the International Court of Justice stated that such negotiation is a special application of a principle recognized in Article 33 of the United Nations Charter as one of the methods for settlement of disputes. Although this obligation to negotiate does not require conclusion of an agreement, it does require that negotiations be conducted in good faith in an attempt to remove differences and reach substantive agreement[673]. Fourthly, Article 117 requires both fishing and coastal States to take the measures necessary for co-operation. This implies an obligation to acquire and contribute scientific information on both the stocks targeted and those actually being fished on the high seas. Fifthly, Article 119.3 requires that the States concerned must ensure that conservation measures and their implementation do not discriminate in form or in fact against the fishermen of any State. Regarding shared stocks, that are, straddling stocks and highly migratory species, the Convention reiterates that both coastal and fishing States must seek agreement on conservation of the shared stock on the high seas. However, as Burke has pointed out, agreement on allocation is probably a prerequisite of agreed conservation measures since the two issues are difficult to disentangle[674]. From this it can be concluded that the relevant provisions of the UN Convention on straddling and highly migratory fish stocks, are confusing and poorly drafted, as a result of the compromises necessary to secure consensus upon them[675].

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[672] Fisheries Jurisdiction Case (U.K. v. Iceland), 1974, ICJ Rep., as cited in D. J. Harris, *Cases and Materials on International Law*, (London, Sweet and Maxwell, 1991), pp. 954-969.

[673] Burke, supra, note 110, p. 125.

[674] Ibid., p. 132.

[675] Coastal States should have primary management control over straddling stocks. Under other conditions, fishing States might render ineffective conservation measures taken by coastal States. Therefore, other fishing States would be bound by these measures, including measures concerning stocks on the high seas. "However, it is clear from Article 63.2 that such an obligation would exist only if the measures had been agreed upon as a result of negotiations conducted either directly or through appropriate regional or subregional organisation". Brown, *International Law of the* Sea, supra, note 169, Vol. I, p. 228.

Nonetheless, the 1982 UNCLOS has made a major contribution to the development of the principles governing the conservation and management of marine living resources. According to Orrego Vicuña, a number of principles, namely the need for preventive and precautionary approach, the assessment of environmental impact, rules on responsibility and liability and ecosystem management, which today are common in International Environmental Law, emerged from the Convention in the context of marine environmental protection[676].

From a study of the provisions of the 1982 UNCLOS concerning the protection of living resources, it can be observed that the classic concept of freedom of fishing is not only limited in it, but must be regulated by States as well. Thus, Articles 117 and 118 require States to enter into negotiations at bilateral and regional levels with a view to taking the measures necessary for the conservation of the living resources concerned. Article 119 provides that, in determining the allowable catch and establishing other conservation measures for the living resources on the high seas, coastal States must use the best scientific evidence available taking into account other factors[677]. Articles 61 to 69 require conservation measures to be developed either by the coastal State, or through agreements adopted by the States concerned for the stocks in question. Of particular interest is Articles 116-118 on the freedom of fishing on the high seas and the limitations imposed concerning the coastal States' offshore fishery jurisdiction. The claim to an EEZ of 188 nautical miles within the 200 nautical miles limit established by the UNCLOS confers on the coastal States exclusive access to fisheries within the zone with the possibility of access by other states only if the coastal State has determined that there is a surplus to its capacity to harvest the whole allowable catch. Although the UNCLOS supports the classic doctrine of freedom of fishing on the high seas, in practice access to fisheries on the high seas is limited to those States with sufficiently sophisticated fishing technology to reach them and stay on the fishing grounds for long periods; that is, those with distant water fleets and freezer trawlers. It should be noted that not all such vessels that are owned by or registered in developed States.

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[676] Francisco Orrego, *'The Changing International Law'*, supra, note 81, p. 25.

[677] Article 119 provides that, in determining the allowable catch and establishing other conservation measures for the living resources on the high seas, Coastal States shall use the best scientific evidence available, as qualified by various matters. No standards are provided for determining this 'best' scientific evidence.

Although the 1982 UNCLOS now represents a negotiated balance of rights between coastal States and other States, the new concept of the EEZ encountered resistance in the course of the UNCLOS III negotiations. By preserving some of the classical freedoms with regard to the EEZ (Article 58.2), the Convention mitigated fears that the EEZ would jeopardize the advantages enjoyed by some members of the international community under the classical doctrine of freedom of the high seas[678]. However, the Convention conveys the impression that most fish stocks are confined to the EEZ of each single coastal State since the overwhelming majority of the world's fish stocks are found within 200 miles of land[679]. Notwithstanding this, the 1982 UNCLOS does not provide a basis upon which enforcement action might be taken on the high seas by one State against another for failure to comply with the coastal State's conservation measures, nor does it condone unilateral action to enforce multilaterally agreed standards in the absence of specific agreement[680]. Yet, there is no specific requirement that the measures taken within the EEZ and beyond it be co-ordinated though this is obviously desirable in terms of achieving the generalised goals that living resources be conserved.

During the Third UNCLOS, eight coastal States, conscious of the weakness of the phrase "seek to agree" in Article 63, proposed a text stating that in the event that agreement on compatible measures is not reached within a reasonable period, the International Tribunal on Law of the Sea must determine the measures to be applied in the adjacent area for the conservation of straddling stocks[681]. However, this was opposed by some high seas fishing States on the grounds that the balance between

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[678] Brown, *International Law of the Sea*, supra, note 169, Vol. I, p. 235. See also José Antonio de Yturriaga, *Ambitos de Soberania de la Convención de las Naciones Unidas sobre el Derecho del Mar*, (Madrid, Ministerio de Relaciones Exteriores, 1993), p. 381.

[679] Churchill and Lowe, supra, note 8, p. 234. See also Brown, *International Law of the Sea*, supra, note 169, Vol. I, p. 228.

[680] Miles and Burke, 'Pressures', supra, note 106, p. 351; and Davies and Redgwell, supra, note 461, p. 234.

[681] Amendment proposed by Australia, Canada, Cape Verde, Iceland, Philippines, Sao Tome and Principe, Senegal and Sierra Leone. Doc. A/CONF.62/L.114, 13 April 1982, reproduced in Documents of the Third United Nations Conference on Law of the Sea, Vol. XVI, 1988.

coastal and fishing States already established within the Conference had to be preserved and this opposition provoked the failure of that amendment[682].

The 1995 SSA introduces significant innovations into this controversial field. This constituted one of the major issues both for DWFNs and coastal States throughout the Conference on SFS and HMFS. The DWFNs viewed the Conference simply as providing a forum within which some coastal States could attempt to extend their national influence to areas beyond those permitted under the provisions of Part V of the Convention. On the other hand, coastal States co-ordinated their positions in the debate and in the negotiations in order to develop a common strategy regarding this issue[683]. The outcome is the formulation expressed in Article 7 of the 1995 SSA, which aims to ensure compatibility between conservation and management measures within and beyond areas of national jurisdiction and is one of the pillars of the Agreement. The question which still has to be answered, however, is whether the 1995 SSA confers a superior right on the coastal State for purposes of establishing conservation measures which are applicable to the stock as a whole, including the portion of it found on the high seas at any time, and whether it enables it to demand and enforce compliance with these by high seas fishing States. In other words, which set of rules now prevails in cases of conflict?

Article 7 of the 1995 SSA provides that, without prejudice to the sovereign rights of coastal States for the purpose of exploring, conserving and managing the living marine resources found within areas under their national jurisdiction and the right of all States for their nationals to engage in fishing on the high seas, in accordance with UNCLOS, Coastal States and States fishing on the high seas are required to seek to agree on the measures necessary for the conservation of straddling fish stocks in the adjacent high seas area and to co-operate with a view toward ensuring conservation and promoting the objective of optimum utilization of highly migratory fish stocks throughout the region, both within and beyond the areas under national jurisdiction. These measures must be compatible in order to ensure conservation and management of the straddling fish stocks and highly migratory fish stocks in their entirety. To this effect, according to the 1995

[682] Lucchini et Voeckel, *Droit de la Mer*, supra, note 583, p. 651.

[683] David Doulman, 'Structure and Process', supra, note 225, pp. 27-29.

SSA, coastal States and States fishing on the high seas need to consider the following factors: *i*) the coastal States' conservation and management measures for the two stocks in their EEZs in accordance with Article 61 of the 1982 UNCLOS; *ii*) the high seas measures already established by agreement between coastal States and high seas fishing States for the stocks; *iii*) the agreed measures established by a sub-regional or regional fishery organization for the same stock; *iv*) the biological unity and other biological characteristics of the stock concerned, the fisheries and the geographical particularities of the region concerned, including the abundance of the stocks in areas under national jurisdiction; *v*) the respective dependence of coastal states and high seas fishing states on the stocks concerned; and *vi*) the impact of measures on the living marine resources as a whole.

With regard to compatibility of conservation and management measures, Article 7 of the 1995 SSA also provides that in cases where States do not agree on compatible measures within a reasonable period of time, any one of them can resort to the procedures for settlement of disputes provided in the Agreement. Pending agreement on compatible conservation and management measures, States must seek to agree on provisional arrangements of a practical nature. Where they do not agree on provisional arrangements, they must secure the adoption of provisional arrangements through the settlement procedure mechanisms of the Agreement. Such provisional measures must: *i*) take into account the principles of conservation and management of the two stocks concerned as established in the Agreement; *ii*) have due regard to the respective rights of all States concerned; *iii*) not jeopardize the reaching of final agreement on compatible conservation and management measures; and *iv*) be established without prejudice to the final outcome under the dispute settlement procedure. In addition, coastal states must regularly inform other states of the measures they have adopted for straddling fish stocks and highly migratory fish stocks in areas under national jurisdiction. On the other hand, high seas fishing States also must regularly inform other States of the measures they have adopted for regulating the activities of fishing vessels flying their flags and harvesting such stocks in the high seas.

In the opinion of Casado, the 1995 SSA reveals a biased propensity for favouring the interests of coastal States, because while in determining compatible conservation and management measures, States must take into account similar measures adopted both by

the coastal State within areas of national jurisdiction and by concerned States on the high seas, only in the first case does the Agreement stress the need to ensure that measures established for the high seas do not undermine the effectiveness of the measures adopted by the coastal State in areas under its jurisdiction[684]. Yturriaga, another Spanish author, also subscribes to this view, underlining the fact that the 1995 SSA does not include a parallel provision concerning the negative impact that the measures adopted by the coastal State within its jurisdiction will have on the high seas[685].

Lucchini and Voeckel, French authors, argue that whereas Article 63.2 of the 1982 UNCLOS uses the expression that States must "seek to agree" upon the measures, Article 7.3 of the 1995 SSA clearly categorises co-operation as a legal obligation[686]. According to Davies and Redgwell, this legal obligation for both coastal and fishing States is dependent upon the stocks concerned and must not result in harmful impact upon on the living marine resources as a whole[687]. It is important that, in order to be effective, fisheries management should be concerned with the whole stock unit in its entire area of distribution, and management measures should be harmonized among all the states involved[688]. This represents a welcome move to a biologically specific approach to stock management rather than one based simply on the arbitrary jurisdictional limits of the Law of the Sea Convention[689]. The holistic approach towards compatibility of conservation and management measures in Article 7 is consistent with the large marine ecosystem concept adopted as a principle in Article 5.d and 5.e of the Agreement and is the keystone of modern fisheries regulations, as pointed out in Section 3, Chapter 3[690].

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[684] Rafael Casado, *El Derecho de la Pesca en Alta Mar y sus Últimos Desarrollos*, (Cursos de Derecho Internacional de la Universidad del País Vasco, Vitoria-Gasteiz, 1995), p. 125.

[685] Yturriaga, *The International Regime*, supra, note 181, p. 207.

[686] Lucchini et Voeckel, *Droit de la Mer*, supra, note 583, p. 682.

[687] Davies and Redgwell, supra, note 461, p. 263.

[688] Tahindro, supra, note 163, p. 15.

[689] David Freestone and Zen Makuch, 'The New International Environmental Law of Fisheries', supra, note 549, p. 29.

[690] See Frida Armas Pfirter, *El Derecho Internacional de Pesquerías*, (Buenos Aires, Consejo Argentino para las Relaciones Internacionales, 1996), p. 379.

Regarding the compatibility of conservation and management measures, the 1982 UNCLOS provides an inadequate framework for this and little effective guidance. The 1995 SSA is thus a significant step forward in the shifting course that leads from the traditional approach, under which management is focused on a single factor, to a broader focus, which attempts to define the overall interests of States in the oceans, its resources, environment and patterns of use and to meld the concept of development into the overall definition of co-operation for the protection of the global commons[691].

In aiming to establish an improved negotiated legal equitable balance between rights and duties of both coastal and fishing States, the 1995 SSA gives a certain priority to management measures taken by coastal States. This is attributable to two reasons: first, although it is not always the case for straddling and highly migratory fish stocks, the overwhelming majority of fisheries in the world occur in the EEZs; secondly, the failure of international fisheries organizations to deal effectively with fisheries on the high seas. As McRae has pointed out, the approach of recognizing the priority of the Coastal State in the management of straddling stocks was probably the only realistic way to solve the problem, and thus had to be embodied in a multilateral agreement[692]. But, particularly relevant, according to the wording of Article 7 of the 1995 SSA, is the fact that the new reinforced balancing of interest in the Agreement is achieved mainly between coastal States measures and regional fisheries organizations, rather than between coastal States and high seas fishing States. Finally, an important improvement in the 1995 SSA is that the compatibility of measures must depend on acceptance of and the giving of effect to the large marine ecosystem concept.

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[691] Max Collett, 'Achieving Effective International Fishery Management: a Critical Analysis of the UN Conference on Straddling Fish Stocks', *Dalhousie Journal of Legal Studies*, 4 (1995), pp. 1-33.

[692] Donald McRae, 'State Practice in Relation to Fisheries', Washington, Proceedings of the American Society of International Law, 1990, p. 287.

5.2 Collection and sharing of data

Transparent collection and sharing of information are the *sine qua non* conditions for decision-making procedures in workable international environmental regimes[693]. Thus, the general obligation to exchange information is found in basically every international environmental agreement. Information exchange has been characterised as a general obligation of one State to provide general information on one or more matters on an *ad hoc* basis to another State, especially in relation to scientific and technical information[694]. Regarding fisheries in particular, collection and sharing of data is a key determinant of effectiveness. The creation of an ocean management information system is not a database management or information technology or even marine policy activity, but represents an enormous exercise in information management. Therefore, it is relevant to discuss the problem of collecting and sharing of data in the new international regime for fisheries on the high seas.

Cole-King and Lalwani have identified three major groups of functional components of information systems for ocean management. First, are the primary data gathering programmes and databases: these tend to be organized along sectoral lines and are mainly the responsibility of national government departments and agencies. They can be local, national, regional or global; they can describe the environment or human activities or both; and they can be short or long term. Secondly, are the secondary data compilations which can either deal with single activity sectors or scientific disciplines, or be concerned with a range of economic, social and environmental subjects and be conducted by FAO and other UN agencies or regional fisheries commissions. Thirdly, are the data and information dissemination systems which include the technology of data transfer, the data catalogues and referral systems and the exchange of data[695]. The distinction between these components of information systems is helpful to a more comprehensive analysis of fisheries management on the high seas, taking into account

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[693] Vogler, *The Global Commons*, supra, note 39, p. 40. See also Abram Chayes and Antonia Chayes, 'Adjustment and Compliance Processes in International Regulatory Regimes', in Jessica Tuchman Mathews (ed.), *Preserving the Global Environment. The Challenge of Shared Leadership*, (New York, WW Norton and Company, 1991), p. 291.

[694] Sands, *Principles*, supra, note 211, p. 597

[695] Adam Cole-King and Chandra Lalwani, 'Information and Data Processing for Ocean Management', in Fabbri (ed.), *Ocean Management*, supra, note 658, pp. 134-149, at 138.

the lack of integration of information systems for the management of straddling fish stocks.

Availability and exchange of information regarding activities having adverse effects on the environment and on the state of the environment in general, are well-established objectives of international environmental law. The general obligation to exchange information is found in virtually every international environmental agreement[696]. The UNEP Principles on Shared Natural Resources, for example, provide that States sharing a natural resource should, to the extent practicable, exchange information and engage in consultations on a regular basis on its environmental aspects, as laid down in Principle 5, specifying mechanisms for exchange of information, Principles 6 and 7[697]. The 1982 UNCLOS obliges exchange of scientific information and other data relevant to conservation of fish stocks (Arts. 61.5, 62.4 and 119.2), to marine scientific research[698] (Art. 143) and to marine pollution (Arts. 200 and 244).

The Convention on Biological Diversity, insofar as it is relevant to fisheries on the high seas, provides that the Contracting Parties shall facilitate the exchange of information from all publicly available sources, relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries[699]. Regarding fisheries, the need for exchange of information, consultation, and advance notification of plans to exploit shared resources is well effected through fisheries agreements, as is the need, based on the customary principle of good faith and good neighbourliness, to co-operate to find a solution[700]. The rules relating to the exchange of information provide an example of the synergies between, *inter alia*, the CBD, UNCLOS and the new fisheries agreements. In addition to the general obligations

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[696] Sands, *Principles*, supra, note 211, p. 596.

[697] Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States. Reproduced in (1978) 17 ILM 1091.

[698] Patricia Birnie, 'Law of the Sea and Ocean Resources: Implications for Marine Scientific Research', *IJMCL*, 10 (1995), pp. 229-251, and J. Ashley Roach, 'Marine Scientific Research and the New Law of the Sea', *ODIL*, 27 (1996), pp. 59-72.

[699] CBD, Art. 17.

[700] Birnie and Boyle, supra, note 213, p. 509. See also, OECD Publication, *Towards Sustainable Fisheries. Economic Aspects of the Management of Living Marine Resources*, (OECD, Paris, 1997), p. 27.

established by UNCLOS and the CBD, detailed provisions for gathering and exchange of information through either the FAO or sub-regional and regional fisheries management organizations can be found in the FAO Compliance Agreement (Article VI) as well as the Code of Conduct for Responsible Fisheries (Articles 7.3, 7.4, 7.5 and 12.3).

When evaluating the current state of information for assessment of high seas marine living resources in 1993, FAO stated that for most oceanic species there is insufficient and inadequate information and data on the identity of the majority of unit stocks and on the boundaries of their areas. Nor are there adequate data on the catch removed from each unit stock, the by-catches and discards, or the level of fishing effort applied. In some cases, as with some tunas, whales, squids and offshore demersals such as Alaska pollock, there is fragmentary information which allows the exploitation rate to be roughly estimated but rarely, if at all, can reliable estimates of population biomass or total numbers be deduced with reasonable levels of accuracy. Quantitative information is almost non-existent for sharks, small cetaceans, most squids and pomfret[701].

FAO have acknowledged that rather than producing absolute estimates of abundance, assessment work on information is usually aimed more at determining trends in abundance. These depend to a large extent on the validity of trends in overall catch rate that are based, for the most part, on data voluntarily provided by fishing fleets. Facing the uncertainties about the distribution and migration of some species and on the optimal method of control and surveillance, FAO has proposed an assessment framework for management of data based on 'boxes', framing area/season 'windows' of critical importance. These critical areas could be used in a precautionary fashion, by closing them to fishing during known periods of biological importance to the life histories of the species concerned[702].

The 1995 SSA adopts, as a general principle, that States must collect and share, in a timely manner, complete and accurate data on fishing activities, relating *inter alia*, to vessel position, catch of target and non-target species and fishing effort, as set out in

[701] FAO Technical Consultation, in Levy et al. (ed.), *Selected Documents*, supra, note 113, p. 325.

[702] Ibid., p. 326.

Annex I of the Agreement, as well as information from national and international research programmes (Article 5.j). This obligation of collecting and sharing complete and accurate data is related to the obligation, also established as a general obligation (Article 5.k), to promote and conduct scientific research and develop appropriate technologies in support of fishery conservation and management. Article 14 of the SSA provides that states shall collect and exchange detailed, accurate technical and statistical fisheries data on straddling fish stocks and highly migratory fish stocks in a timely manner as part of their obligations under the Agreement. States are also required to take appropriate measures to verify the accuracy of such data. In addition, States must co-operate directly or through competent international organizations, to strengthen their scientific research capacity in the field of fisheries and promote scientific research on the conservation and management of SFS and HMFS. In this connection, States, or the international organizations conducting research on the stocks concerned beyond areas under national jurisdiction, must actively promote for the benefit of any interested States, the publication and dissemination of the results of that research, information relating to its objectives and methods and, to the extent practicable, must facilitate the participation of scientists from those States in such research. The exchange of data includes the exchange of "meta-data" or data about data, that is, detailed description of a dataset and the ways in which it can be accessed.

The need to collect and exchange biological data is the most prominent element in inducing States to co-operate[703] in the process of decision-making. At present, in most cases, the true status of marine living resources in the high seas can only be inferred, given the fragmentary nature of the information collection system concerning these resources. The provisions of the 1995 SSA develop the general principle of collection and sharing of data in the process of decision-making.

As scientists are, by and large, in favour of free exchange of data, the 1995 SSA did not address the issues of data ownership, copyright and confidentiality of data information. The application to marine plants and animals of recent discoveries in genetic engineering offers enormous potential for harvesting more food, pharmaceuticals, and industrial compounds from the sea. The wealth of ocean genetic information will

[703] Tahindro, supra, note 163, p. 29.

provide new knowledge of the earth's oceans and of ourselves[704]. As regards areas beyond the limits of national jurisdiction, the 1982 UNCLOS maintains freedom of fishing (Article 87.1.e) and freedom of scientific research (Article 87.1.f). The legal status of the high seas and of the Area's genetic resources are neither determined nor changed by the CBD[705]. The CBD incorporates provisions that explicitly call for cooperation and complementarity between conservation of biodiversity and regimes to protect intellectual property rights. However, CBD does not determine the legal status of naturally occurring genetic material and property. It does make it clear that genetic resources are a form of commodity which may be withheld from a market and that access to them is not free[706]. Thus, the CBD indicates an implicit rejection of a common heritage approach to genetic resources and the conservation of biodiversity in favour of a model balancing the needs and goals of industrial and developing States[707]. The issue of genetic resources in the Area, which must include as well genetic resources in the high seas, was firmly placed in the international arena during the International Year of the Ocean. Several fora have been suggested as suitable for looking at the issues with the necessary political commitment and in good faith. They include the CBD Conference of the Parties or its Subsidiary Body, the UN General Assembly, the International Seabed Authority and the International Oceanographic Institute of UNESCO, *inter alia*[708].

The 1995 SSA develops co-operative structures to enable exchanges between different jurisdictions and creates new mechanisms for filling the severe vacuums in information processes prevailing at present. This obligation is a vital component of the Agreement.

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[704] Rita Colwell and Jack Greer, 'Biotechnology and the Sea', *ODIL*, 17 (1986), pp. 147-165.

[705] Lyle Glowka, 'The Deepest of Ironies: Genetic Resources, Marine Scientific Research and the International Deep Seabed Area', IUCN Environmental Law Centre, 1995, p. 13. Paper Distributed for Comment and Discussion at the First Meeting of the Subsidiary Body on Scientific, Technical and Technological Advice of the Convention on Biological Diversity, Paris, 4 September 1995.

[706] James Cameron and Zen Makuch, *The UN Biodiversity Convention and the WTO TRIPS Agreement*, (Gland, WWF International Discussion Paper, 1995), pp. 3 and 19.

[707] Rebecca Margulies, 'Protecting Biodiversity: Recognizing International Intellectual Property Rights in Plant Genetic Resources', *Michigan Journal of International Law*', 14 (1993), pp. 322-356. See also Karen Goldman, 'Compensation for Use of Biological Resources under the Convention on Biological Diversity: Compatibility of Conservation Measures and Competitiveness of the Biotechnology Industry', *Law and Policy in International Business*, 23 (1994), pp. 695-726.

[708] Lyle Glowka, 'Genetic Resources, Marine Scientific Research and the International Seabed Area'. *RECIEL*, 8 (1998), pp. 56-66, at 64.

The various provisions contained in the 1995 SSA regarding collection and provision of information and cooperation in scientific research (Article 14), as well as standard requirements for collection and sharing of data (Annex I), are important instruments for regional and subregional fisheries organizations, NGOs, fishers and fishworkers. The Agreement provides mechanisms for assistance to developing States in the collection, reporting, verification, exchange and analysis of data, stock assessments and capacity building for observer programmes. However, the new data collection requirements will be demanding and laborious. Consequently, existing and new regional and sub-regional fisheries organizations will have to expand their scientific staff to gather, assimilate and process the information which will demand the use of satellite surveillance systems, observer programmes and other measures necessary to ensure comprehensiveness.

5.3 Minimum Standards

There is no ideal type of or model for international standard setting. The methods of setting standards are distinct from the question of the establishing the optimal institutional arrangements for environmental management and have long been a part of multilateral agreements and are commonly separated from basic treaty provisions[709]. Over a few decades, in spite of several positive measures, a gap has appeared between the demands for new integrated ocean management and United Nations global policies and national governments' sectoral approaches and practices in relation to sea uses[710]. New directions in ocean management and the 1995 SSA in particular, suggest that different components of fisheries management are at last beginning to be developed and put into place. Indeed, a set of common, compatible and easily convertible standards urgently need to be applied in management of fisheries on the high seas. It is, as we have seen, widely recognized that accurate and verifiable data is required in order to analyze evolution and trends of straddling and highly migratory fish stocks. Well-defined and detailed information strengthens the decision-making process.

[709] Paolo Contini and Peter H. Sand, 'Methods to Expedite Environment Protection: International Ecostandards', *AJIL*, 66 (1972) 37-59. According to Oxman, the duty to respect international standards is expressed in connection with a duty or right to adopt national laws and regulations governing a particular matter; thus, according to him, "the purpose of the duty is to establish uniform practice". Bernard Oxman, 'The Duty to Respect Generally Accepted International Standards', *N.Y. University Journal of International Law and Politics*, 24 (1991), pp. 109-159, at 157.

[710] Alastair Couper, *'History of Ocean Management'*, supra, note 658, p. 16.

Internationally accepted methods for collection and analysis of data are increasingly vital to the effectiveness of environmental conventions and establishing them may be regarded as the most critical task to be addressed by whatever advisory mechanisms are established in the relevant convention[711].

Article 5.c of the 1995 SSA provides, as a general principle, that coastal States and States fishing on the high seas, in adopting measures to ensure long-term sustainability of straddling and highly migratory fish stocks, must take into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether subregional, regional or global. In this connection, Article 14.2 provides that States must co-operate either directly or through fisheries management organizations to agree on the specification of data and the format in which they are to be provided to such organizations, taking into account the nature of the stocks and the fisheries for those stocks. States must also develop and share analytical techniques and stock assessment methodologies to improve measures for the conservation and management of straddling and highly migratory fish stocks.

Annex I of the SSA, which forms an integral part of this instrument, set the standard requirements for collection and sharing of data. Article 1 establishes the general principles: the timely collection, compilation and analysis of data, and technical assistance, including training and financial support. To ensure timely collection, compilation and analysis of data, information from fisheries for stocks in areas under national jurisdiction is required and must be collected and compiled in such a way as to enable statistically meaningful analysis for the purpose of fishery resource conservation and management. This data should include: *i*) catch and fishing effort statistics; *ii*) other fishery-related information, such as vessel related and other data for standardizing fishing effort; *iii*) information on non-targeted and associated and dependent species. On the other hand, assistance must be provided to developing States in order to build capacity in the field of conservation and management of living marine resources. The assistance must focus on enhancing capacity to implement data collection and

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[711] Lee Kimball, *Treaty Implementation: Scientific and Technical Advice Enters a New Stage*, (Washington, American Society of International Law, 1997), p. 74. See also Lee Kimball, 'International Law and Institutions: the Oceans and Beyond', *ODIL*, 20 (1989), pp. 147-165, at 159.

verification, observer programmes, data analysis and research projects supporting stock assessment. The fullest possible involvement of developing States' scientists and managers must be promoted. Finally, as a general principle, all data shall be verified to ensure accuracy. Confidentiality of non-aggregated data shall be maintained. The dissemination of such data must be subject to the terms on which such data have been provided.

Adherence to standards is a fundamental requirement if comprehensive information systems at international, regional and national levels are to increase the utility of data and broaden the scope for discussion and analysis of environmental issues. According to Cole-King and Lalwani, even information which may be isolated geographically, by subject, by administrative function or by hardware type, should be incorporated into an integrated information system[712]. There is a proliferation of fisheries management information schemes, largely nationally based that must be integrated together. The 1995 SSA is embracing a set of minimum, common, compatible and easily convertible standards for information within a net of international co-operation, which is now taking shape in the new international environmental regime for fisheries on the high seas.

5.4 Scientific Assessments

Development of international environmental law is influenced by achievement of scientific consensus about the cause and consequences of a problem. Moreover, the economic interests of States, as well as compelling evidence that action is required to prevent environmental damage, are being taken into account in the development of international environmental law[713]. Furthermore, epistemic communities, as a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area, can consolidate influence on their various governments, national preferences in a way that policies will come to reflect their beliefs and, therefore, the regime eventually

[712] Cole-King and Lalwani, supra, note 695, p. 137.

[713] Sands, *Principles*, supra, note 211, p. 11.

negotiated will then reflect the causal and principled beliefs of the relevant epistemic community[714].

Cole-King and Lalwani have identified five groups of primary objectives for sea-use management, that are relevant for scientific assessment: safety, allocation of resources; environmental control; social and economic objectives; information gathering and understanding[715]. All these subject areas must be supported by scientific assessment and thus the role of scientific assessment is enhanced in the decision-making process. The need for better interaction between science and policy was discussed during the London Workshop on Environmental Science, Comprehensiveness and Consistency in Global Decisions on Ocean Issues. The Workshop concluded that, in order to promote sound management, decisions on ocean-resource utilization, research into economic, social and related fields should be enhanced[716]. It is now widely recognized that all conservation problems have scientific, social and economic aspects. Although the relative mix will vary from problem to problem, it is essential to recognize all three components in problem solving. Furthermore, the process of decision-making must be capable of fairly taking into account different values and interests, defining and responding to specific problems on appropriate temporal and spatial scales, and adapting quickly to new information and analysis[717].

The important role played by scientific audit of environmental issues is also evident and has assumed greater importance since the 1992 UNCED. Science is one of the non-legal factors influencing the development and implementation of international environmental law[718]; this reality is confirmed by developments relating to climate change[719] and

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[714] As epistemic communities obtain and consolidate influence in different governments, national preferences and policies will reflect epistemic beliefs. In this process, international organization's secretariats, such as secretariats for fisheries in FAO, UNEP, IMO, NAFO, OECD, EU AND ICES, can play a crucial role as sources of information. See Peter Haas, 'Epistemic Communities and the Dynamics of International Environmental Co-operation', in Rittberger (ed.), *Regime Theory*, supra, note 50, pp. 188-189.

[715] Cole-King and Lalwani, supra, note 695, p. 135.

[716] The London Workshop on Environmental Science, Final Report, supra, note 645

[717] Mangel, Talbot, Meffe et al., Principles for the Conservation of Wild Living Resources, *Journal of Ecological Applications*, 6 (1996), pp. 338-353. In the opinion of these authors, "the full range of skills from the natural and social science must be brought to bear on conservation problems", p. 338.

[718] Sands, *Principles*, supra, note 211, p. 11.

fisheries on the high seas. To the extent that an epistemic community exists in relation to high seas fisheries and to the extent that it has been able to gain influential position in policy-making fields in the major states involved, it is expected that the 1995 SSA will improve the decision-making process. In other words, the success of the Agreement should be measurable in terms of the capacity of epistemic communities to secure for themselves spaces in the relevant policy-making circles, either through traditional bureaucratic systems or through non-formal but recurrent access to decision-makers.

5.4.1 MSR under UNCLOS

The 1982 UNCLOS provides in its Part XIII a comprehensive framework for international marine scientific research (MSR). The objective is provided for in Articles 239, aimed at promoting marine scientific research, and 242, aimed at promoting international co-operation in marine scientific research. Although the consent of a coastal State is needed for marine research within its EEZ, under the Convention's Part XIII, a coastal State may only withhold its consent on well-founded technical, legal or political grounds applicable to the international community as a whole (Article 246.5). The coastal State, according to Article 246.3, in "normal circumstances", grants its consent for MSR projects by other States or competent international organizations if it is for peaceful purposes and increases the knowledge of the marine environment for the benefit of mankind. Fisheries research, given the number of requirements for it in the UNCLOS, UNCED, 1995 SSA and numerous existing fisheries conventions at all levels, surely meets these requirements.

Article 240 establishes four general principles for the conduct of MSR: *i*) MSR must be conducted exclusively for peaceful purposes; *ii*) MSR must be conducted with appropriate scientific methods and means compatible with UNCLOS; *iii*) MSR must be conducted in compliance with all relevant regulations adopted in conformity with the

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[719] Within the context of the 1997 Kyoto Protocol to the UNFCCC, there is increasing appreciation by developing countries of the potential significance of the Clean Development Mechanisms established by its Article 12. Not only do these mechanisms have the potential to develop new income and technology streams in developing countries, but regulation of these mechanisms also represents an important challenge for development of international environmental law relating to global climate change.

Convention, including those for the protection and preservation of the marine environment an finally, *iv*) MSR must not unjustifiable interfere with other legitimate uses of the sea compatible with the Convention, but, on the other hand, must be duly respected in the course of such other uses. These 'principles' are very general indeed. The concept of 'peaceful purposes', 'unjustifiably interference', 'appropriate scientific methods' and 'due respect' are difficult to define and highly subjective in nature and thus open to a variety of interpretations in practice[720].

According to the 1982 UNCLOS, States and competent international organizations have to promote international co-operation in MSR for peaceful purposes (Article 242); they have to co-operate, through the conclusion of bilateral and multilateral agreements, to create favourable conditions for MSR and to integrate the efforts of scientists (Article 243); and, finally, they have to co-operate in the publication and dissemination of information and knowledge derived from MSR (Article 244). Regarding MSR rules governing the Exclusive Fishing Zone[721] which are basically the same as those governing MSR in the EEZ, Part XIII of the 1982 UNCLOS establishes as general rule that in 'normal circumstances' consent has to be granted by the coastal State for MSR carried out for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of all mankind (Article 246.3). Applications concerning MSR Projects must be made through appropriate official channels, unless otherwise agreed (Article 250). Regarding the high seas, freedom of scientific research is included among the six freedoms listed in Article 87.1 though under this Article, this freedom has to be exercized with 'due regard' for the interests of other States in their exercise of the freedom of the high seas and subject to Parts XIII and VI, the latter concerning the Continental Shelf, the living resources of which are regarded as sedentary species subject to the regime established for the shelf, not that of the of the high seas, i.e., they are not open to freedom of fishing.

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[720] Brown, *International Law of the* Sea, supra, note 269, Vol. 1, p. 423.

[721] The concept of Exclusive Fishing Zone is recognized neither in the 1958 Geneva Convention on the Law of the Sea, nor in the 1982 UNCLOS. Its existence has been acknowledged by the International Court of Justice in the Fisheries Jurisdiction Case (United Kingdom vs. Iceland), Merits, Judgement, I.C.J. Reports 1974, p.3 at23, para. 52.

As regards the standard set for the conservation for living resources, which Article 61.2 of UNCLOS requires should take into account 'the best scientific evidence available', Burke has pointed out that the coastal State may adopt measures even though the evidence gathered by the State is not complete or is recognized to be of low quality[722]. In addition, the concept 'available scientific information' provided by Article 61.5, must be understood to refer not only to data generated directly by the Coastal State, but also to data from other sources, including foreign fleets, international organizations, and other States involved in the fisheries concerned[723].

Agenda 21 proposed that in implementing the provisions of the UNCLOS, States, with the support of relevant intergovernmental organizations, must promote the study, scientific assessment and use of appropriate traditional management systems[724]. Although not legally binding, the FAO Code of Conduct for Responsible Fisheries provides that responsible management of fisheries requires the availability of a sound scientific basis to assist fisheries managers and other interested parties in making decisions[725].

5.4.2 Scientific research under conventions for the protection of the atmosphere

The Conventions adopted post-Stockholm added a new dimension to scientific analysis. They promote collective assessment of resource conditions and trends as the basis for agreement on conservation measures. A scientific basis for decision-making procedures is particularly well established in the conventions protecting the atmosphere. The 1979

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[722] Burke, supra, note 110, p. 56.

[723] Ibid., p. 57.

[724] Agenda 21, Para. 17.93.

[725] FAO Code of Conduct for Responsible Fisheries. Article 4 of the Code requires the FAO Committee on Fisheries (COFI) to monitor the application and implementation of the Code. Thus, the Committee has adopted technical guidelines in support of the implementation of the Code specifically on matters concerning fishing operations and vessel monitoring system; a precautionary approach to capture fisheries; integration of fisheries into coastal area management; fisheries management; aquaculture development; inland fisheries; responsible fish utilization; and indicators for sustainable development of marine capture fisheries. In addition, FAO's Fisheries Department has elaborated a draft strategy for the promotion and implementation of the Code. Information as available on 8 November 2000, on http://www.fao.org/fi/agreem/codecond/codecon.asp

Convention on Long-Range Transboundary Air Pollution calls for research "with a view to establishing a scientific basis for dose/effect relationships designed to protect the environment"[726]. In a like manner, the Vienna Convention on Protection of the Ozone Layer and its Montreal Protocol establish that control measures are to be based on relevant scientific and technical considerations[727]. They are to be assessed on the basis of available scientific, environmental, technical, and economic information, which is useful distinction. The UN Framework Convention on Climate Change (FCCC), adopted post UNCED, expressly incorporates "best available scientific information and assessment on climate change and its impacts" as the basis for action, as well as "relevant technical, social and economic information"[728].

The FCCC requires Parties to promote systematic observation as well as scientific, technological, technical, socio-economic and other research related to the climate system and to reducing uncertainties regarding causes, effects, magnitude, and timing of climate change and the economic and social consequences of various responses strategies. It calls for support of international programmes and networks for co-operating in these activities and in exchanging relevant information (Articles 4.1.g. and 1.h.5). Comparable methods for national inventories are to be agreed upon by the Conference of the Parties, and for evaluating the effectiveness of measures to limit emissions and enhance removal of greenhouse gases (Article 7.2.d). Data archives related to the climate system are to be developed, as well as co-operative means for exchanging scientific, technological, technical, socio-economic, and legal information; information on education and training programs; and public awareness materials (Articles 4.1.g and 1.h and 6). The term 'technology' explicitly encompasses adaptation and mitigation activities in agriculture, forestry, waste management, energy, transport and industry, sinks and reservoirs such as forests and oceans, and adaptation techniques in coastal zone management, water resources and agriculture, including rehabilitation of areas affected by drought, desertification and floods (Article 4.1.c, 1.d. and 1.e)

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[726] 1979 Geneva Convention on Long-Range Transboundary Air Pollution. Reproduced in (1979) 18 ILM 1442.

[727] 1985 Vienna Convention on the Protection of the Ozone Layer. Reproduced in (1987) 26 ILM 1529. 1987 Montreal Protocol on Substances that Deplete the Ozone Layer. Reproduced in (1987) 26 ILM 1550.

[728] 1992 United Nations Framework Convention on Climate Change. Reproduced in (1992) 31 ILM 849.

The IPCC[729] can be seen as representative of the epistemic community at its most organized. It was the biggest politically organized process yet undertaken to independently assess the state of scientific knowledge on climate change at the international level and an attempt to arrive at consensus. The IPCC produced two reports, one in 1990[730] and one in 1992[731] providing evidence of scientific consensus that something had to be done about global warming. These reports greatly influenced the negotiations leading up to the 1992 Climate Change Convention across a range of cross-sectoral issues[732]. The IPCC concentrates its activities on the tasks allotted to it by the relevant WMO Executive Council and UNEP Governing Council resolutions and decisions as well as on actions in support of the UNFCCC process. The IPCC has three Working Groups: Working Group I on the Science of Climate Change; Working Group II, on the Impacts, Adaptation and Vulnerability; and Working Group III, on the Mitigation of Climate Change. According to 'the Principles Governing IPCC Work', the role of the Panel is to assess, on a comprehensive, objective, open and transparent basis, the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation[733].

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[729] Intergovernmental Panel on Climate Change, Report of the First Session of the WMO/UNEP, Intergovernmental Panel on Climate Change, Geneva, 9-11 November 1988, World Climate Programme Publications Series, TD – No. 267, Geneva, World Meteorological Organization.

[730] JT Houghton, GJ Jenkins and JJ Ephraums (eds.), 1990 Scientific Assessment of Climate Change – Report of Working Group, (Cambridge, Cambridge University Press, 1990).

[731] JT Houghton, BA Callander and SK Varney (eds.) Climate Change 1992 - The Supplementary Report to The IPCC Scientific Assessment, (Cambridge, Cambridge University Press, 1992).

[732] Sands, *Principles*, supra, note 211, p. 86. See also Prude Taylor, *An Ecological Approach to International Law: Responding to Challenges of Climate Change*, (London, Routledge, 1998); R. R. Churchill and D. Freestone, *International Law and Global Climate Change: International Legal Issues and Implications*, (London, Graham and Trotman, 1992).

[733] In taking decisions, and improving, adopting and accepting reports, the Panel and its Working Groups shall use all best endeavours to reach consensus. Different views on matters of a scientific, technical and socio-economic nature shall, as appropriate in the context, be represented in the scientific technical or socio-economic document concerned. Conclusions drawn by IPCC Working Groups or Task Forces are not official until the Panel in a plenary meeting has accepted them. See 'Principles Governing IPCC Work', approved at the Fourteenth Session (Vienna, 1-3 October 1998), Document in electronic form as available on 8/11/00, on http://www.ipcc.ch

5.4.3 Scientific research under the 1992 CBD

The objectives of the 1992 CBD, as set out in Article 1, are the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising out of the utilization of genetic resources. The process of negotiation leading up to the adoption of the Convention was initiated through a series of expert meetings convened by the UNEP Governing Council[734], the report of which led to the commencement of intergovernmental negotiations in 1991[735].

The Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) is established by the 1992 CBD to provide the COP and other appropriate subsidiary bodies with timely advice in these fields. The SBSTTA is a multidisciplinary body composed of government representatives the purpose of which is to provide scientific and technological assessments of the status of biological diversity; prepare scientific and technical assessments of the effects of measures taken; identify innovative, efficient, state-of-the art technologies and know-how relating to the purposes of the Convention, and advise on ways and means of promoting the development and transfer of such technologies; provide advise on scientific programmes and international co-operation in relevant research and development; and to respond to scientific, technical, technological, and methodological questions posed by the COP and its subsidiaries bodies (Article 25). Regarding scientific analysis, an indicative list of categories for identifying important components of biodiversity is set forth in Annex I. The parties are to co-operate in using scientific advances in biodiversity research to develop methods for its conservation and sustainable use (Article 13.c). As regards information requirements, each Party is to identify and monitor important components of biological diversity and the processes and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biodiversity, and to monitor their effects. The data is to be maintained and organized by any mechanism (Article 7) and conservation measures include measures on protected areas, on the use and release of living modified organisms resulting from biotechnology, on the introduction of alien species, on threatened species, on threatened species and populations, and for *ex situ* conservation and the reintroduction of threatened species

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[734] UNEP GC Decs. 14/26 (1987).

[735] UNEP GC Decs. 15/34 (1989).

into their natural habitats (Articles 8 and 9). Each Party is to facilitate access to and transfer of relevant, environmentally sound technologies (Article 16).

The COP continues to debate the focus and structure of the clearing-house mechanism called for in Articles 17 and 18 of the 1992 CBD. The proposed scope of this clearing-house is broad: it covers access to scientific and technical data and research results for the contracting Parties; sources of scientific and technical expertise and training programmes; information on relevant technologies and specialized knowledge, including indigenous and traditional knowledge; methodologies and techniques for assessing and valuing biological resources; traditional knowledge and socio-economic research; legislative models; sources of financial support; and all programmes and projects related to CBS objectives. Each Party must maintain and organize data derived from its identification and monitoring of components of biological diversity and the processes and activities that impact upon them (Article 7.d).

5.4.4 Scientific assessment under the 1995 SSA

The 1995 SSA reflects the wide beliefs and conclusions of the epistemic community regarding fisheries on the high seas. Indeed, Article 10.g of the Agreement provides that sub-regional or regional fisheries management organizations shall promote and conduct scientific assessments of the stocks and relevant research and disseminate the results thereof. Consonant with that provision, Article 3 of Annex I sets out in detail the types of data necessary to facilitate the scientific assessment of the stocks. These types include, *i*) time series of catch and effort statistics by fishery and fleet; *ii*) total catch in number or nominal weight, or both, by species, both target and non-target, as appropriate to each fishery; *iii*) discard statistics, including estimates where necessary, reported as number or nominal weight or live-weight equivalent of the landings by species, as appropriate to each fishery; *iv*) effort statistics appropriate to each fishing method; and *v*) fishing location, date and time fished and other statistics on fishing operations, as appropriate. In addition, according to this provision, States must also collect, where appropriate, and provide to the relevant sub-regional or regional fisheries management organization, information to support stock assessment, including: *i*) composition of the catch according to length, weight and sex; *ii*) other biological

information supporting stock assessment, such as information on age, growth, recruitment, distribution and stock identity; and *iii*) other relevant research including surveys of abundance, biomass surveys, hydro-acoustic surveys, research and environmental factors affecting stock abundance, and oceanographic and ecological studies.

Under Annex I of the 1995 SSA, the detailed guidance on procedures to be used in scientific assessments is complemented by three obligations: verification, reporting and data exchange. First, regarding verification, States or fisheries management organizations will be allowed to establish mechanisms to corroborate data. These mechanisms include verification of fishing vessels position through use of vessel monitoring systems; scientific observer programmes to monitor catch, effort, catch composition (target and not target species) and other details of fishing operations; vessel trip, landing and transhipment reports and port sampling. Secondly, with reference to reporting, States must ensure that vessels flying their flag send to their national fisheries administrations and, where agreed, to the relevant sub-regional or regional fisheries management organization, log book data on catch and effort, including data on fishing operations on the high seas, at sufficiently frequent intervals to meet national requirements and regional and international obligations. Such data must be transmitted, where necessary, by radio, telex, facsimile or satellite transmission or by other means[736]. Thirdly, with respect to data exchange, flag States must share data collected with other flag States and coastal States through fisheries management organizations. Such organizations must compile data and make them available in a timely manner and in an agreed format to all interested States under the terms and conditions established by the organization, while maintaining confidentiality of non-aggregated data, and should, to the extent feasible, develop database systems which provide efficient access to data. The SSA lays down that, at the global level, collection and dissemination of data will be activated through FAO. Where a sub-regional or regional fisheries management organization does not exist, FAO may also fulfil the same role at the sub-regional or regional level by arrangement with the States concerned. The mechanisms by which subregional and regional fisheries management organizations and arrangements will

[736] Annex I, Art. 5, SSA.

obtain scientific advice and review the status of the stocks include, where appropriate, the establishment of a scientific advisory body (Article 9.d).

There is no established system of scientific assessment for the management of fish stocks. The theory of ocean management is not well developed and, in the strict sense, as a discipline, scarcely exists[737]. However, it is widely recognized that scientific knowledge and an interdisciplinary approach are the best basis for scientific assessments in management processes. Viagrie has identified two major groups of scientific questions for fisheries management. First, the equilibrium between catches and the capacities of renewal of the species. Second, the economic and social structures of fisheries communities in both developed and developing countries, and in particular, the impact of new fishing technologies upon these communities[738]. In this regard, although the SSA establishes as a basic principle that all States Parties must take into account the interests of artisanal and subsistence fishers (Article 5.i), no detailed provisions are provided regarding scientific assessments involving economic and social activities of fishing communities. Evaluation of the possible ecological and sociological effects of resource use needs, however, to precede both proposed use and proposed restriction or expansion of ongoing use of a resource. In this regard, two crucial economic issues will in the future affect the decision-making procedures established by the 1995 SSA. First, the increasing number of new entrants; according to Fitzpatrick and Newton, between 1991 and 1996, 1,654 new vessels were added to the world's large-scale industrial fleet[739]. Secondly, the existence of government subsidies which currently encourage overfishing by enabling vessels to continue fishing even when it is known that catches and, therefore, stocks, are declining[740]. Between $14.0- 20.5 billion a year, or 14-28 percent of industry revenue have helped produce enough boats, hooks and nets to catch twice the available fish, contributing to overfishing and fishery collapse[741].

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[737] Hence D. Smith, 'Theory of Ocean Management', in Fabbri (ed.), supra, note 658, pp. 19-33.

[738] Daniel Vigarie, 'Ocean Sciences and Management', in Fabbri (ed.), supra, note 658, pp. 108-124, at 120-121.

[739] John Fitzpatrick and Chris Newton, 'Assessment of the World's Fishing Fleet 1991-1997', (Amsterdam, Greenpeace International, Amsterdam, May 5, 1998).

[740] Peter Weber, *Abandoned Seas*, (Washington, Worldwatch Institute, Paper No. 116, 1998).

[741] David Malin Roodman, *The Natural Wealth of Nations*, (Washington Worldwatch Institute, 1998).

It is widely acknowledged that, in the light of all these circumstances, management bodies must recognize that ecological uncertainty is an overriding factor. Further, any approach to management that does not take the socio-economic factors into account probably will not succeed[742]. Therefore, the "social gap" in the SSA will have to be bridged by regional and sub-regional organizations, by limiting entries, incorporating social issues and analysis into management decisions, as well as means of involving fishers and finally, establishing closed areas or seasons and property rights[743].

5.5 Participatory Rights

One of the sources of market failure stems from property rights either being undefined or the property concerned being owned in common unrestricted or open access[744]. Open access to a commonly owned resource is a crucial component of waste and inefficiency[745]. Common property institutions have been developed that have succeeded in effectively managing resources provided that the owners can limit exploitation to those within the group and that these groups abide by the rules. Fisheries on the high seas, owned in common with open access, are a good example of the first category, however, and thus, the 1995 SSA seeks to address this problem, as illustrated in its Article 11. This Article establishes that States must take into account various requirements in determining the nature and extent of participatory rights for new members or new participants in a subregional or regional fisheries management organizations[746].

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[742] R. Talbot, 'Living Resources Conservation: An International Overview', *Ecological Applications*, May 1996, p. 356.

[743] See McGoodwin, supra, note 4, pp. 145 and 206.

[744] See Section 1, Chapter 3.

[745] See Chapter 2, Section 1.

[746] According to Article 11 of the SSA, these requirements include the status of the stock and the existing level of fishing level; the interests, patterns and practices of existing and new members or participants; the contributions of existing and new members or participants regarding collection of data and scientific research; the needs and interests of coastal fishing communities as well as of the coastal States dependant of the stocks and concerned with national jurisdiction where the stocks occur.

Thus, international fisheries organizations are now expected to solve the highly complex issue of participatory rights. Complex, first, because there is a larger number of players and secondly, in respect of the possibility that new members will enter the regional fisheries organization. Traditionally, most fisheries were common property resources characterized by free entry or open-access. This meant that the resource was open to anybody and that no one had the right to exclude others from fishing. Being common property resources, exclusive property rights could not be assigned to international fisheries resources and only by capture could property rights be established in relation to the fish concerned. Thus, almost all attempts to regulate international fisheries have regularly been extensively frustrated[747].

The inadequate management of many international high seas fisheries follows partly from the fact that the relevant articles of the UNCLOS are themselves inadequate in many respects. For example, Article 61 states that the coastal States must determine the allowable catch in their exclusive zones; they should also ensure, by proper conservation and management measures, that the maintenance of the stocks in their EEZ is not endangered by over-exploitation; as appropriate, the coastal State and competent regional or subregional international organizations must co-operate to this end. Available scientific information and economic statistics must be contributed and exchanged on a regular basis through competent international organizations, with participation therein by all States concerned. Determination of the allowable catch is quite a complex process. It is not a purely scientific matter. Biological considerations; social equity and cultural heritage; administrative feasibility and political acceptability are the main factors affecting the choice of management measures[748]. Obviously the problem becomes even more complex in the case of straddling and highly migratory stocks. In such cases, the UNCLOS requires States to agree upon the measures necessary to co-ordinate and ensure the conservation and development of such stocks (Article 63).

[747] Ostrom, supra, note 285, p. 169.

[748] Retting, supra, note 23, pp. 438-440.

The economic theory of fisheries distinguishes several forms of property rights each leading to different management policies. Property rights can be defined as a set of rules, regulations and laws that define rights to appropriation, use and transfer of goods and services[749]. The main attraction of instituting a system based on property rights is that fishermen who can consider certain fish stocks to be their own property may be more likely voluntarily to restrain their fishing effort and therefore develop and act upon greater concern for conservation and management[750]. In the process of efficient allocation of property rights, Individual Transferable Quotas (ITQs) play an important role. Tietenberg has identified three characteristics on which the success of an ITQ system depends. First, the quotas entitle the holder to catch a specified weight of a specified type of fish. Secondly, the total amount of fish authorized by the quotas held by all fishermen should be equal to the efficient catch for the fishery. Thirdly, the quotas should be freely transferable among fishermen[751]. It has been suggested that this right-based system, developed in close consultation with all the interested parties, is likely to be more successful than the one designed by aloof governments or model-building academics[752].

In a study by Kaitala, Bjorndal, Lindroos and Munro, property rights were differentiated as open access common property fisheries, sole-owner fisheries, and shared fish stocks[753]. The methodological importance of game theory, when applied in international resource negotiations, is in identifying the steps to be taken in the negotiations. First, it is necessary to understand what happens if agreement cannot be reached; secondly, the benefits from co-operation to all parties need to be identified, and thirdly, and perhaps

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[749] Bonnie G. Colby, 'Regulation, Imperfect Markets, and Transaction Costs: the Elusive Quest for Efficiency in Water Allocation', in Broomley (ed.), supra, note 18, pp. 475-502, at 485.

[750] McGoodwin, supra, note 4, at 177.

[751] Tietenberg, supra, note 16, pp. 287-289. See also Amanda Wolf, *Quotas,* supra, note, 652, in particular Chapters 4, 5 and 9.

[752] Retting, supra, note 23, pp. 441.

[753] Veijo Kaitala and Gordon Munro, 'The Conservation and Management of High Seas Fishery Resources Under the New Law of the Sea', *Natural Resources Modelling*, 10 (1997), pp. 87-108. This is another issue in which application of Game Theory can be instructive. For further analysis of Game Theory, see Section 1.1, Chapter 3 (Game Theory: the Prisoners' Dilemma) and Section 2, Chapter 4 (New Organizations and New Arrangements) of this thesis.

most important for SFS, the parties need to agree on a fair share of the benefits from co-operation[754].

The 1995 SSA provides a flexible structure for participatory rights of States members or participants in a regional or sub-regional fisheries organization. According to Article 8 of the Agreement, the basic principle is that only those States that are members or participants of the organization or those that agree to apply the conservation and management measures in a regional or subregional fisheries organization will have access to the fishery resource to which those measures apply. In addition, these States must have "a real interest" in the fisheries concerned in order to qualify for membership. The elements of this "real interest" are related to the importance of living marine resources to the economy of the country concerned, its contributions to the conservation and management measures, as well as to scientific research projects on the stock, and its historical record of harvesting the stock concerned[755]. More detailed considerations for the decision-making process involved in determining the nature and extent of participatory rights for new entrants are listed in Article 11 of the SSA[756]. It is clear that new entrants or participants in a regional or subregional fisheries organization do not have the same right as existing members and participants. Kaitala and Munro have identified this new type of property right as a problem that needs to be understood and solved for the reason that economic theory, and consequently, international law regarding this issue, remain rudimentary[757].

Governments have tried many types of regulations to prevent overfishing, most of which have failed to address the causes of overfishing. In this era of globalization, new technologies are transforming the concepts of "property" and "ownership". Rifkin designates as 'hypercapitalism' the phenomenon by which property is equated with

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[754] Veijo Kaitala, Game Theory Models in Fisheries Management, (Berlin, Springer-Verlag, 1986), pp. 252-276 and, Mesterton-Gibbons, 'Game-theory Resource Modelling', *Natural Resource Modelling*, 7 (1993), pp. 93-147.

[755] Kaitala and Munro, 'The Management of High Seas Fisheries', *Marine Resource Economics*, 8 (1993), pp. 313-329.

[756] See Section 3, Chapter 4 of this thesis.

[757] Kaitala and Munro, supra, note 753, pp. 104.

"access", as in relation to the Internet[758]. 'Global Public Goods' thus offers a new rationale and framework for international developments regarding access and property rights' allocation aimed at the improvement of international fisheries management. In International Regime Theory, regimes can influence behaviour that matters for conserving natural resources and protecting the environment. They can succeed only by influencing the behaviour of their member's actors operating under their members' jurisdiction. Participatory rights in international or shared fisheries are a mechanism that can cause variations which improve effectiveness both across regimes and within individual regimes over time[759].

In existing international instruments there are at least two commonly used meanings for the concept of 'equitable sharing of benefits', but not, specifically, for 'participatory rights'. As for 'equitable sharing of benefits', the first meaning refers to equitable sharing among countries regarding use of natural resources. The second meaning calls for receipt of a fair economic return to all of those State and non-state Parties from which the resource was obtained. The need for equitable sharing is highlighted in the Charter of the Economic Rights and Duties of States.

As an outgrowth of the ideal for a New International Economic Order, equitable sharing in the inter-state context has arisen pursuant to developing country demands that they are entitled to share in benefits that industrialized countries derive from the exploitation of the "global commons", which includes areas where deep sea-bed minerals can be found beyond the EEZ of coastal States. Equitable sharing of benefits derived from the use of these resources has been linked to classifying these resources as the "common heritage of mankind." Most developing countries do not have the technical or financial resources themselves to exploit natural resources in these global common spaces. For at least the past two decades, developing countries have argued on moral and legal grounds in the United Nations that these resources should not be claimed and carved up for the exclusive use of a small club of industrialized countries, to the detriment of the

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[758] Jeremy Rifkin, *The Age of Access; the New Culture of Hypercapitalism Where All of Life is a Paid-for Experience*, (London, Penguin Books, 2000).

[759] See Oran R. Young (ed.), *The Effectiveness of International Environmental Regimes: Causal Connections and Behavioural Mechanisms*, (Cambridge, Mass., London, MIT Press, 1999). See also Inge Kaul, Isabelle Grunberg and Marc Stern (eds.), *Global Public Goods: International Co-operation in the 21st Century*, (Oxford, Oxford University Press, 1999).

development objectives of the rest of the world. Rather, their argument is that these resources and any benefits derived from them should be considered as global patrimony and shared equitably with all nations.

Thus, the original articles of the UNCLOS 1982 dealing with the deep seabed regime are products of the ideal of a New International Economic Order referred to above. These articles remain the most far-reaching attempt by developing countries to create binding treaty obligations that mandate the restructuring of international economic relations. The specific provisions are set out in Article 5 of Annex III of the UNCLOS 1982. These Article 5 provisions would create an international treaty obligation on the part of industrialized countries to developing countries to make technology transfer to them on preferential terms. However, the original text of UNCLOS 1982 does not articulate the specific means for ensuring "equitable sharing" among States. It only provides that the "Enterprise" must provide for the equitable sharing of benefits derived from the deep seabed Area.

The common heritage of mankind concept has not been applied to high seas fisheries. Despite efforts by certain developing countries, it also has not been applied in conventions covering living and non-renewable resources in Antarctica. The Protocol on Environmental Protection to the Antarctic Treaty of 1991 refers to protection of the Antarctic environment and dependent ecosystems as "in the interest of mankind as a whole", but this suggests a duty rather than a right as indicated by the term "heritage".

Conclusions

In conclusion, compared to the 1982 UNCLOS, the 1995 SSA must nonetheless be regarded as a definite improvement on the previous situation concerning decision-making procedures. However, the Agreement raises new problems regarding the nature of the changing property or participatory rights in international fisheries. International fisheries organizations will face complex management problems in the future, mainly because of the larger number of members and participants in fisheries organizations, and the possibility of new members entering such organizations. Fisheries which are pursued by more that one Party necessarily involve not only competition, but require active co-operation if they are not to collapse. At present, it seems clear that in order to

implement the Agreement, members and new entrants will have first to agree on the decision-making process regarding participatory rights.

The 1995 SSA has established a basis of consent for collective action in the decision-making procedures for the management of international fisheries. These procedures have to be agreed among States within the framework of regional and subregional fisheries organizations which will have to act as clearing-houses for the process of collecting and exchanging data and information. To the extent that an epistemic community of scientists in the field of fisheries can become stronger within the emerging regime for international fisheries, the Agreement is expected to improve the decision-making process. It establishes the means for providing the scientific basis, the minimum standards and a renewed balance for compatibility between conservation and management measures for the management of SFS. Consequently, compared to the1982 UNCLOS, the merits of the 1995 SSA are clearly evident.

From the progress reviewed in this chapter, it can be concluded that the 1995 SSA is *by implication* reinforcing the institutional setting for the recognition of property rights. In a rights-based fishery, international fisheries organizations grant each participant the right to gain access to a geographic area at or for a certain time. It is widely recognized by economists that setting up private or public ownership of previously unowned resources will create an opportunity for their rational use[760]. Regulators, in this case regional and subregional fisheries organizations, will have to deal with economic and social issues. New entrants and subsidies will significantly affect in the future the decision-making process for the management of international fisheries.

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[760] According to Peter Pearse, the trend is clearly toward establishing more well defined fishing rights held by those who fish. See Peter Pearse, 'From Open Access to Private Property: Recent Innovations in Fishing Rights as Instruments of Fisheries Policy', *ODIL*, 23 (1995), pp. 71-83. To the same end, Arnason recognizes this economic rationalization of the ocean fisheries as inevitable but signals the problems and difficulties associated with the ITQ system: this system is not suitable for all fisheries; it requires socio-economic adjustments; and the actual distribution of the costs and benefits may turn out to be undesirable. See Ragnar Arnason, 'Ocean Fisheries Management: Recent International Developments', *Marine Policy*, September 1993, pp. 334-339.

Chapter 6

Compliance and enforcement mechanisms

Introduction

By the early 1990s, there were at least 120 multilateral environmental agreements and hundreds of bilateral ones. Some of them could be regarded as ineffective and others as symbolic or weak and they have probably had little or no independent effect on the behaviour of relevant actors or on the problem that they address[761]. Fishing agreements are not always fully respected, catch conditions and restrictions are not always complied with and little trace can be found in practice of the 'spirit' of the accords, preambles and preliminary declarations to the agreements[762]. Nevertheless, numerous environmental regimes, for example, the Montreal Protocol for the Protection of the Ozone Layer, have already been effective, in that they have changed the behaviour of States parties in line with their aims and have at least helped to tackle the problems for which they were established[763]. These regimes are dynamic and tend to develop and change over time, according to changing needs and opportunities in the international context.

Regimes with strong compliance mechanisms can alter considerably the behaviour of participant states. Much of international environmental regime theory is focused around the development and implementation of international legal instruments. The implementation phase includes all of the activities involved in developing and executing the decisions and policies adopted in response to the problem. Whether or not international agreements are implemented may largely depend on the nature of the commitments themselves. Once they have been established, institutions and agreements can be revised to adapt to changing circumstances or only if the treaty provides for amendment, revision or is open to interpretation. This is a critical characteristic of effective agreements.

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[761] Geoffrey Palmer, 'New Ways to Make International Environmental Law', *AJIL*, 86 (1992), pp. 259-283, at 262.

[762] Sabr El Djamil Abada, 'ACP-EU Fishing Agreements: Accord or Disaccord?. "Keep to the Spirit" Appeal by Joint Fisheries Committee', *The Courier ACP-EU*, No. 156, March-April 1996, pp. 9-12.

[763] E. Barrat-Brown, 'Building a Monitoring and Compliance Regime Under the Montreal Protocol', *Yale Journal of International Law*, 16 (1991), pp. 519-554. See also Sands, *Principles*, supra, note 211, pp. 286-287.

Edith Brown-Weiss has identified the different issues for research and analysis relating to implementation, compliance and effectiveness. According to her, implementation refers to the measures taken to carry out the agreement; compliance addresses whether the targeted Parties have changed their behaviour; and effectiveness addresses both whether the agreement has achieved its stated objectives and whether it successfully addresses the problem it was intended to solve[764].

Chayes and Chayes have identified the two most important hypotheses for compliance within international regimes. The "managerial" approach, which holds that States have a propensity to comply, considers that non-compliance usually results from problems of lack of capacity, treaty ambiguity or uncontrollable social or economic changes or all these. On the other hand, the "enforcement"[765] school, generally favoured by lawyers in the past, is based on traditional realist models and maintains that in fact States calculate the costs and benefits in choosing whether or not to comply[766]. In other words, the use of resource transfers ("carrots") is part of a "managerialist" approach, whereas stronger responses and sanctions ("sticks") are preferred by the "enforcement" school[767].

Focusing specifically on the 1995 SSA, this chapter examines the system of compliance and enforcement emerging from the new regime for fisheries on the high seas. This system is a wise combination of two approaches. First, the 'managerialist approach', which includes specific mechanisms for international co-operation (Section 1); special mechanisms for co-operation with developing countries (Section 6); and specific obligations for flag states fishing on the high seas (Section 2). Secondly, the 'enforcement approach', which includes procedures for boarding and inspecting (Section 4); duties and jurisdiction of port states (Section 3); and dispute settlement

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[764] Edith Brown Weiss, 'National Compliance with International Environmental Agreements', in Proceedings of the 91st Annual Meeting, American Society of International Law, Washington, April 1997, p. 57.

[765] Enforcement: to ensure observance of or obedience to a law, decision, etc; to impose obedience, loyalty, etc., by or as by use of force, Collins English Dictionary, (London, Harper Collins Publishers, Third Edition, 1995).

[766] Abram Chayes and Antonia Chayes, *The New Sovereignty. Compliance with International Regulatory Agreements*, (Harvard, Harvard University Press, 1995), p. 51.

[767] Kal Raustiala and David Víctor, 'Conclusions' (Chapter 16), in David G. Victor et al. (eds.), *The Implementation and Effectiveness*, supra, note 584, pp. 683-684.

mechanisms (Section 5). Two main conclusions can be drawn from the survey of these two approaches conducted in this chapter. First, the theoretical framework adopted in the 1995 SSA and relevant related agreements, provides an adequate starting point for explaining the compliance and enforcement mechanisms for the regime of fisheries on the high seas. Secondly, this compliance and enforcement system is now setting the framework for a new approach to freedom of navigation in relation to fisheries on the high seas. The restrictions on freedom introduced mainly by the SSA, are the conditions *sine qua non* for the effectiveness of the new regime.

6.1 International and regional co-operation for enforcement

The obligation to co-operate in protecting the environment can be drawn from state practice, judicial decisions[768], treaties, the work of the International Law Commission and developments in 'soft' law.

In the 'soft' law context, the Charter of Economic Rights and Duties of States, adopted by the UN General Assembly in 1974, provides, in Article 3, that:

> "in the exploitation of natural resources shared by two or more countries, each State must co-operate on the basis of a system of information and prior consultations in order to achieve optimum use of such resources without causing damage to the legitimate interest of others"[769]

The same obligation is developed in Article 1 of the UNEP Principles of Shared Natural Resources, which reads as follows:

> "It is necessary for States to co-operate in the field of the environment concerning the conservation and harmonious utilization of natural resources shared by two or more States.... Such co-operation is to take place on an equal footing and taking into account the sovereignty, rights and interests of the States concerned"[770]

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[768] Icelandic Fisheries Cases, in Harris, supra, note 672, pp. 378. For further discussion on co-operation, see Chapter 3, Section 3.

[769] Charter of Economic Rights and Duties of States, UNGA Resolution 3281 (XXIX).

[770] Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States. UNEP, Governing Council, Sixth Session, 9-25 March 1978. Reprinted in 17 ILM, (1978) 1091.

Although not legally binding, the above enunciations of the obligation of co-operation are embodied in various other international legal instruments. Thus, regarding the utilization and management of marine living resources, Articles 117 and 118 of UNCLOS provide that States fishing on the high seas must take measures to conserve fish stocks and to co-operate with other States for that purpose. Articles 63.2 for straddling fish stocks, and 64, for highly migratory fish species, also urge States to co-operate either through international organizations or directly between themselves. Regarding the marine environment, Article 5 of the Convention on Biological Diversity provides that each Contracting Party shall, as far as possible and as appropriate, co-operate with other Contracting Parties, directly or through competent international organizations, for the conservation and sustainable use of biological diversity, in respect of areas beyond national jurisdiction and on other matters of mutual interest. Moreover, provisions on the obligation of international co-operation are embodied in Article V.1 of the FAO Compliance Agreement. Further, Article 6.12 of the Code of Conduct for Responsible Fisheries establishes the obligation to co-operate as a fundamental rationale for the conservation and sustainable use of fisheries.

As we have already seen, the duty to co-operate is a long and well-established duty in International Law[771]. This obligation to co-operate on different matters is a substantial requirement of the 1995 SSA[772]. Further, specific mechanisms for international co-operation are provided by the 1995 SSA regarding enclosed and semi-enclosed sea areas, Art. 15[773], and areas of high seas surrounded entirely by an area under the national jurisdiction of a single state, Art. 16[774]. The obligation to co-operate internationally regarding the enforcement of the Agreement, is embodied in Articles 20

[771] Birnie and Boyle, supra, note 213, pp. 513. According to Sands, the obligation to co-operate, affirmed in virtually all international environmental instruments, may be in general terms, relating to implementation of a treaty's objectives or relating to specific commitments under a treaty. Sands, *Principles*, supra, note 211, pp. 197.

[772] See Chapter 5, Section 1.

[773] Art. 15 of the 1995 SSA establishes that in implementing provisions in an enclosed or semi enclosed sea, States shall take into account the natural characteristics of that sea and shall also act in a manner consistent with Part IX of UNCLOS and other relevant provisions of the Agreement.

[774] Art. 16 of 1995 SSA establishes mechanisms for international co-operation for areas of high seas surrounded entirely by an area under the national jurisdiction of a single State. In this regard, pending the establishment of provisional arrangements or measures, States concerned shall take measures in respect of vessels flying their flag in order that they do not engage in fisheries, which could undermine the stocks concerned.

and 21. These Articles provide a device for co-operative enforcement of sub-regional and regional conservation measures for straddling and highly migratory fish stocks, at the global, regional and sub regional level. Article 20, establishes a specific mechanisms for co-operation between flag States, coastal and fishing States in order to ensure compliance with conservation and management measures established by sub-regional or regional fisheries organizations. These mechanisms include provision of assistance to conduct investigations of an alleged violation; identification of vessels reported to have engaged in activities undermining the effectiveness of sub-regional, regional or global conservation and management measures; the possibility for a flag State to authorize a coastal State to board vessels flying its flag in cases of unauthorized fishing in areas under the jurisdiction of the latter; and collective action by all States Parties to a sub-regional or regional fisheries organization to compel a flag State to take measures against a vessel flying its flag which has engaged in activities undermining the effectiveness of conservation measures established by the fisheries organization or arrangement. This mechanism is derived from examples of current States practices under certain existing fisheries commissions, notably the Bering Sea Pollock Fishery Commission and the NAFO.

Article 21 establishes an exception to the flag State's exclusive jurisdiction over its registered vessels in conceding to a State Party to the SSA, which is a member of the sub-regional or regional fisheries organization concerned, the right to board and inspect fishing vessels flying the flag of another State Party for the purpose of ensuring compliance with conservation and management measures established by that organization, whether or not the State Party whose vessels are boarded or inspected is also a member or participant in the organization. Thus, on the grounds that both States are parties to the 1995 Agreement, a member of a fisheries organization can take certain enforcement measures within a regulatory area against any vessels, including those of States that are not members of or are non-participants in the organization. If, within two years of the adoption of the Agreement, any fisheries organization has not established procedures for boarding and inspecting, enforcement actions must, pending the establishment of such procedures, be conducted in accordance with the basic procedures set out in Articles 22 and 21.

6.2 Duties of flag states

Freedom of navigation on the high seas is one of the oldest rights, going back to the Greeks and the Rhodian Sea Law. In International Law, this right was first embodied in the Treaty of Tordecillas of 1494 between Spain and Portugal[775]. Grotius supported freedom of navigation in 1609 when he published his treatise "Mare Liberum"[776]. His arguments were countered by John Selden in 1635 in his treatise on "Mare Clausum", but in the long term, the Grotian argument prevailed [777]. It is not difficult to recognise the policy interests of the maritime powers which lay behind the trends in the law of the sea in earlier times. Freedom is good when it allows one power to challenge other power's monopoly; freedom is bad when it prevents one power from excluding other powers from a specific fishing area.

The League of Nations attempted to settle the question of the limits of the territorial sea. However, in 1930, at the Hague Conference on the Law of the Sea convened by the League, no agreement was reached concerning the extension of the territorial sea beyond the then widely accepted 3 nautical miles limit, nor on any special jurisdiction for coastal States beyond their territorial sea, in a so-called "contiguous zone"[778]. The Conventions adopted by the UN Geneva Conference on the Law of the Sea in 1958, were the first to endorse freedom of the high seas and to accept certain limited coastal State enforcement jurisdiction in a contiguous zone beyond the territorial sea, but lacked provisions for appropriate means of implementing the 'special interest' of coastal States established in the Convention on Conservation of Fishing[779]. This failure to deal with resource conservation and allocation was mainly responsible for the subsequent large

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[775] Lucchini et Voeckel, *Droit de la Mer*, Tome 2, Vol. 2, supra, note, 583, pp. 99.

[776] Hugo Grotius, *The Freedom of the Seas*, edited with an introductory note by James Brown Scott, (Oxford, Oxford University Press, 1916).

[777] David Larson, *Security Issues and the Law of the Sea*, (New York, University Press of America, 1994), p. 8. See Brown, supra, note 169, p. 8; Orrego, supra, note 81, pp. 3-21; Burke, supra, note 110, p. 14; Churchill and Lowe, supra, note 8, p. 166.

[778] The problem could not be satisfactorily handled on the basis of the old concept of territorial waters. "The difficulties of the Codification Conference were to be expected when it attempted to fix limits without regard for the purpose for which those limits were designed". A. P. Dagget, 'The Regulation of Maritime Fisheries by Treaty' 28 *AJIL* (1934), pp. 693-717. See also De Yturriaga, *Ambitos de Soberanía*, supra, note 678, pp. 26-27 and G. Gidel, "La mer territoriale et la zone contigue", *RCADI*, 48 (1993), p. 193.

[779] Orrego, supra, note 81, p. 20.

extensions of national jurisdiction[780]. Following the process of decolonisation in the 1960s and 1970s, the number of independent coastal States has increased and a multiplicity of maritime zones has emerged, leading to the UNCLOS endorsement of the concept of the EEZ, as well as the contiguous zone.

6.2.1 1982 UNCLOS

Under the1982 UNCLOS, all states continue to enjoy freedom of navigation in those areas of the world oceans beyond national jurisdiction though the limits of the territorial sea have been extended to 12 nautical miles and the concept of the EEZ or EEF has extended the coastal's State sovereign rights over fisheries and jurisdiction over protection of the marine environment, *inter alia*, to 200 n.m. from the baselines[781]. Notwithstanding this, the high seas beyond, must be preserved for peaceful purposes and such freedom of navigation cannot disregard other states' equal rights or conventional duties such as protection and preservation of the marine environment and safety at sea. Therefore, along with the other freedoms of the high seas, the freedom of navigation is by no means absolute and its exercise is limited by a wide range of rules of municipal and international law[782]. These limitations are indicated in Article 87 of the Convention[783]. These freedoms are to be exercised with 'due regard' to the interests of other states; this is the basic criterion by which the legitimacy of the exercise of this right is to be tested, but it is not easy to determine. Furthermore, the freedom of navigation is limited by permitting the exercise of 'extraordinary' jurisdiction by other States in relation to hot pursuit[784]; piracy[785] and suppression of unlawful acts such as terrorism and hijacking[786]; transport of slaves[787]; illicit traffic in narcotic drugs or

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[780] Burke, supra, note 110, p. 95.

[781] UNCLOS, Art. 87

[782] Lucchini et Voeckel, *Droit de la Mer*, supra note 583, pp. 132-133.

[783] According to Art. 87 of UNCLOS, the freedom of fishing is subject to the conditions laid down in Section 2, regarding the Conservation and Management of the Living Resources of the High Seas.

[784] UNCLOS, Article 111.

[785] UNCLOS, Articles 100-107.

[786] In the aftermath of the *Achille Lauro* affair, the 1988 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, followed by a Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf was adopted in Rome on 10 March 1988. 27 (ILM) 668-690. It entered into force on 1 March 1992. "*Multilateral Treaties Deposited*

psychotropic substances[788]; unauthorized broadcasting from the high seas[789]; 'the right of visit and search'[790]; and other rights over foreign ships.

Article 94 of UNCLOS requires establishment of a legal link between every ship and the flag state[791]. Furthermore, this article establishes the specific and detailed duties of the flag State in order for it to effectively exercise its jurisdiction and control in administrative, technical, and social matters over ships flying its flag[792]. The effective enforcement of these provisions by the maritime administrations of flag states is an important function of the genuine link between flag state and ship[793]. Despite these provisions, in the 1960s, ship owners increasingly started to "flag out", that is to say, register their vessels in foreign countries in order to avoid taxes, high registration fees and stringent employment legislation in their own countries. As a result of this practice, both safety of shipping and the marine environment have been jeopardized.

6.2.2 FAO Compliance Agreement and FAO Code of Conduct

Thus, one of the most important issues in undermining fisheries management has been the reflagging of fishing vessel under the flags of states, which are not parties to international high seas fisheries conservation agreements, for the purpose of avoiding

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with the Secretary General", United Nations, New York ST/LEG/SER/E, as available on http://www.un.org/Depts/Treaty on 7 January 2000. The main purpose of the Convention is to ensure that appropriate action is taken against persons committing unlawful acts against ships. On this, see G. Plant, 'The Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation', 39 *ICLQ* (1990), pp. 27-56.

[787] UNCLOS, Article 99.

[788] UNCLOS, Article 108.

[789] UNCLOS, Article 109.

[790] UNCLOS, Article 110.

[791] The 1958 Geneva Convention provides simply that "there must be a genuine link between the State and the ship". The 1986 UN Convention for Registration of Ships, negotiated under the auspices of UNCTAD, provides a definition of the elements of a 'genuine link' which include participation by nationals of the flag States in the ownership, manning and management of ships. According to the Convention, not in force, the management criterion must be satisfied in all cases. Brown, *International Law of the* Sea, supra, note 169, p. 89. Article 8.2.2. of the FAO's Code of Conduct for Responsible Fisheries provides that "flag States should ensure that no fishing vessels entitled to fly their flag fish on the high seas or in waters under the jurisdiction of other States unless such vessels have been issued with a Certificate of Registry and have been authorized to fish by the competent authorities".

[792] Art. 94 of UNCLOS established specific 'Duties of the Flag State'.

[793] Brown, supra, note 169, p. 294.

the conservation measures under those agreements[794]. This issue was considered, among other issues, at an International Conference on Responsible Fishing, held in Cancun, Mexico, at which the FAO proposed, *inter alia*, conclusion of an Agreement on the Flagging of Vessels Fishing on the High Seas[795].

Subsequently, the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas was approved by the 27th Session of the FAO Conference on November 1993. The FAO Conference can adopt international conventions or agreements of general application in the field of food and agriculture and submit them for acceptance to FAO Members, Associate Members and eligible non-member States. Originally, according to Moore, "the Agreement was designed to correct the practice of vessel operators changing their vessels' flag to those of non-parties to avoid having to comply with conservation and management measures laid down by those agreements or arrangements"[796]. However, because no consensus could be reached on proposed provisions dealing with the national registration of fishing vessels, the focus of the Agreement shifted to that of requiring that vessel fishing on the high seas should be authorized to do so. Despite international efforts, in particular by FAO[797], this Agreement is still not in force and thus, its implementation remain doubtful in the short term and in any case will be difficult taking into account that some of the most innovative provisions are optional and do not include dispute settlement mechanisms which would have helped to resolve the differences of interpretation[798].

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[794] Patricia Birnie, 'Reflagging of Fishing Vessels on the High Seas', *RECIEL*, 2 (1993), pp. 270-276.

[795] The Cancun Declaration was submitted to the FAO Council at its hundred and second session (Rome, November 1992). It called on FAO to draft, in accordance with other relevant international organizations, an International Code of Conduct for Responsible Fishing, in the light of the Declaration as a whole.

[796] G. Moore, The FAO Compliance Agreement, *IJMCL*, 10 (1993), pp. 413-417.

[797] FAO Legal Office, 'Guidelines for the Implementation in National Legislation of the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas', Rome, August 1994 and 'OECS/FAO Regional Workshop on the Implementation of the 1993 FAO Compliance Agreement and the UN Fish Stocks Agreement', Castries, St. Lucia, 28 July to 1 August 1997, both documents on file with the author.

[798] Patricia Birnie, 'New Approaches to Ensuring Compliance at Sea: the FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas', *RECIEL*, 8 (1999), pp. 48-55; W. Edeson, 'Towards Long-term Sustainable Use: Some Recent Developments in the Legal Regime of Fisheries', in Boyle and Freestone (eds.), supra, note 81, pp. 165-204. The 1993 FAO Compliance Agreement requires 25 acceptances for entry into force and by the 31 January 2001 has been ratified by 20 States: Canada, Saint Kitts and Nevis, Georgia, Myanmar, Sweden, Madagascar, Norway, United States of America, Argentina, European Community, Namibia, Benin,

However, the FAO Compliance Agreement is the best effort to date to address the problem of reflagging in relation to fisheries and together with the FAO Code of Conduct and the 1995 SSA now forms an international framework linked to UNCLOS, with the potential to develop State practice in the field of international fisheries.

The FAO Compliance Agreement applies to all fishing vessels that are used or intended for fishing on the high seas. It has two basic features. First, it establishes the concept of flag state responsibility in respect of vessels fishing on the high seas. Second, it aims to ensure the free flow of information on high seas fishing operations. Under the Agreement, states are required to take such measures as are necessary to ensure that fishing vessels entitled to fly their flag do not engage in any activity that undermines the effectiveness of international conservation and management measures (Article III). International conservation and management measures are defined in the Agreement as measures to conserve or manage one or more species of living marine resources that are adopted and applied in accordance with the relevant rules of international law as reflected in UNCLOS (Article I.b).

Regarding exchange of information, the FAO Compliance Agreement requires each Contracting Party to provide the FAO with basic information on each fishing vessel entered in the record of fishing vessels entitled to fly its flag and authorized for use on the high seas (Article IV). The Agreement also provides for international co-operation and co-operative arrangements, such as port state control (Article V.2) and arrangements of mutual assistance on a global, regional, sub-regional or bilateral level (Article V.3). The Agreement is the first international instrument to require collaboration and transmission of reliable information and provide for the establishment of a data bank on fishing operations for all vessels authorized to fish on the high seas[799]. Two years later, the FAO Agreement was complemented by the 1995 SSA Agreement and the FAO Code of Conduct for Responsible Fisheries, which now together form the international framework for the fishing activities permitted under the UNCLOS regime.

Tanzania, Mexico, Uruguay, Seychelles, Cyprus, Japan, Barbados and Morocco. Information as available on 2 March 2001, on the Web Site http://www.fao.org/fi/agreem/complian/tab1.asp

[799] The FAO Compliance Agreement, Arts. IV and VI.

In setting out the duties of States to adopt, with respect to their nationals, measures for the conservation of the living resources of the high seas, Article 117 of UNCLOS mandates that "all States have the duty to take, or to co-operate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas". In addition, Articles 94 and 217 of UNCLOS require that flag States effectively exercise their jurisdiction and control in administrative, technical and social matters over ships flying their flag (Article 94), as well as take measures to enforce on their flag vessels, rules and standards regarding the protection and conservation of the marine environment[800]. Following the provisions of UNCLOS, Article 18 of the Agreement establishes that States whose vessels fish on the high seas must take such measures as may be necessary to ensure that vessels flying their flags comply with regional and sub-regional conservation and management measures and do not engage in any activity which undermines the effectiveness of such measures. Thus, according to the Agreement, a State must only authorize the use of vessels flying its flag for fishing on the high seas where it is able to exercise effectively its responsibilities in respect of such vessels that are laid upon it both under the UNCLOS and the Agreement.

6.2.3 The 1995 SSA

Article 18 of the 1995 SSA requires that the measures to be taken by States in respect of vessels flying their flag include: 1) control of such vessels by means of licences, authorizations or permits; 2) establishment of high seas fishing regulations, including the terms and conditions of the licence and prohibition of fishing on the high seas by vessels not duly licensed; 3) establishment of a national record of fishing vessels authorized to fish on the high seas and provision of access on request by other States to information therein; 4) requirements for the marking of fishing vessels and fishing gear for identification purposes in accordance with the FAO Standards and Specifications for the Marking and Identification of Fishing Vessels[801]; 5) requirements for reporting of

[800] Art. 217 of UNCLOS provides detailed provisions for 'Enforcement by Flag States'.

[801] At the request of the Committee of Fisheries of FAO, a Group of Experts have developed 'Technical Guidelines for Responsible Fishing' which include standard specifications for the Marking and Identification of Fishing Vessels. The Guidelines may be applied by States on a voluntary basis to all fishing operations on all oceans, seas and inland waters, to all fishing vessels, to fishers, owners, managers, masters of harbours for fishing vessels, and competent authorities. The Guidelines include

fisheries data; 6) establishment of requirements for verification of fishing effort, in particular the catch of target and non-target species; 7) adoption of monitoring, control and surveillance schemes and programmes at the national, sub-regional, regional and global levels, including requirements for vessels to permit access by duly authorized inspectors of other States; 8) establishment of regulations regarding transhipment on the high seas to ensure that the effectiveness of conservation and management measures is not undermined; and 9) establishment of regulation of fishing activities aimed at minimizing catches of non-target species. In order to ensure effectiveness, all these measures must be compatible with subregionally, regionally or globally agreed systems.

The 1995 SSA[802] requires all States Parties whose vessels fly their flags to ensure compliance with sub-regional and regional conservation and management measures. To this end, States Parties must: 1) take enforcement measures where violations occur; 2) investigate immediately and fully any alleged violation and report the outcome to the State alleging the violation and to the relevant fishery organization; 3) require any vessel flying their flag to give all relevant information to the investigating authority; 4) refer the case to their authorities with a view toward instituting proceedings if sufficient evidence is available; and 5) ensure that a vessel involved in a serious violation of conservation and management measures does not engage in fishing operations on the high seas until it has complied with any sanctions imposed. Furthermore, all investigations must be carried out expeditiously and sanctions applied must be adequate in severity to be effective in securing compliance, discourage future violations and deprive offenders of the benefits accruing from their illegal activities. Such measures must include refusal, withdrawal or suspension of authorization of the individual concerned to serve as masters or officers on such fishing vessels.

The provisions of the 1995 SSA are rigorous regarding the issue of flag State control, in particular concerning the control of its vessels fishing on the high seas. Whereas the 1995 SSA requires the flag State to enact regulations prohibiting fishing by non-licensed vessels on the high seas, the FAO Compliance Agreement, in Article III.3,

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appropriate management policies; monitoring of gear and catch; promotion of more selective gear; regulations for transhipment; and, establishment and operation of observers programmes. See J. Prado, 'Guidelines for Responsible Fishing', FAO Regional Workshop on Responsible Fishing, Bangkok, Thailand, 24-27 June 1997.

[802] 1995 SSA, Art. 19.

provides this in terms of a direct obligation[803]. Both, the FAO Agreement and the 1995 SSA provide for the utilization of Standard Specifications for the Marking and Identification of Fishing Vessels[804]. Regarding the basic procedures for boarding and inspection established by Article 22 of the Agreement, the flag State must ensure that masters of vessels fishing for high seas stocks accept and facilitate, co-operate with and assist in the inspection of the vessels; do not obstruct, intimidate or interfere with the inspectors; allow the inspectors to communicate with the authorities of the flag State and the inspecting State during the boarding and inspection; provide reasonable facilities, including, where appropriate, food and accommodation, to the inspectors; and facilitate safe disembarkation by the inspectors (Artc. 22.3).

6.3 Duties and jurisdiction of port states

Although the 1982 UNCLOS does not address the role of port States in relation to enforcement of fisheries laws and regulations, it does accord port States certain powers concerning the conservation and preservation of the marine environment to enforce applicable rules and standards established for the prevention of marine pollution through the competent international organization or general diplomatic conference (Article 218.1). Article 218 of UNCLOS defines the role of port States in respect of any discharge from vessels outside the internal waters, territorial seas or EEZ in violation of international rules and standards and allows port States, in the variety of circumstances defined in it, to undertake investigations and institute proceedings when such vessels are voluntarily within its ports or at its offshore terminals. However, no similar provisions regarding fishing vessels that have violated international conservation and management measures, are to be found in the Convention. The position in relation to them is thus left to general international law. This, it has been argued, recognizes that "states exercise sovereignty over ports and other installations in their territory, and that customary international law does not establish a right of entry into maritime ports"[805]. As we have

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[803] According to Art. III of the FAO Compliance Agreement, "no Party shall allow any fishing vessel entitled to fly its flag to be used for fishing on the high seas unless it has been authorized to be so used by the appropriate authority or authorities of that Party".

[804] 1995 SSA, Art. 18.3.d

[805] Tahindro, supra, note 163, p. 41. Despite the absence of any clear right of entry into port in customary law, most States do enjoy such rights under treaty.

seen, the FAO Agreement does make some provision for a port State, but in much less strong terms than the UNCLOS does for marine pollution.

Despite these limitations, an informed regime of port State control could be emerging to deter use of sub-standard vessels, which is of relevance, as a model, to fisheries' control. The most catastrophic disasters affecting the marine environment and straddling stocks have resulted from breaches of the rules on safety of navigation, as has been demonstrated by accidents such as the *'Torrey Canyon'* (1967), the *'Amoco Cadiz'* (1978), the *'Exxon Valdez'* (1989), the *'Aegean Sea'* (1992) and the *'Braer'* (1993). In response to this, the International Maritime Organization (IMO) has developed a network of international legal instruments establishing, *inter alia*, provisions, rules and preventive measures for sealanes, shore guidance, speed restrictions, navigational equipment, officer and crew training, use of automatic pilots, construction and design of tankers; and identification and charting of hazards. These instruments include: the 1974 International Convention for the Safety of Life at Sea and Protocols[806]; the 1966 International Convention on Load Lines and Protocol[807]; the 1972 Convention on the International Regulations for Preventing Collisions at Sea[808]; the 1977 Torremolinos International Convention for the Safety of Fishing Vessels (SFV) and the 1993 Torremolinos Protocol[809]; the 1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers[810]; the 1976 Merchant Shipping

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[806] The 1974 International Convention for the Safety of Life at Sea and Protocols (1974; 1978) was concluded at London on 1 November 1974 and came into force on 25 May 1980. Registration Number 18961 by Inter-Governmental Maritime Consultative Organization (Doc. IMO-150 E), which became in 1959 the International Maritime Organization.

[807] The 1966 International Convention on Load Lines and Protocol was done at London on 5 April 1966 and entered into force on 21 July 1968. registration Number 9159 by IMO. Doc. IMO-705 E.

[808] The 1972 Convention on the International Regulations for Preventing Collisions at Sea. entered into force on 15 July 1977. Doc. IMO 904 E.

[809] The 1977 Torremolinos International Convention for the Safety of Fishing Vessels (SFV) and the 1993 Torremolinos Protocol. This Agreement regarding the arrangements for the International Conference for the Safety of Fishing Vessels was adopted in Torremolinos (Malaga, Spain) and entered into force on 16 December 1976. Registration Number 15197, IMO.

[810] The 1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers. this Convention was drafted with the close co-operation of IMO and the International Labour Organization. IMO Doc. IMO-938 E.

(Minimum Standards) Convention[811]; and the 1989 International Convention on Salvage[812]. In addition, an International Safety Management Code (ISM) adopted in the framework of IMO entered into force on 1 July 1998. The ISM Code establishes safety management objectives which include safe practices in ship operation and safe working environment; safeguards against all identified risks; and improvement of safe management skills of personnel, including emergencies[813]. Finally, a new International Convention has been concluded on Training, Certification and Watchkeeping for Fishing Vessel Personnel[814].

Because of the failure of many flag States to effectively enforce these standard setting instruments and the resultant incidence of collisions and strandings, a special standard enforcement scheme utilizing the port State's jurisdiction was introduced, initially based on the 1982 Paris Memorandum of Understanding on Port State Control (PMOU)[815] which in turn was preceded by a more limited Hague MOU among North Sea States, was originally adopted by the Maritime Authorities of 14 North Sea States[816]. The PMOU is designed to encourage compliance with the requirements of the shipping safety conventions as a whole and came into operation in July 1982. It applied only to EC member states, although other states could adhere to it with the consent of the EC participants. The parties shared the conviction that effective action through an improved and harmonized system of port State control was needed to deter the operation of

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[811] The 1976 Merchant Shipping (Minimum Standards) Convention. Reproduced in (1976) 15 ILM 1288. Entered into force on 28 November 1981.

[812] The 1989 International Convention on Salvage. Doc. IMO 450 E.

[813] The International Safety Management Code (ISM) is intended to improve the safety of international shipping and to reduce pollution from ships and entered into force under the tacit acceptance procedure of IMO on 1 July 1998.

[814] A new Convention on Training and Certification for Fishing Vessel Personnel has been drafted under the auspices of FAO. A new revised UN International Convention on the Arrest of Ships was adopted in 1999. This Convention establishes detailed provisions on the exercise of right of arrest. The text of this Convention and the preceding IMO Conventions are available 11/11/00 on the Web Site http://www.un.org/Depts/Treaty/collection - (IMO).

[815] The 1982 Paris Memorandum of Understanding on Port State Control (Paris MOU) has been reproduced in (1982) 21 ILM 1.

[816] Maritime Authorities of 14 North Sea States: Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom.

substandard ships in the region, thus increasing maritime safety and reducing the threat to the environment[817].

The PMOU was concluded not between the States concerned but between their Administrations. It is thus not a treaty and, therefore, it does not infringe *per se* the flag State's jurisdictional rights. It is based on a commitment by each Administration that it will inspect a set number of vessels entering its ports to ascertain whether or not they comply with the standards set in various IMO and ILO instruments regarding the safety of navigation which are in force and to which the States concerned are Party. The relevant instruments, as listed under the original PMOU, are the 1966 International Convention on Load Lines; the 1974/78 SOLAS Convention; the 1973/78 MARPOL Convention; the 1978 STCW Convention; the 1972 COLREG; and the 1976 ILO Convention No. 147[818]. The PMOU also establishes inspection procedures requiring the Authorities to pay attention to ships, which may present a special hazard, for instance oil tankers and gas and chemical carriers and ships that have had several recent deficiencies[819]. The PMOU Parties can only detain vessels if they present a major threat to safety of navigation and the marine environment and then only for as long as is necessary to effect repairs.

The PMOU accepts that the chief responsibility for the effective application of standards lies with the flag state and that the rights and obligations of the participating states are supreme under any international agreement. However, although it does not establish an international regime creating legal rights and obligations for its parties, the PMOU can be perceived as a formal co-operative regime relating to enforcement issues[820]. Following the considerable success of the PMOU over a period of 17 years,

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[817] Brown, *International Law of the* Sea, supra, note 169, p. 383.

[818] George C. Kasoulides, 'Paris Memorandum of Understanding: a Regional Regime of Enforcement', *IJECL*, 5 (1990), pp. 180-192, at 182. See also George C. Kasoulides, *Port State Control and Jurisdiction. Evolution of the Port State Regime*, (Dordrecht, Martinus Nijhoff, 1993), and David Anderson, 'Port States and Environmental Protection', in Boyle and Freestone (eds.), supra, note 81, pp. 325-344, in particular p. 344, where Anderson mentions that Port State Control has begun to be extended to fishery vessels.

[819] The PMOU also establishes inspection procedures. These inspection procedures, developed in Annex I of the PMU, take into account Conventions adopted by IMO.

[820] Kasoulides, 'Paris Memorandum of Understanding', supra, note 818, p. 191-192.

similar schemes based on other Memoranda of Understanding have been adopted for the Asian-Pacific Region[821]; the Indian Ocean Region[822]; the Caribbean Region[823]; and more recently, the Mediterranean Region and other regions are considering doing so[824].

It is relevant that in relation to protection and preservation of the marine environment, Article 228 of the UNCLOS allows coastal States, subject to specific limitations, to initiate proceedings against foreign vessels entering their ports, in order to impose penalties in respect of any violation of applicable laws and regulations or international rules and standards relating to the prevention, reduction and control of pollution from vessels committed by a foreign vessel beyond the territorial sea of the State instituting proceedings. The port State's powers vary according to where the violations take place: in the territorial sea, the EEZ or on the high seas. Articles 218 and 228 recognize the special interest of the coastal State in prosecuting vessels for infringements of applicable coastal State law and regulations or international rules and standards, in the EEZ which cause major damage to the coastal State. The provisions of the 1995 SSA are consistent with the 1982 UNCLOS provisions for enforcement of its Part XII but do not go so far as the former; this can be explained by the common interest of States in maintaining the complex balance of rights and duties between coastal and fishing States[825].

Freestone and Makuch have pointed out that although Article 23.1 of the 1995 SSA indicates that a port state must not discriminate against the vessels of any state when applying the Agreement, port states, nonetheless, could violate the GATT. Boarding and inspecting measures can affect the quality of catches and "can cause distortions in

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[821] In 1995, under the Asia-Pacific Memorandum of Understanding, more than 30% of ships visiting ports in that region were inspected for compliance with international regulations concerning safety and pollution prevention. IMO News 2/96.

[822] On 5 June 1998, 15 Maritimes Authorities signed the Memorandum of Understanding on Port State Control in the Indian Ocean Region. IMO FX 10/1198.

[823] The Memorandum of Understanding on Port State Control involving twenty Caribbean States and Territories of the Caribbean Region was signed in February 1996. IMO News 2/96.

[824] The Memorandum of Understanding on Port State Control for the Mediterranean Region was signed on 15 July 997. IMO FX8/1997. In addition, nineteen West and Central African countries have agreed to establish a MOU for their Region.

[825] Davies and Redgwell, supra, note 461, pp. 268-269.

relation to competitiveness and other factors when compared to fisheries products harvested by coastal states and destined for domestic markets". Freestone and Makuch find that with respect to the GATT, the port state provisions of the SSA could be implemented pursuant to a multilateral fisheries conservation agreement rather than a unilaterally imposed national government regulation and that, on the other hand, the WTO Committee on Trade and Environment is considering avenues for ensuring compatibility between trade related environmental provisions contained in UNCLOS, and the SSA's and the WTO's requirements[826]. The premise regarding measures taken by a port state is that, as indicated by article 23.1 of the SSA, when taking such measures a port state must not discriminate in form or in fact against the vessels of any state.

Fully consistent with UNCLOS and other developments, such as the Memoranda of Understanding, Article 23 of the 1995 SSA equips port States with enforcement powers (subject to the requirement that they must not discriminate in form or in fact against the vessels of any state), for the purpose of promoting the effectiveness of regional, sub-regional and global conservation and management measures. These enforcement powers include inspection of documents, fishing gear and catch on board fishing vessels when such vessels are voluntarily in the ports or offshore terminals of the State concerned. In addition, states may adopt regulations empowering their relevant national authorities to prohibit landings and trans-shipments of any catch that has been taken in a manner that undermines the effectiveness of conservation and management measures.

Regarding Port State Control, the FAO Compliance Agreement establishes a specific obligation for each Port State Party to notify the flag State when there are reasonable grounds for believing that its fishing vessel has been used for an activity that undermines the effectiveness of international conservation and management measures[827]. A similar provision can be found in the FAO Code of Conduct regarding Port State duties[828]. The 1995 SSA establishes a more general duty in providing that a Port State has the right and the duty to take measures, in accordance with international

[826] Freestone and Makuch, supra, note 549, pp. 38-41.

[827] FAO Compliance Agreement, Art. V.

[828] Code of Conduct for Responsible Fisheries, Art. 8.3.

law, to promote the effectiveness of subregional, regional, and global conservation and management measures[829]. The wording of all these provisions does not display any significant differences, reflecting the fact that the three instruments were drafted and completed in the same period, and therefore, each successive diplomatic conferences influenced the others during the negotiations[830].

The enforcement powers of port States which, in the 1982 UNCLOS, were only recognized for the protection and preservation of the marine environment (Articles 218 and 226) have been, to some extent, extended to the field of fisheries on the high seas. This specific aspect of the new regime is binding only on those states, which accept it by becoming parties to the 1995 SSA; it cannot yet be considered as part of customary law[831]. Nevertheless, it represents a considerable advancement in the international law concerning fisheries. As the first international instrument to establish a global legal basis for boarding and inspecting fishing vessels of another State on the high seas, the SSA enables a State party participating in a regional or sub-regional fisheries organization or arrangement to board and inspect vessels of any other party, in any high seas areas covered by a sub-regional or regional fisheries organization, whether or not the latter State is participating in the organization or arrangement concerned, for the purpose of ensuring compliance with the measures which that organization has established. By becoming parties to the SSA, States accept that their vessels can be inspected by another party on the high seas even if they are not party to the regional organization. However, a residual problem remains which concerns the position of the SSA's Parties vis-à-vis third States, which are non-parties to the relevant international or regional convention. The issues are complex. The negotiated solution is a fragile balance and it remains to be seen whether and if so when, the prime overfishing States will become parties.

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[829] 1995 SSA, Art. 23.1

[830] According to Edeson, "the more crucial question is whether the powers of Port States have been converted into enforceable legal requirements at the national level in order that they can be made effective. See William Edeson, 'Towards Long-term Sustainable Use', supra, note 465, pp. 165-203.

[831] Tahindro, supra, note 163, p. 41.

6.4 Procedures for boarding and inspecting

Grotius claimed, as we have seen, that the resources of the oceans have been created by nature for common use and that, therefore, the seas should be free for navigation and fishing[832]. However, it is relevant that regarding conservation of the sea and its resources, Grotius did concede that fish might some day be regarded as exhaustible and seems to imply that in the event of severe depletion of stocks, appropriate prohibition may be introduced and enforced[833]. Now, due to the development of widespread use of drift nets and other sophisticated high seas fishing technology leading to overexploitation of the oceans' finite living resources, the concept of freedom of the high seas can no longer be supported. A new regime, based on new principles, more consonant with 21st century perceptions and problems, is needed to govern the high seas and to allocate its resources equitably[834]. Through gradual institution of procedures for boarding and inspecting fishing vessels on the high seas, the new regime for fisheries on the high seas aims to establish a more rigorous set of rules to prevent and resolve the conflicts arising from the centuries during which disordered exploitation of fisheries on the high seas was permissible. Arrangements for non-flag State action and in particular for boarding and inspecting vessels now exist in a number of regional fisheries arrangements such as NAFO[835], the Convention on the Conservation of Antarctic Marine Living Resources[836] and the Bering Sea "Donut Hole" Pollack Agreement[837].

The 1995 SSA provides that where there are clear grounds for believing that a vessel has violated conservation and management measures, the inspecting state shall secure evidence thereof and notify the flag state at the time of the boarding and inspection. Article 21 provides that inspecting States shall, either directly or through the relevant sub-regional or regional organization, inform all States whose vessels fish on the high

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[832] Hugo Grotius, *The Freedom of the Seas*, supra, note 776, pp. 27-28.

[833] M. C. W. Pinto, 'The New Law of the Sea and the Grotian Heritage', in, *International Law and the Grotian Heritage*, Proceedings of a Commemorative Colloquium held at The Hague on 8 April 1983, (The Hague, T.M.C. Asser Institut, 1985), p. 71.

[834] Jon Van Dyke, 'International Governance and Stewardship of the High Seas and its Resources', in Van Dyke et al. (eds.), supra, note 97, p. 14.

[835] See Chapter 2, Section 1.

[836] Convention on the Conservation of Antarctic Marine Living Resources, supra, note 426.

[837] Bering Sea "Donut Hole" Pollack Agreement, 1994. Reproduced in 10 IJMCL (1995), 127.

seas in the subregion or region of the form of identification issued to their duly authorized inspectors. The vessels used for boarding and inspection must be clearly marked and identifiable as being on government service. The flag State must respond to the notification within three working days of its receipt and either take enforcement action, in which case it must promptly inform the inspecting State of the results of the investigation and of any enforcement action taken, or authorize the inspecting State to investigate. When the flag State has failed to respond or to take action in a case of 'serious violation', the inspectors may remain on board for further investigation and, where appropriate, may request the master to bring the fishing vessel to the nearest port the name of which must be communicated immediately to the flag State. States Parties, other than the flag State, also are entitled to take punitive measures proportionate to the seriousness of the violation against any vessel engaged in activities contrary to conservation and management measures taken by sub-regional or regional organizations.

A 'serious violation' is defined by the 1995 SSA as including fishing without a valid licence; failing to maintain accurate records of catch and catch-related data; fishing in a closed area, during a closed season, or after attainment of the quota established by the relevant organization; fishing for a stock which is prohibited or subject to a moratorium; using prohibited fishing gear; falsifying or concealing the markings, identity or registration of a fishing vessel; concealing, tampering with or disposing of evidence relating to an investigation; and finally, also considered to represent a 'serious violation', are multiple violations which together constitute a serious disregard of conservation and management measures, as well as such other violations as may be specified in procedures established by the relevant fisheries organizations (Art. 22.11)[838].

To avoid possible abuses, the SSA also establishes a scheme consisting of minimum rules for authorized inspectors of inspecting states and basic procedures for boarding and inspecting fishing vessels. Thus, the inspecting State must require its inspectors to

[838] There are precedents for inspection schemes. The development of inspection schemes was difficult in the 1970s. Joint inspection schemes were eventually set up under both the North East Atlantic Fisheries Commission and the old North West Atlantic Fisheries Commission. They did good work but originally did not have power to inspect the vessels in order to see if fish catch looked too large or included protected species. A good early study on this matter has been conducted by Winston Conrad Extavour, *The Exclusive Economic Zone: a Study of the Evolution and Progressive Development of the International Law of the Sea*, (Geneva, Institut Universitaire de Hautes Études Internationales, 1979).

observe international rules and generally accepted practices and procedures relating to the safety of the vessel and the crew, minimize interference with fishing operations and, to the extent practicable, avoid action, which would adversely affect the quality of the catch on board. Inspecting States must ensure that boarding and inspection is not conducted in a manner that could constitute harassment of any fishing vessel (Article 21.10). Furthermore, the authorized inspectors of an inspecting State must be formally accorded the authority to inspect the vessel, its licence, gear, equipment, records, facilities, and relevant documents necessary to verify the vessel's compliance with the relevant conservation and management measures (Article 22.2).

In addition, under Article 22.1 of the SSA, the inspecting State must ensure that its inspectors present credentials to the master of the fishing vessel[839] and produce a copy of the text of the relevant conservation and management measures relating to the high seas which are in question; initiate notice to the flag State at the time of the boarding and inspection. They must not interfere with the master's ability to communicate with the authority of the flag State during the period of the inspection; provide the master and the authorities of the flag State with a copy of the report on the boarding and inspection, including any objections presented by the master; promptly leave the vessel following completion of the inspection if no evidence of a serious violation is found[840]. He must avoid the use of force except when and to the degree necessary, to ensure the safety of the inspectors or where the inspectors are obstructed in the execution of their duties (Article 22.1)[841].

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[839] The FAO Compliance Agreement provides in Article I a definition of 'fishing vessel' as "any vessel used or intended for use for the purposes of the commercial exploitation of living marine resources, including mother ships and any other vessel directly engaged in such fishing operations". No definition of 'fishing vessel' is provided by the 1995 SSA, which instead, stresses the responsibilities of the flag State over vessels flying its flag. As no definition of the concept of 'fishing vessel' is provided, this concept could include all vessels engaged in the business of processing fish and providing services or supplies to fishing vessels.

[840] Art. 292 of UNCLOS provides that where the authorities of a State Party have detained a vessel flying the flag of another State Party and it is alleged that the detaining State has not complied with the provisions of the Convention for the prompt release of the vessel or its crew, the question of release may be submitted to any court or tribunal agreed upon by the parties or, failing such agreement within 10 days from the time of detention, to a court or tribunal accepted by the detaining State under article 287 or to the International Tribunal for the Law of the Sea, unless the parties otherwise agree.

[841] For a discussion regarding the proportionality of the use of force in law of the sea, see Natalino Ronzitti, 'The Law of the Sea and the Use of Force Against Terrorist Activities' in Natalino Ronzitti (ed.), *Maritime Terrorism and International Law*, (Dordrecht, Martinus Nijhoff Publishers, 1990), pp. 4-25.

According to the SSA, in the event that the master of a vessel refuses to accept boarding and inspection which is to be carried out in accordance with the basic procedures for boarding and inspection established by the Agreement itself, the flag State must direct the master of the vessel to submit immediately to boarding and inspection and, if the master does not comply with such direction, must suspend the vessel's authorization to fish and order the vessel to return immediately to port[842]. In that case, the flag State must inform the inspecting State of the action it has taken (Article 22.4)[843]. As in the exercise of the right of hot pursuit[844], there is the risk that the exercise of boarding and inspecting may be frustrated by the refusal of the pursued vessel to stop or by its escaping while being escorted to port. Therefore, the inspecting State must ensure that its duly authorized inspectors avoid the use of force except when it is necessary or use it only to the degree that it is necessary to ensure the safety of the inspectors or where the inspectors are obstructed in the execution of their duties. The degree of force used must not exceed that reasonably required in the circumstances. Only when the personal safety of the inspectors is endangered and their inspecting activities are obstructed by violence, may the inspectors take appropriate measures to stop such violence. Force must only be used by inspectors against the crewmembers committing violent acts and not against the vessel as a whole or other crewmembers or fishermen[845].

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[842] The *'Estaï Case'* presents a good example of exactly what the SSA drafters had in mind in including this provision. See Section 4, Chapter 2.

[843] The 1995 SSA provides, in Article 24.4, an exception in that event. This exception relates to circumstances where, in accordance with generally accepted international regulations, procedures and practices relating to safety at sea, it is necessary to delay the boarding and inspection.

[844] Article 111 of UNCLOS provides that the hot pursuit of a foreign ship may be undertaken when the competent authorities of the Coastal State have good reason to believe that the ship has violated the laws and regulations of that State. Such pursuit must be commenced when the foreign ship or one of its boats is within the internal waters, the archipelagic waters, the territorial sea or the contiguous zone of the pursuing State, and may only be continued outside the territorial sea or the contiguous zone if the pursuit has not been interrupted.

[845] The Red Crusader Incident in 1962 illustrates well the concept of 'necessary and reasonable force'. The Red Crusader was a Scottish trawler, which, after arrest by a Danish fishery patrol vessel in Faroese territorial waters, attempted to escape with members of the boarding party on board. The Danish vessel fired warning shots ordering the Red Crusader to stop and then fired upon it directly with solid shot and damaged, but did not sink the vessel. A Commission of Enquiry expressed the opinion that the escape of the Red Crusader in flagrant violation of the order received and obeyed, "cannot justify such violent action" and that other means should have been attempted to stop it and revert to the normal procedure. See E. Lauterpacht (ed.), *International Law Reports*, (London, Butterworths, 1967), Red Crusader Case, Vol. 35, pp. 485, at 499. See also Harris, supra, note 672, p. 418.

In the 'Schedule of Conservation Measures in Force 1999/2000', the Commission of CCAMLR has adopted a detailed 'Scheme of Inspection' aimed at verifying compliance by fishing vessels with conservation measures adopted under the Convention, according to which, inspectors are entitled to board a fishing or fisheries research vessel in the area of the Convention, in order to determine whether the vessel is, or has been, engaged in scientific research, or harvesting marine living resources[846]. In addition, the Commission has established a 'Standing Committee on Observation and Inspection', in order to assess and provide advice on inspection and observation priorities and, if necessary, coordinate and observe activities of inspection to ensure representative coverage in the inspection area, as well as review inspection reports[847]. Although more detailed, this 'Scheme of Inspection' essentially follows the provisions of the 1995 SSA regarding procedures for boarding and inspecting.

To achieve better management of fisheries on the high seas, the 1995 SSA had to go beyond the concept that the flag State is the only authority authorised to take enforcement measures. Thus, relying henceforth on better co-operation among States now that the problem has been so widely publicised globally and fiercely debated during the intensive negotiations of the new regime for fisheries, following the *'Estaï Case'*, the Agreement puts forward a balance between the international community interests and the interests of flag States.

6.5 Dispute settlement mechanisms

Techniques and institutions for settlement of disputes are key issues both in international relations and international law. The 1982 UNCLOS in particular, institutes the most comprehensive range of mechanisms ever established in an agreement of the Law of the Sea, as part of a flexible and many-level system of dispute settlement. The SSA is expected to make further important contribution to the development of the rule of law in international ocean affairs.

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[846] 'Text of the CCAMLR System of Inspection'. Document in electronic form as available on http://www.ccamlr.org/English/e_basic_docs/e_basic_docs_online/e_part9..htm on 11/11/00.

[847] Ibid. Major problems still remain in the CCAMLR such as the management of Patagonian toothfish stocks. See 'CCAMLR's Management of the Antarctic', Document in electronic form as available on http://www.ccamlr.org/English/e_pubs/e_app_to_manag/CCs_man_ant/e_CCs_page1.htm on 11/11/00.

Part XV of the 1982 UNCLOS establishes the basic framework for settling disputes arising from the interpretation or application thereof. It includes both non-compulsory procedures and compulsory procedures entailing binding decisions, as well as limitations on resort to the latter. Non-compulsory procedures include use of peaceful means and conclusion of regional or special arrangements or instruments on disputed problems[848]. Compulsory procedures entailing binding decisions, include various fora such as the International Tribunal for the Law of the Sea; the International Court of Justice; arbitral tribunals constituted in accordance with Annex VII of the Convention on "arbitration"; and, special arbitral tribunals constituted in accordance with Annex VII on "special arbitration"[849]. Limitations to compulsory procedures entailing binding decisions are provided by Section 3, Part XV of UNCLOS. In this regard, Art. 297.3 (a) mandates that for fisheries disputes coastal States are not under any obligation to submit for settlement under the compulsory procedures, disputes involving the exercise of their sovereign rights with respect to the management of the living resources in the EEZ, including their discretionary powers to determine the TAC, harvesting capacity, etc. These disputes are assigned first to the non-compulsory procedures of Section 1, and where no settlement is reached by these, to compulsory conciliation provided under Section 2 dealing with conciliation procedures. States are not obliged to submit to Article 287 procedures in relation to disputes concerning their sovereign rights over the EEZ fisheries, including those arising from failures to determine total allowable catches and harvesting capacities; they can opt to refer them to the "compulsory conciliation procedure" established in Article 297.3. However, the recommendations of the Conciliation Commission established by that article are not binding and in no case may that Commission substitute its discretion for that of the coastal state[850].

Section 1, Part XV, of the 1982 UNCLOS establishes the obligation of States Parties to settle their disputes through peaceful means and allows them to use any of the peaceful

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[848] Provided by Section 1, Part XV of UNCLOS, Articles 279-285. These includes ones on fisheries, marine pollution and scientific research. FAO is the depositary of the names of the special arbitrators on fisheries disputes; UNEP on marine environment; and IMO on navigation. To date this provision for special tribunals has not been activated.

[849] Provided by Section 2, Part XV of UNCLOS, Articles 286-296.

[850] Art. 297.3.(c), UNCLOS.

means set out in Articles 2.3 and 33 of the UN Charter. This obligation is reproduced in Article 27 of the SSA, which provides that States have the obligation to settle their disputes by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements or other peaceful means of their own choice. According to Article 28, as a matter of duty, States must co-operate in order to prevent disputes. To that end, States must establish efficient and expeditious decision-making procedures within sub-regional and regional fisheries management organizations and arrangements and must strengthen existing decision-making procedures as necessary. These obligations harmonize with the obligation of States to strengthen fisheries organizations and arrangements (Article 13) and the obligation to implement and enforce conservation and management measures through effective monitoring, control and surveillance, as provided in Article 5.1.

Article 29 of the SSA provides for reference by States of any disputes of a technical nature to an *ad hoc* expert panel established by them. The panel must confer with the States concerned and must endeavour to resolve the dispute expeditiously without recourse to binding procedures for the settlement of disputes. No criteria are provided for determining which disputes are to be regarded as having a "technical nature" or concerning the composition of the panel. It seems, however, that the aim of this article is to provide States with an informal and expeditious mechanism to settle directly their dispute. As Brown has pointed out, this expert panel is different from the list of experts on fisheries required to be established by FAO under Annex VIII of UNCLOS, notwithstanding that States can refer to this list when establishing such a panel[851].

Article 30 of the 1995 SSA reinvigorates the obligation of States to settle their disputes by peaceful means of their choice. Article 30.1 states that the provisions relating to the settlement of disputes set out in Part XV of UNCLOS apply, *mutatis mutandis*, to any dispute between States Parties concerning the interpretation or application of the SSA, whether or not they are also Parties to the Convention. A distinction is introduced here between two situations. First, in the case of States Parties to both the UNCLOS and the SSA, according to Article 30.3, the rule is that any procedure accepted by those States pursuant to Article 287 of the UNCLOS will apply unless the States have accepted

[851] E. D. Brown, 'Dispute Settlement and the Law of the Sea: the UN Convention Regime', *Marine Policy* 21 (1997), pp. 17-43, at 41.

another procedure pursuant to Article 287 for the settlement of disputes under the Agreement. Secondly, for States Parties to the 1995 SSA, which are not Parties to the UNCLOS, Article 30.4 of the former provides that these States, by means of a written declaration made on signing, ratifying or acceding to the Agreement, are free to choose one or more of the means set out in Article 287.1 of the UNCLOS for the settlement of disputes under the Agreement. According to Article 30.2, the provisions relating to the settlement of disputes set out in Part XV of the Convention, apply *mutatis mutandis* to any dispute between States Parties to the SSA concerning the interpretation or application of a sub-regional, regional or global fisheries agreement relating to SFS or HMFS to which they are parties, including any dispute concerning conservation and management of such stocks, whether or not they are also Parties to the Convention. In this second case, Article 287 of the UNCLOS will apply to the declaration made by States that are Parties only to the 1995 SSA, as well as to any dispute to which such States are Parties which is not covered by a declaration in force. In order to maintain equality between States that are Parties and States that are not Parties to the UNCLOS[852], the 1995 SSA establishes that States not Parties will be entitled to nominate conciliators, arbitrators and experts to be included in the lists referred to in Annexes V, VII and VIII of the UNCLOS for the settlement of disputes under the Agreement[853]. This is a groundbreaking provision, as we have seen from the account of previous procedures for dispute settlement applicable to fisheries disputes.

Article 30.5 of the 1995 SSA establishes the law to be applied by any court or tribunal to which a dispute has been submitted under the SSA. In order to ensure the conservation of the SFS and HMFS concerned, the court or tribunal must apply the relevant provisions of the UNCLOS, the SSA and any relevant sub-regional, regional or global fisheries agreement, as well as generally accepted standards for the conservation and management of living resources and other rules of international law not incompatible with the Convention[854].

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[852] Brown, ibid, p. 44.

[853] Article 30.4, 1995 SSA.

[854] Chapter 5, Section 3.

Finally, regarding settlement of disputes, Article 30 of the SSA establishes a set of provisional measures. First, pending the settlement of a dispute, the Parties to it must make every effort to enter into provisional arrangements of a practical nature. Secondly, without prejudice to Article 290 of the UNCLOS, the court or tribunal may prescribe any provisional measures that are appropriate under the circumstances to preserve the rights of the parties and prevent damage to the stocks concerned, as well as for disputes regarding compatibility of conservation and management measures under Articles 7.5 and 16.2. According to Article 290.3 of the UNCLOS, such provisional measures may be prescribed, modified or revoked only at the request of a party to the dispute, and after the parties have been given an opportunity to be heard. Thirdly, the International Tribunal for the Law of the Sea would be entitled, under certain circumstances, to prescribe provisional measures pending the constitution of an arbitral tribunal to which a dispute is being submitted (Art. 290.5 of the UNCLOS). Notwithstanding these provisions, a State not Party to the UNCLOS is entitled, under Article 31.3 of the Agreement, to declare that the Tribunal's provisional measures be not applied without its assent.

The provisions establishing the Tribunal for the Law of the Sea can be found in Article 287.1.a and Annex VI of the UNCLOS. Having regard to the tensions and conflicts concerning fisheries which emerged during the 1980s and 1990s, the Judges of the International Tribunal of the Law of the Sea, at their second meeting in Hamburg, in February 1997, established a standing special Chamber on Fisheries Matters. This Chamber will deal with any disputes, which parties agree to submit to the Tribunal concerning the conservation and management of marine living resources. Two other chambers were also established at this meeting: the Sea-bed Disputes Chamber and the Chamber on the Marine Environment[855].

On 4 December 1997 the International Tribunal for Law of the Sea delivered its first Judgement in the M/V 'Saiga' Case. The 'Saiga' was an oil tanker flying the flag of Saint Vincent and the Grenadines which, at the time of the incident with respect to which the Application was based, was operating as a bunkering vessel supplying fuel oil to fishing

[855] ITLOS/Press Release 5, Issued by the Registry, 3 March 1997. Document in electronic form as available on 11/11/00 on http://www.un.org/Depts/los

vessels and other vessels off the coast of Guinea in West Africa. On 27 October 1997, the 'Saiga', having crossed the maritime boundary between Guinea and Guinea Bissau, entered the EEZ of Guinea and supplied gasoil to three fishing vessels. The 'Saiga' was arrested by Guinean Customs Patrol boats at a point south of the maritime boundary of the EEZ of Guinea. In the course of this action, at least two crew members were injured and the vessel was brought into Conakry, Guinea, where it and its crew were detained on charges of commission of smuggling and other offences under the Customs Code of Guinea and it was asserted that Guinea had exercised the right of hot pursuit[856].

The Tribunal's task was not to decide whether the arrest was lawful but whether the detention of the vessel and crew following the arrest was in violation of the provisions of the UNCLOS concerning prompt release of a vessel and its crew. The application was based on Article 292 of the UNCLOS which provides that where the authorities of a State Party have detained a vessel flying the flag of another State Party to the Convention, and if it is alleged that the detaining State has not complied with the requirements of the Convention for the prompt release of the vessel or its crew upon the posting of a reasonable bond or other financial security, the question of release from detention may be submitted, *inter alia*, to the ITLOS if, as was the case in relation to the 'Saiga', the Parties have not agreed within 10 days from the time of detention to submit the case to another court or tribunal.

Finding that it had jurisdiction under Article 292 of the UNCLOS to entertain the Application, the Tribunal decided that the argument of Saint Vincent and the Grenadines, based on Article 73 of the Convention concerning enforcement of laws and regulations of the coastal state was well founded and that, therefore, it was unnecessary for the Tribunal to adopt a position on the non restrictive interpretation of Article 292 of the Convention[857]. The Tribunal decided that the application was admissible, that the allegations made by Saint Vincent and the Grenadines were well founded for the purpose of the proceedings and that, consequently, Guinea must release promptly the 'Saiga' and the members of the crew detained or otherwise deprived of their liberty[858].

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[856] ITLOS, The M/V "SAIGA", Saint Vincent and the Grenadines v. Guinea, Judgement, 4 December 1997, paragraphs 25-33. Document in electronic form as available on 11/11/00 on http://www.un.org/Depts/los

[857] Article 292 of the Convention, "Prompt Release of Vessels and Crews"

[858] Judgement, supra, note 856, par. 45, 73 and 79.

These findings were analysed and discarded by some Judges in a dissenting opinion:

> "A textual analysis of Article 292 of the Convention clearly establishes that it applies only where the Convention contains specific provisions concerning the prompt release of the vessel or its crew upon the posting of a reasonable bond or other financial security. If Article 292 was also intended to cover other cases of ship arrests, it would have been phrased differently"[859].

According to Brown, this conclusion "appears to be unassailable" and is fully consistent with one of the most fundamental rules of international law, which maintains that "restrictions upon the independence of states cannot be presumed"[860].

On 27 August 1999, Australia and New Zealand, filed with the Registrar of the Tribunal a requests for the prescription of provisional measures (interim injunction) in a case against Japan. The dispute between Australia and New Zealand on one side, and Japan on the other, concerned the conservation of the population of Southern Bluefin Tuna, which is significantly overfished and is below commonly accepted thresholds for biologically safe parental biomass. Australia and New Zealand claimed that Japan's actions amounted to a failure to conserve and to cooperate in the conservation of the Southern Bluefin Tuna stock and claimed that Japan, by initiating a unilateral experimental fishing programme for Southern Bluefin Tuna in 1998 and 1999, threatened serious or irreversible damage to the Southern Bluefin Tuna population. The request for an interim injunction against Japan to immediately cease the unilateral experimental fishing of the Southern Bluefin Tuna, commenced at the beginning of June

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[859] Dissenting Opinion of Judges Park, Nelson, Chandrasekhara Rao, Vukas and Ndiaye, Appended to the Judgement, supra, note 856, para. 23.

[860] E. D. Brown, The M/V *Saiga* Case on Prompt Release of Detained Vessels: the First Judgement of the International Tribunal for the Law of the Sea', *Marine Policy*, 22 (1998), pp. 307-326, at 324. On *the Merits*, the Tribunal decided that, under the Convention, in arresting the *Saiga*, and in detaining the *Saiga* and members of its crew, in prosecuting and convicting its Master and in seizing the *Saiga* and confiscating its cargo, Guinea violated the rights of Saint Vincent and the Grenadines. The Tribunal noted that, under the Convention, in the exclusive economic zone the coastal State has jurisdiction to apply customs laws and regulations in respect of artificial islands, installations and structures (article 60, paragraph 2). In the view of the Tribunal, the Convention does not empower a coastal State to apply its customs laws in respect of any other parts of the exclusive economic zone. The Tribunal, therefore, found that by applying its customs laws to a customs radius which includes parts of the exclusive economic zone, Guinea acted in a manner contrary to the Convention. See **THE M/V "SAIGA" (No. 2) CASE** (SAINT VINCENT AND THE GRENADINES v. GUINEA) **JUDGMENT**, as available on http://www.itlos.org/case_documents/2001/document_en_68.doc

1999. In the absence of agreement between the parties for the settlement of the merits (substance) of the dispute between them, the Governments of Australia and New Zealand decided to submit their dispute with Japan to an arbitration procedure under Annex VII of the United Nations Convention on the Law of the Sea. Pending the constitution of the Arbitral Tribunal, the Governments of Australia and New Zealand requested the Tribunal to prescribe provisional measures, pursuant to paragraph 5 of Article 290 of the Convention[861].

On August 9, 1999, at the invitation of the President of ITLOS, Japan filed a single statement in response to Australia and New Zealand's requests. Japan's statement raised objections to the jurisdiction of ITLOS on the basis that the Arbitral Tribunal would not, once constituted, have jurisdiction *prima facie* to decide the dispute. The Tribunal, after it had found that it had jurisdiction over the disputes, issued its Order on 27 August 1999, in the Request for Provisional Measures, prescribing provisional measures in order the parties to prevent the aggravation or extension of the dispute; to prevent prejudice to the decision on the merits, to keep catches to levels last agreed; to refrain from conducting an experimental fishing programme; to resume negotiations; and to seek agreement with others engaged in fishing for Southern Bluefin Tuna[862]. In its Order, ITLOS found that, *prima facie*, the Arbitral Tribunal would have jurisdiction and following appointments in due course, the Arbitral Tribunal was constituted and composed by Judge Stephen M. Schwebel (President), H. E. Judge Florentino Feliciano, The Rt. Hon. Justice Sir Kenneth Keith KBE, H.E. Judge Per Tresselt and Professor Chusei Yamada[863]. The Arbitral Tribunal decided that it was without jurisdiction to rule on the merits of the dispute on the basis that the dispute settlement mechanism of the

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[861] International Tribunal for the Law of the Sea, Dispute Concerning Southern Bluefin Tuna, Australia and New Zealand versus Japan, Provisional Measures Requested, ITLOS, Press/24, 30 July, 1999 (Issued by the Registrar). Information as available on 2 March 2001 on the Web Site of the Tribunal http://www.un.org/Depts/los/Press/ITLOS/ITLOS_24.htm.

[862] International Tribunal for the Law of the Sea, Dispute Concerning Southern Bluefin Tuna, Australia and New Zealand versus Japan, Provisional Measures Requested, Order, 27 August, 1999, List of Cases, No. 3 and 4. Information as available on http://www.un.org/Depts/los/ITLOS/Order-tuna34.htm on 2 March 2001.

[863] Southern Bluefin Tuna Case, Australia and New Zealand v. Japan, Award on Jurisdiction and Admissibility, August 4, 2000, Award rendered by the Arbitral Tribunal constituted under Annex VII of the United Nations Convention on the Law of the Sea. Document in electronic form as available on 2 March 2001 on http://www.worldbank.org/icsid/bluefintuna/award080400.pdf , p.2

1993 Convention for the Conservation of Southern Bluefin Tuna[864] (Art. 16), adopted between the three countries involved in that Case, excluded any further recourse to the procedure within the contemplation of Article 281.1 of UNCLOS and decided, in accordance with Article 290(5) of UNCLOS that provisional measures in force by order of the ITLOS prescribed on August 27, 1999, had to be revoked from the day of signature of the Award[865]. Of relevant interest is that the Arbitral Tribunal recognized that the substantive provisions of the 1995 SSA are more detailed and far-reaching than the pertinent provisions of UNCLOS, and that both instruments, if effectively implemented, can ameliorate the substantive problems that had divided the parties[866].

In a Separate Opinion, Justice Sir Kenneth Keith voted in favour of holding that the Arbitral Tribunal had jurisdiction and against the contrary decision of that Tribunal. Sir Kenneth Keith concluded that both treaties in issue in the Southern Bluefin Tuna Case, the 1993 Convention on the Conservation of Southern Bluefin Tuna and the 1982 UNCLOS, set up substantive obligations and obligations relating to peaceful settlement; that the parallel and overlapping existence of the obligations arising under each treaty was fundamental in that Case; and that therefore, the one had not excluded or in any relevant way prejudiced the other[867]. The Award in the Southern Bluefin Tuna Case is the first decision according to which an arbitral tribunal has declined to exercise jurisdiction over the merits of an inter-state dispute and marks the first instance of the

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[864] Ibid, p. 100. The Convention for the Conservation of Southern Bluefin Tuna, was concluded in Canberra the 10 May 1993, signed for Australia, Japan and New Zealand the 10 May 1993; in force the 20 May 19944. Information as available on 2 March 2001 on the Web Site 'Australian Treaty List-Multilateral', http://www.austlii.edu.au/au/other/dfat/multi/19940520.html

[865] Award of the Arbitral Tribunal, supra, note 863, p. 111.

[866] Ibid, pp. 109-110.

[867] Southern Bluefin Tuna Case, Australia and New Zealand v. Japan, Award on Jurisdiction and Admissibility, August 4, 2000, rendered by the Arbitral Tribunal constituted under Annex VII of the United Nations Convention on the Law of the Sea. Separate Opinion of Justice Sir Kenneth Keith. Document in electronic form as available on 2 March 2001 on the Web Site http://www.worldbank.org/icsid/bluefintuna/opinion.pdf, p.1. The Federal Minister for Agriculture, Fisheries and Forestry of Australia, Mr. Warren Truss, stated that Australia did not resile from its position on Japan's experimental fishing; called on Japan to accept the call by the Tribunal to refrain from unilateral acts that may exacerbate the dispute; and stressed that Australia's commitment in the area related to the long-term conservation and optimum utilisation of the Southern Bluefin Tuna stock would continue to explore all possible avenues to resolve the dispute amicably and expeditiously, including by negotiations. Joint Statement by the Federal Minister for Agriculture, Fisheries and Forestry, Warren Truss, and the Federal Attorney-General, Mr. Daryl Williams, AFFA00/153WTJ, 5 August 2000. Document in electronic form as available on 2 March 2001 on the Web Site 'Agriculture, Fisheries and Forestry – Australia', http://www.affa.gov.au/ministers/truss/releases/00/00153wtj.html.

application of Section 2 on Compulsory Procedures Entailing Binding Decisions and Annex VII on Arbitration of Part XV on Settlement of Disputes of the 1982 UNCLOS[868].

In addition to the Saiga Case, the International Tribunal for the Law of the Sea has also delivered judgements concerning the prompt release of fishing vessels in two more cases. First, in the *Camouco* Case, brought before the Tribunal on behalf of Panama against France on 17 January 2000, the dispute concerned the fishing vessel *Camouco*, which flied the Panamanian flag arrested in September 1999 by a French frigate allegedly for unlawful fishing in the exclusive economic zone of Crozet (French Southern and Antarctic Territories)[869]. Panama requested the Tribunal to order the prompt release of the *Camouco* and its Master and to find that France has violated the provisions of the United Nations Convention on the Law of the Sea concerning the prompt release of vessels and their crews. Panama maintained that the release should be effected without the payment of a bond or in the alternative, to determine the amount, nature and form of the bond or financial security to be posted for the release of the vessel. The Government of France requested the Tribunal to declare and adjudge that the application requesting the Tribunal to order the prompt release of the *Camouco* and of its captain was not admissible; and as a subsidiary submission, if it decided that the *Camouco* was to be released upon the deposit of a bond, that the bond be not less than the sum of 20,000,000 francs and that this sum be posted in the form of a certified cheque[870]. The Tribunal found that it had jurisdiction under article 292 of the Convention to entertain the Application made on behalf of Panama on 17 January 2000; that the Application for release was admissible; and ordered France to promptly release the *Camouco* and its Master upon the posting of a bond of eight million French Francs

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[868] Barbara Kwiatkowska, 'The Australia and New Zealand v. Japan Southern Bluefin Tuna. Jurisdiction and Admissibility Award of the First LOSC Annex VII Arbitral Tribunal'. Document in electronic form as available on http://www.rgl.ruu.nl/english/isep/paper.asp on 5 March, 2001, pp. 1-3.

[869] ITLOS/Press Release No. 33, 17 January, 2000, as available on 5 March 2001 on the Web Site http://www.un.org/Depts/los/Press/ITLOS/ITLOS_33.htm

[870] ITLOS/Press Release No. 34, 3 February, 2000, as available on 5 March 2001 on the Web Site http://www.un.org/Depts/los/Press/ITLOS/ITLOS_34.htm

(8,000.000 FF) to be posted with France in the form of a bank guarantee or, if agreed to by the parties, in any other form[871].

The Second case concerned the *Monte Confurco*, a fishing vessel registered in the Republic of the Seychelles, licensed to fish in the international waters. The vessel was spotted and apprehended for alleged illegal fishing by a French frigate, as well as for failure to announce its presence in the EEZ of the Kerguelen Islands. The Republic of the Seychelles denied the charges and requested the Tribunal to order the prompt release of the *Monte Confurco* and its Master and to find that France had violated the provisions of the 1982 UNCLOS concerning the prompt release of vessels and their crews. In addition, the Republic of the Seychelles requested the Tribunal to determine a reasonable bond or financial security to be posted for the release of the vessel[872]. France contended the Application and requested the Tribunal to declare that such an Application was inadmissible and to declare that the bond set by the competent French authorities was reasonable[873]. The Tribunal unanimously found that the Tribunal had jurisdiction under article 292 of the Convention to entertain the Application made on behalf of Seychelles on 27 November 2000; that the claims of Seychelles that France failed to comply with article 73, paragraphs 3 and 4, of the Convention were inadmissible; and that the Application with respect to the allegation of non-compliance with article 73, paragraph 2, of the Convention was admissible[874]. The Tribunal found that the allegation made by the Applicant was well founded and ordered to France the prompt release of the *Monte Confurco* and its Master upon the posting of a bound or other security to be determined by the Tribunal, by 19 votes to 1[875].

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[871] ITLOS, Case No. 5, The "Camouco" Case (Panama v. France), Application for Prompt Release, Judgement, 7 February 2000. Document in electronic form as available on 5 March 2001 on the Web Site http://www.un.org/Depts/los/ITLOS/Jud-Camouco.htm

[872] ITLOS, Notice to the Press (Issued by the Registrar), ITLOS/Press/Notice 15, 6 December 2000. Application for Release of Fishing Vessel Monte Confurco and its Master. Republic of the Seychelles v. France. As available on http://www.un.org/Depts/los/Press/ITLOS/ITLOS_N15.htm on 5 March 2001

[873] ITLOS/Press Release No. 42, 18 December, 2000, as available on 5 March 2001 on the Web Site http://www.un.org/Depts/los/Press/ITLOS/ITLOS_42e.pdf

[874] ITLOS, Case No. 6, The "Monte Confurco" Case (Seychelles v. France), Application for Prompt Release, Judgement, 18 December, 2000. Document in electronic form as available on 5 March, 2001, on the Web Site http://www.oceanlaw.net/cases/montej.htm

[875] Ibid.

For the past decade, Chile has adopted controversial legislation on international fisheries concerning stocks beyond its EEZ and, consequently, has been involved in legal controversies with the EU over swordfish fisheries in the South Pacific[876]. Chile claims that the EU fails to cooperate with the coastal State to ensure the conservation of straddling and highly migratory stocks, in violation of the 1982 UNCLOS; the EU claims that Chilean denial of port access violates substantive provisions of the General Agreement on Tariffs and Trade (GATT 1994).

On the request of Chile and the EU, the International Tribunal for the Law of the Sea, by an Order dated 20 December 2000, formed a Special Chamber[877] to deal with their dispute concerning the conservation and sustainable exploitation of swordfish stocks in the South-eastern Pacific Ocean and to decide whether the EC had complied with its obligations under the 1982 UNCLOS to ensure conservation of swordfish in the fishing activities undertaken by vessels fishing the flag of any of its Member States in the high seas adjacent to Chile's EEZ; whether the Chilean Decrees which purports to apply Chile's conservation measures relating to swordfish on the high seas were in breach of UNCLOS; and whether the "Galapagos Agreement" was negotiated in keeping the provisions of UNCLOS[878].

The "Galapagos Agreement" was signed on 14 August 2000 in Santiago, Chile, by Chile, Colombia, Ecuador and Peru[879]. The stated objective of the Agreement is the conservation of living marine resources in the high seas zones of the Southeast Pacific,

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[876] The analysis of the Chilean fisheries legislation in general and the presential sea in particular, is provided in Chapter 2, Section 2 of this Thesis.

[877] Article 15 of the Statute of the Tribunal provides for the formation of Special Chambers, if so requested by the parties to a dispute Statute of ITLOS (Article 15, Annex VI of UNCLOS). The composition of the Special Chamber is determined by the Tribunal with the approval of the parties and the judgement given by it is considered as rendered by the full Tribunal (Articles 28-31, Rules of the Tribunal. Document in electronic form as available on March 5, 20001, on http://www.un.org/Depts/los/ITLOS/Rules-Tribunal.htm).

[878] ITLOS, Case No. 7, concerning the Conservation and Sustainable Exploitation of Swordfish Stocks in the South-eastern Pacific Ocean, (Chile v. European Community), Constitution of Chamber, Order, 20 December 2000. Document in electronic form as available on 5 March, 2001, on the Web Site http://www.un.org/depts/los/ITLOS/Order3_2000Eng.pdf

[879] Information concerning the status of the Galapagos Agreement, available on 5 March 2001 on the Web Site http//www.oceanlaw.net/texts/summaries/galapagos.htm.

with special reference to straddling and highly migratory fish populations[880]. The Agreement applies exclusively to the high seas of the Southeast Pacific, encompassed by the outer limits of the coastal States' national jurisdiction zones and a line traced along the complete length of the 120 west meridian of longitude, from the 5 north parallel of latitude to the 60 south parallel of latitude. It does not apply to the zones under national jurisdiction corresponding to oceanic islands belonging to any of the coastal States, but is shall also include the areas of high seas surrounding and adjacent to these oceanic islands, within the limits described[881]. The Agreement applies to straddling and highly migratory fish stocks. Particular species are to be identified as being of "high-priority" at the first Meeting of the Parties. An organization is to be set up under the Agreement, consisting of a Commission, charged with adopting the necessary decisions for the fulfilment of the Agreement's provisions; a Scientific-Technical Committee, to serve as a consulting body for the Commission on these matters; a Secretariat; and any other subsidiary body that the States Parties or the Commission decides to establish in support of the Agreement's implementation[882]. Despite applying to the high seas, however, the Agreement is not currently open to signature by non-coastal States[883].

The EU brought the Swordfish Case to the WTO in April 2000 and as negotiations between the parties did not reach a settlement of the dispute, a Panel was finally established by the WTO's Dispute Settlement Body in December 2000. The EU claimed that the Chilean prohibition on unloading of swordfish in its ports under its fisheries laws was inconsistent with 1994 GATT Article V (providing for freedom of transit for goods through the territory of each contracting party on their way to or from other contracting parties) and Article XI (prohibiting quantitative restrictions on imports or exports, subject to some exceptions for imports of agricultural or fisheries products). Chile had requested the ITLOS Chamber to declare whether the EU had fulfilled its obligations under UNCLOS Articles 64 (calling for cooperation in ensuring

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[880] Art. 2. Integral text of the Galapagos Agreement available in electronic form on 5 March 2001 on the Web Site http://www.oceanlaw.net/texts/galapagos.htm.

[881] Ibid, Art. 3.

[882] Ibid, Art. 11, Institutional Mechanisms.

[883] Status of the Galapagos Agreement, supra, note 879.

conservation of highly migratory species); Articles 116-119 (relating to conservation of the living resources of the high seas); Article 297 (concerning dispute settlement); and Article 300 (calling for good faith and no abuse of right). Chile further asserted that the EU had failed to enact and enforce substantive conservation measures on its vessels fishing in the area; that the EU had failed to report its captures to the relevant international organization (in this case FAO); and that the EU had failed to cooperate with the coastal state in ensuring the conservation of highly migratory species[884].

During the last week of January 2001, the EU and Chile finally reached an agreement that effectively suspends proceedings at the WTO and at the ITLOS. This provisional agreement, which will become operational in March 2001, rests on three basis: first, the re-establishment of a bilateral technical commission in order to design conservation measures for the stocks and will subsequently meet periodically to review the information provided by the scientific fisheries expeditions supported by a satellite vessel monitoring system; secondly, port access for fish caught under a new scientific fisheries program that will allow each Party to unload in the Chilean ports up to a thousand tons of swordfish each year, as well as the creation of a multilateral conservation forum for the Southeast Pacific that will lay the grounds for the establishment of a multilateral conservation organization open to the participation of interested States; and thirdly, the political context of this provisional arrangement is set by the ongoing negotiations between the EU and Chile for the conclusion of a free trade agreement[885]. In the end, the EU obtained port access for the four ships that had been traditionally fishing in the area. However, the two jurisdictional fora involved in the Swordfish Case, the International Tribunal for the Law of the Sea and the WTO's Dispute Settlement Body, both dealing respectively with the Law of the Sea and International Economic Law, make apparent that the potential risk of contradictory decisions is always present.

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[884] The information presented in this paragraph has been provided by Marcos Orellana Cruz, 'The Swordfish in Peril: the EU Challenges Chilean Port Access Restrictions at the WTO', Bridges, Publication by the International Centre for Trade and Sustainable Development, July-August 2000, pp. 11-12

[885] Marcos Orellana, 'The EU and Chile Suspend the Swordfish Case Proceedings at the WTO and the International Tribunal of the Law of the Sea', ASIL Insight, February 2001. Document in electronic form as available on March 5, 2001, on http://www.asil.org/insigh60.htm.

The decisions adopted by the International Tribunal for the Law of the Sea are of considerable relevance to the international law for fisheries and provides States that are Parties both to the Convention and to the SSA with the opportunity to appraise the scope of the mechanisms for enforcement and compliance by the Tribunal. The question remains however whether such a manifold system of dispute settlement can effectively establish a consistent jurisprudence on these issues[886]. Despite concern regarding this issue which can only be resolved as the ITLOS is given more opportunity to develop it, it must be concluded that the institution of this new procedures by the 1995 SSA, as well as the 1982 UNCLOS, marks a considerable step towards generalized compulsory settlement of disputes by arbitral or judicial means as well as provision of opportunities for peaceful conciliation in the field of the Law of the Sea[887].

The 1994 GATT (Article XX.g) allows contracting parties to adopt and enforce measures relating to the conservation of natural resources if this is done in conjunction with restrictions on domestic production or consumption, provided that there is no arbitrary discrimination, no abuse, and no disguised restriction on trade. This provision has been the object of controversy in several cases, including the recent WTO Appellate Body decisions on the 1998 *Shrimp/Turtle Case*. The preamble to the WTO Agreement recognizes the need to preserve the environment, and the case law interprets GATT 1994 with increasing deference to environmental concerns.

The *Shrimp/Turtle Case* involved restrictions on imports of shrimp from the complainant countries because the shrimp were caught by methods that incidentally caught sea turtles, an endangered species. The dispute centred on a 1989 US law (Section 609 of the Endangered Species Act) that requires the US government to certify that all shrimp imported to the country are caught with methods (such as use of "turtle excluder devices," or TEDs, that reduce the number of turtles caught in shrimp nets by

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[886] The provisions of the 1995 SSA and the measures taken by regional and subregional fisheries organizations in order to implement the Agreement "indicate that port State measures of control, notably inspections and bans on landings, are likely to increase". David Anderson, 'Port States and Environmental Protection', in Boyle and Freestone, supra, note 81, pp. 325-344, at 344.

[887] Tullio Treves, 'The Settlement of Disputes According to the Straddling Stocks Agreement of 1995', in Boyle and Freestone, supra, note, 81, pp. 253-269. See also Tullio Treves, 'The Law of the Sea Tribunal: Its Status and Scope of Jurisdiction after November 16, 1994, in Symposium on The Entry into Force of the Convention on the Law of the Sea: A Redistribution of Competences Between States and International

some 90%) that protect sea turtles from incidental drowning in shrimp trawling nets. The US-imposed trade embargo was expanded in May 1996 to include all shrimp-exporting countries, and affected some 40 nations. India, Malaysia, Pakistan, Thailand and the Philippines lodged complaints at the WTO in early 1997, claiming that Section 609 violated a number of WTO rules[888]. On April 6, 1998, a Dispute Settlement Panel ruled against the shrimp embargo, arguing that it represented the kind of unilateral measure that 'insofar as [it] could jeopardise the multilateral trading system, could not be covered by Article XX of the GATT'. On appeal, the WTO Appellate Body stated that WTO members may take measures "relating to the conservation of exhaustible natural resources", including sea turtles[889]. However, these measures may not be applied in a way that is arbitrary or unjustifiable or constitutes a disguised restriction on international trade.

In this case, the US measure failed to meet these requirements because, in applying it, the United States treated some WTO members less favourably than others; did not accept sea turtle protection programmes of other members that were equivalent to the US programme; and banned imports of shrimp, even if harvested in a way that complied with US regulations, if the country of origin of the imports had not been certified under the US regulation[890].

Environmental issues remain controversial in the WTO, basically for two reasons. First, because some developing countries fear that environmental measures may be used, deliberately or not, to create barriers to their exports. They also argue that they need economic growth to raise their own environmental standards. Secondly, because the work in the WTO, in its Committee on Trade and Environment, does suggest some risk that conflict could arise between provisions in multilateral environmental agreements

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Organizations in Relation to the Management of the International Commons?, Heidelberg, January 28, 1995. Heidelberg Journal of International Law (ZaöRV), 55/2 (1995).

[888] The facts of the Case, including its history, WTO legal context and alternative multilateral solutions to the dispute, have been summarized in 'Shrimp Trade and Sea Turtle Conservation', *Bridges*, No. 1, April 1997, ICTSD, Geneva.

[889] WTO Panel Report: 'United States. Import Prohibition of Certain Shrimp and Shrimp Products'. World Trade Organization, April 6, 1998, WT/DS58/R, Geneva, WTO. Document in electronic form as available on 5 March, 2001 on http://www.wto.org/wto/dispute/distab.htm

[890] Gregory Shaffer, 'WTO Shrimp-Turtle Case', *International Trade Reporter*, 15 (1998), pp. 294-301.

permitting trade measures and, on the other hand, WTO rules. It can be concluded that, as regards measures to ensure the conservation of fish stocks within and beyond national jurisdictions, unilateral measures taken by one State or group of States will remain highly controversial and that it is only in the framework of global and regional legal co-operation that the effectiveness of compliance and enforcement mechanisms can be achieved.

6.6 Special mechanisms for co-operation

In modern environmental treaties, States Parties are required to assist other States Parties which, for various reasons, are not able to take the necessary measures to implement the legal obligations imposed upon them by the treaty. This requirement is derived from Principle 7 of the Rio Declaration which recognizes that in view of their different contributions to global environmental degradation, developed and developing States have common but differentiated responsibilities. Examples of treaties providing for this kind of compliance assistance are found in the CBD[891] and the FCCC [892]. Assistance to developing countries to enable them to fulfil their legal obligations is also provided for in the FAO Compliance Agreement[893] and the Code of Conduct for Responsible Fisheries[894]. Assistance can also be rendered by NGOs and IGOs[895].

The UNCLOS provides that in determining the allowable catch and establishing other conservation measures for living resources in the high seas, States shall take into account, *inter alia*, the special requirements of developing states[896]. This obligation is

[891] Arts. 20.2 and 21.1 CBD.

[892] Arts. 4.3 and 11.1 FCCC.

[893] Article VII, FAO Compliance Agreement.

[894] Article 5 Code of Conduct for Responsible Fisheries. Full recognition must be given to the special circumstances and requirements of developing countries, including in particular least-developed among them and small island developing countries.

[895] Environment and Development are closely interlinked throughout the ACP-EC Lomé Conventions, which provides that the support to be provided in the context of these Conventions must be based on a sustainable balance between economic objectives, rational management of the environment and the enhancement of human and natural resources. See Special Report No 4/99 concerning financial aid to overseas countries and territories under the sixth and seventh EDF accompanied by the replies of the Commission. Official Journal C- 276, 29/09/1999, pp. 0001-0024.

[896] Articles 62, 69 and 70 of the UNCLOS

included in the 1995 SSA, in which it is stated as a general principle (Article 5.b), and unlike the UNCLOS, it is also developed in Article 24.1 which reads:

> "States shall give full recognition to the special requirements of developing States in relation to conservation and management of straddling fish stocks and highly migratory fish stocks and development of fisheries for such stocks. To this end, States shall, either directly or through the United Nations Development Programme, the Food and Agriculture Organization of the United Nations and other specialized Agencies, the Global Environment Facility, the Commission on Sustainable Development and other appropriate international and regional organizations and bodies, provide assistance to developing States".

In giving effect to the duty to co-operate, States must take into account the following special requirements: the vulnerability and dependency of developing States on fisheries for food; the need to avoid adverse impacts on, and ensure access to fisheries by, subsistence, small-scale and artisanal fishers and women workers, as well as indigenous people in developing States, particularly small island States, and the need to ensure that such measures do not result in transferring, directly or indirectly, a disproportionate burden of the action required for conservation onto developing States (Article 24.2).

The 1995 SSA establishes specific mechanisms through which States must co-operate, in particular with the least-developed among them and small islands developing countries, either directly or through sub-regional, regional or global organizations (Article 24). These mechanisms include: enhancement of the ability of developing States to conserve and manage SFS and HMFS and to develop their own fisheries for such stocks; assistance to enable them to participate in high seas fisheries[897]; promoting participation of such States in sub-regional and regional fisheries organizations; and, provision of financial assistance, human resource development, technical assistance, transfer of technology, including joint venture arrangements and advisory and consultative services. The assistance to developing States must be directed specifically towards the improvement of conservation and management measures through collection, reporting, verification, exchange and analysis of data and information; scientific assessment and research; and finally, mechanisms for monitoring, control,

[897] Articles 5 and 11 of the 1995 SSA.

surveillance, compliance, enforcement and provision of access to technology and equipment.

Conclusions

It must be recognized that the main value of the 1982 UNCLOS to the international community of States lies in its comprehensive character and hence also the comprehensive character of the integrated regime for the seas which it establishes. It has become apparent that some parts of this Convention are being fully implemented[898] but that others are not, or are implemented only in part. In particular, it has become apparent that regarding compliance and enforcement mechanisms for fisheries on the high seas, the Convention establishes only a general framework for co-operation which thus needs further development, especially through revision of existing fisheries conventions relating to the high seas and conclusion of new ones.

With regard to fisheries on the high seas, the 1995 SSA in particular, and to some extent related instruments, such as the FAO Compliance Agreement and the FAO Code of Conduct for Responsible Fisheries, has significantly expanded the system for compliance and enforcement established by the UNCLOS. The enforcement provisions of this new Agreement require States to ensure that vessels flying their flag fishing on the high seas conform to conservation and management measures adopted by regional and sub-regional fisheries organizations, consistent with the provisions of the Agreement. States parties to a regional fisheries organization are allowed to board and inspect vessels fishing on the high seas flying the flag of another State in areas covered by the relevant regional organization, for the purpose of ensuring compliance with conservation and management measures for SFS and HMFS established by that organization or arrangement. In cases where evidence of violation of measures adopted by the regional fisheries organization is found, States may detain the vessel. Taking into

[898] 1994 Agreement Relating to the Implementation of Part XI of the Law of the Sea Convention of 10 December 1982, supra, note 200. This Agreement results from UN efforts since 1990 to reconcile international difficulties over seabed mining and provides an improved framework for a management regime aimed at more commercial recovery consistent with the new approaches of the world economy. Thus, this Agreement has ensured the conditions for a worldwide ratification of the UNCLOS. See Tullio Treves, 'L'entrée en vigueur de la Convention des Nations Unies sur le Droit de la Mer et les conditions de son universalisme', *AFDI*, 39 (1993), pp. 850-873 and Christopher Joyner, 'The United States and the New Law of the Sea' *ODIL* (1996), pp. 41-58.

account that the general lack of flag State enforcement has been a major factor in over exploitation of fisheries world wide, the SSA, if and when it enters into force and is widely ratified and implemented, has the potential for solving the problem of compliance and enforcement for the better conservation and management of fish stocks on the high seas.

In providing for such measures, the 1995 SSA equips States to solve the problem of compliance and enforcement on the high seas. This can be considered an advance of the utmost importance in the international law for fisheries.

Chapter 7

The dynamics of the new regime for international fisheries: conclusions concerning the relevance of legitimate expectations

The principle of legitimate expectations implies that States can legally rely on each other to behave consistently in relation to previous assurances or patterns of behaviour if those assurances or that behaviour is of such a type, and takes places within such a context, that they are considered legally relevant by most if not all States[899]. Byers argues that the principle of legitimate expectation is largely external to short-term interest calculations and applications of power precisely because it is a principle of international law[900]. In this context, as regards emerging legitimate expectations relating to international fisheries, the findings of this thesis can best be summarized by dividing them into two groups. The first consists of a number of specific observations that arise from the application of international regime theory to international law with particular reference to high seas fisheries. The second includes two questions to which these findings give rise, raised at the end of this chapter; *viz* (*i*) why is a new international regime emerging for international fisheries; and (*ii*) how will this regime operate as an 'institution' able to influence the behaviour of states and their subjects in order to address the complex problem of fisheries conservation and management on the high seas, and the further development of the Law of the Sea and the protection of the environment in general, and the international law pertaining to fisheries in particular.

7.1 The conclusions

The structure of this thesis follows both the International Regime Theory and the provisions of the SSA.

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[899] Michael Byers, *Custom, Power and the Power of Rules*, supra, note 59, p. 107.

[900] Ibid, p. 109.

In Chapter 1 the theoretical framework adopted for this investigation is discussed, which applies the international regime theory evolved by specialists in international relations to the analysis of a problem arising in international law; namely the regulation of fishing on the high seas. The hypothesis addressed in this work is that a new regime for fisheries on the high seas, able to influenciate the behaviour of States, is emerging in the international arena. Four interconnected elements are relied on to establish this hypothesis: (*i*) a scientific and diplomatic consensus about the nature of the specific issues requiring to be addressed regarding fisheries; (*ii*) a core of informal and formalized principles, norms and rules contained mainly in the 1995 SSA, but also in other related international legal instruments; (*iii*) organizational and decision-making procedures that constitute the operational aspects of the international regime; and (*iv*) a set of compliance and enforcement mechanisms enabling international society to ensure effective management of the problems of fisheries within global commons. These four elements characterise the continuous process of development and improvement of International Environmental Law in the field of fisheries.

The achievement of the necessary scientific and diplomatic consensus on the nature of specific fisheries issues is established in the analysis of the 1995 UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks which is presented in Chapter 2. This Chapter addressed the proposition that both scientific and diplomatic consensus are preconditions for an international environmental regime of fisheries on the high seas. The existence of an international regime will remain ambiguous as long as differences exist among the scientists and states concerned about the scientific aspects of the issues. The global scientific consensus regarding the actions required to ensure sustainable use and conservation of marine living resources of the high seas has emerged from the actions initiated pursuant to the requirements of Chapter 17 of UNCED's Agenda 21, the authoritative participation of its member States in the debates of FAO, the issues arising in the *'Estai Case'* and the controversial actions of Canada and Chile, the former in arresting the *Estai* and the latter in adopting legislation creating a 'presential sea'. The last three developments in particular, exerted influential constraints during the Conference negotiations by highlighting the problems now arising from the existence of excess fishing capacity on the high seas which might lead to widespread unilateral action and thus exert pressure for the adoption of measures. The balancing of the duties and rights of coastal States and States fishing on the high

seas was the core goal aimed at the attempt to achieve a diplomatic consensus on a new international regime for fisheries on the high seas.

Chapter 3 examined the issues arising from the fact that the key legal questions concerning straddling and highly migratory fish stocks had been left unresolved by both the 1958 and the 1982 UN Conferences on the Law of the Sea and the resultant Conventions, respectively the 1958 Geneva Convention on Fishing and the 1982 UNCLOS. Articles 63.2 and 114-120 of the latter did not establish appropriate measures for conservation of stocks occurring within the EEZ of two or more states or both within an EEZ and the area beyond and adjacent to it. Subsequently, by establishing a core of general principles and rules, the 1995 SSA achieved the "equation" or "balance of interests" between coastal and fishing States on which a new, more conservatory regime could be based. These general principles and rules include specific provisions for the conservation and management of straddling and highly migratory fish stocks that are far more precise than those laid down in the 1982 UNCLOS. The adoption of concepts and approaches such as the Large Marine Ecosystem; acceptance of the need for the sustainability and protection of marine biodiversity; protection of the marine environment inhabited by the fish; procedures for monitoring, control and surveillance; a precautionary approach; and recognition and protection of the interests of artisanal and subsistence fishermen, mark an advance in international standards for the conservation and management of fisheries. In achieving this, the 1995 SSA Agreement is consistent with, but goes further than the UNCLOS on many issues, providing, with the support of other related international legal instruments, the legal basis for a new regime for fisheries on the high seas.

The study of the third element of the new regime, the organization and decision making procedures that deliver the operational aspects of the international regime is conducted in Chapter 4, on fisheries management organizations, and Chapter 5, on decision-making procedures. In Chapter 4 it was submitted that the 1995 SSA, as well as other related international legal instruments for fisheries on the high seas, is providing specific and detailed mechanisms for the process of restructuring existing and future fisheries organizations, as appropriate. Not all existing fisheries organizations require 'restructuring' although they may need to acquire better enforcement powers, perhaps by adoption of additional protocols establishing joint enforcement schemes. The 1995

SSA also qualifies the open access regime of high seas fisheries by restricting the access of non-contracting parties to specific areas. It was also concluded in Chapter 4 that despite these improvements, the new regime does not provide permanent mechanisms for ensuring that there is not get an effective linkage between all relevant fisheries organizations that would enable co-operation on and co-ordination of fisheries policies. This deficiency, if not resolved, could have serious implications for the future implementation of the new international regime for fisheries. Taking the view that the problem of linkage and co-ordination of fisheries organizations has not been resolved by the 1995 SSA, the analysis conducted in this Chapter led to the conclusion that FAO and the WTO are the most suitable organizations for ensuring this co-ordination and fostering the extensive institutional developments necessary for the implementation of the new regime. In this context, the WTO Shrimp-Turtle Ruling shows how both trade and conservation arguments are crucial to a settlement of fisheries disputes[901].

Chapter 5 considered the proposition that the 1995 SSA is in fact realigning the interests of coastal and fishing States in the global commons fisheries by redesigning the structure of the decision-making procedures relating to them. On the basis of this analysis of the system for decision-making, it was concluded that the Agreement is establishing a scientific basis, the minimum standards and a new equation of interests and measures which will ensure the compatibility of conservation and management measures for the management of both SFS and HMFS. In this respect, it was submitted that the Agreement is *by implication* reinforcing an institutional setting within which it is possible that, in the future, a system recognizing the property rights of fishermen in SFS will be established[902]. Thus, the new regime is bringing about a change of perspective: all rights are in reality 'shared powers' i.e. shared between the holder of the

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[901] See Matthew Stilwell and Charles Arden-Clarke, *Dispute Settlement in the WTO: A Crisis for Sustainable Development*, (CIEL, Oxfam and Community Nutrition Institute, 1998), pp. 2-5

[902] The economic problems, attributed to market failure and externalities (see Chapter 3, Section 1.2 of this thesis, 'the market failure approach'), such as fisheries problems, derive from weak or absent property rights (see Chapter 5, Section 5 of this thesis). The more extensive and higher quality the property rights are, the more efficient and productive the economy will be. As Arnason has demonstrated, property rights are limited for two basic factors: first, technical limitations, consisting in the need to resort to the use of indirect and imperfect property rights mechanisms such as harvesting rights in fisheries; and secondly, social limitations involving inevitably opposition to the changes, reallocations of power and radical shifts in the social institutions. See Ragnar Arnason, 'Property Rights as a Means of Economic Organization'. A Paper for the Course on Rights-based Fisheries Management, International Conference on the Use of Property Rights in Fisheries Management, Fremantle, Australia, 11-19 November 1999, pp. 19-21.

power and the community of States, in which regard for the interests of other States and of all States is of the essence[903]. This change of perspective is being driven by the fact that the international regulatory mechanisms are being reconstructed as part of a process of negotiated compromises between nation-states. Leyshon has pointed out that the tendency towards geoeconomic competition within the global economy precludes the construction of international regulatory mechanisms capable of controlling the tendency towards over accumulation on a world scale or preventing further environmental degradation[904].

The fourth factor upon which the new regime relies for its success is a new approach to compliance and enforcement mechanisms studied in Chapter 6. What is innovative about the 1995 SSA is surely that it makes the conduct of fisheries on the high seas conditional upon participation in the relevant fisheries Conventions (Organizations), which means conditioned by the rules, regulations and enforcement powers and mechanisms recognized in that Convention. The main proposition advanced in that chapter is that, by adopting innovative provisions, the 1995 SSA allocates enforcement powers to fisheries organizations and to States, mainly coastal States, and in this way regulates the freedom of fishing on the high seas. These provisions, which include mainly new obligations for flag States and new duties for and jurisdiction of port States as well as stringent procedures for boarding and inspecting, are necessary for solving the previous weaknesses and problems of securing effective compliance and enforcement on the high seas. The strength of its compliance and enforcement mechanisms creates high expectations for the efficacy of the future of the regime, if and when the 1995 SSA enters into force, taking into account that regimes with strong compliance mechanisms can considerably alter the behaviour of actor's participants.

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[903] Philip Allott, 'Power Sharing in the Law of the Sea', *AJIL*, 77 (1983), pp. 1-29. A book of interest in this broad context is P. Allott, *Eunomia*, (Oxford, Oxford University Press, 1990).

[904] Andrew Leyshon, 'The Transformation of Regulatory Order: Regulating the Global Economy and Environment', *Geoforum*, 23 (1992), p. 249. In the same direction, reviewing the role of market forms in environmental degradation, Judith Rees has demonstrated that the achievement of sustainable development will continue to depend on the complex process which create social values and drive political and economic decision making. Judith Rees, 'Markets: the Panacea for Environmental Regulation?', *Geoforum*, 23 (1992), p. 383. See also Judith Rees, *Natural Resources*, supra, note 24, pp. 129-132.

In addition to articulating the findings of the investigation into the enforcement aspects of the new regime, one of the purposes of this concluding chapter is to provide the basis for discussion of the directions that future policy and research concerning the development of international law for the global commons might take in particular concerning the nature and causes of substantive problems and the types of regulatory regimes to be established in order to dealt with them, which must effectively enable a solution. In this respect, it is submitted that the findings arising from the present research have implications for the analysis and practice of international law in general. Thus, the contribution of this research can be summarized under two headings: (*i*) providing a critique of the methodology for increasing the opportunities for interdisciplinary research in international law and international relations; and (*ii*) identifying the evolution of international legal regulation of the global commons in the future. These aspects are outlined below.

7.2 Interdisciplinary research in International Law and International Relations

The conclusions under this heading derive from the application of the methodological framework constructed for the analysis of the problematique addressed in this thesis. By bringing together, on one hand, the legal analysis of the 1995 SSA on international fisheries and, on the other, the theoretical dilemmas raised by evolving international regimes theory as developing in international relations, it is submitted that this thesis contributes to a better understanding of the problems and potentialities of developing international environmental law for the protection and management of the global commons and, in particular, of the recent attempts by the international society to establish an international regime for fisheries on the high seas, following failure of the previous attempts to do so. In fact, the implications of the "interlinked approach" are not new[905]. Various recent articles essays have claimed for the prospects and advantages of

[905] Alexandre Kiss and Dinah Shelton, 'System Analysis of International Law: A Methodological Inquiry', Netherlands Yearbook of International Law, 17 (1986), pp. 45-74; Kenneth Abbott, 'Modern International Relations Theory: A Prospectus for International Lawyers', *Yale Journal of International Law*, 14 (1989); Phillip Trimble, 'International Law, World Order, and Critical Legal Studies', *Stanford Law Review*, 42 (1990), pp. 811-845; John Gamble and Natalie Shields, 'International Legal Scholarship: a Perspective on Teaching and Publishing', *Journal of Legal Education* 39 (1989), pp. 39-46; David Kennedy, 'A New Stream of International Law Scholarship', *Wisconsin International Law Journal*, 7 (1988); Nigel Purvis, 'Critical Legal Studies in Public International Law' *HJIL* 32 (1991). Koskenniemi has stressed that the move away from general principles and formal rules into contextually determined equity may reflect a

interdisciplinarity between international law and international relations with particular references to International Regime Theory[906].

However, it is submitted that one of the main contributions of this thesis relates to the use and application in international law of the concept of the international regime, a widely studied theory in international relations which provides a specific link enabling the connection of two areas of social sciences which are often related in their subject matter but separated in academic discussion. In an enlightening article published in July 1998, Slaughter, Tulumello and Wood endorsed this approach, outlining the importance of law as an other "explanatory factor in the analysis of state behaviour in the international system"[907]. They have suggested ways of applying international regime theory in international law and international relations scholarship to generate theoretical explanations of particular substantive problems and to provide better understandings of the meaning and functions of institutions, procedures and international agreements such as the 1995 SSA[908]. In conclusion, these authors state that in the aftermath of the Cold War, the use of international regime theory is valuable to the extent that it sharpens our understanding of the function and structure of particular institutional arrangements within a deepening and mutually profitable dialogue between International Law and International Relations[909]. It is submitted that the findings of this thesis support the proposition that, if such an approach is followed, international institutions might better perform their functions for purposes of precluding the depletion of those fisheries that

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turn in the development of international legal thought and practice in which social conflict is increasingly met with flexible, contextually determines standards and compromises. See Martti Koskenniemi, 'The Politics of International Law', *EJIL*, 4 (1990), pp. 4-32.

[906] Recent works analysing the relationship between IR Theory and International Law include Anne-Marie Slaughter, 'International Law and International Relations Theory: A Dual Agenda', AJIL 87 (1993); Martti Koskenniemi, 'The Place of Law in Collective Security', *Michigan Journal of International Law*, 17 (1996) 455-464; Andreas Hasenclever, Peter Mayer and Volker Rittberger (eds.), *Theories of International Regimes*, (Cambridge, Cambridge University Press, 1997); Charles Kegley (ed.), *Controversies in International Relations Theory: Realism and the Neoliberal Challenge*, (St. Martins Press, 1995); Chris Brown, *International Relations Theory: New Normative Approaches*, (Columbia, Columbia University Press, 1993); Robert Beck et al. (eds.), *International Rules*, supra, note 60; and, most recently, Michael Byers, *Custom, Power and the Power of Rules*, supra, note 59.

[907] Anne-Marie Slaughter et al., 'International Law and International Relations Theory' supra, note 41, p. 367.

[908] Ibid, pp. 375-376.

[909] Ibid, p. 393.

are found in the global commons. A successful application of international regime theory in international law might encourage scholars to develop the theoretical basis of regime building and to apply this methodology to other international issues relating to natural resources and collective goods.

The essential quality of an inter-disciplinary approach is to understand the other discipline from the inside, using the methods and conclusions generated by others. International Relations approach has much to offer international law. As Hurrell has pointed out, the greatest contribution of international relations has been to develop a theoretically sophisticated account of norms and institutions and to be willing to face up to the difficult questions that lawyers have often avoided, in particular, under what conditions law is likely to be effective? and how can be explained variances in patterns of compliance? [910]. On the other hand, as Anne-Marie Slaughter has stressed, international law can have a strong influence on domestic politics through the mechanism of mobilizing domestic political actors and providing focal points for stable domestic equilibrium in a context where states are conceptualized in ways that render the domestic-international links as transparent as possible while maintaining the medium of State agency[911]. As regards a new international regime for fisheries on the high seas, this thesis, based on a method linking the international regime theory and the legal provisions of the SSA, has provided understanding on the factors that will strengthen reciprocity within the system for the purpose of ensuring that states will operate within the parameters of a regime. This approach has demonstrated the importance of identifying mechanisms by which all the actors will be convinced that there is no danger of defection and that it becomes worthwhile pursuing a collaborative strategy in order to produce the optimum result.

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[910] Andrew Hurrell, "Conclusion: International Law and the Changing Constitution of International Society", in Michael Byers, *The Role of Law in International Politics: Essays in International Relations and International Law*, (Oxford, Oxford University Press, 2.001), p. 328.

[911] Anne-Marie Slaughter, *International Law and International Relations*, Académie de Droit International, Recueil del Cours, Vol. 285, 2000, (The Hague, Martinus Nijhoff Publishers, 2001), p. 233.

7.3 The evolution of international regulations of the global commons

The second conclusion it is submitted also has far-reaching implications. The theoretical conclusion arising from this research is that, as regards fisheries on the high seas, the role of the State as a principal actor is now being shared with regional and sub-regional fisheries organizations. It is now widely recognized that, largely owing to globalization, the Westphalian system, premised on the concept of the sovereign independence of the State, is no longer operative and cannot be revived in the context of the trend to present globalization in the world affairs. During the coming decades, the operational sovereignty of formally sovereign governments "is likely to continue to be eroded by their own decisions, shaped by interdependence, to seek effectiveness at the expense of legal freedom of action"[912]. Anthony Arend argues that as the international system structure, including international legal rules, is socially constructed it plays a role in altering the identity of the actors[913]. Therefore, in today's setting, the only way most States can express and realize a 'new sovereignty' is through participation in the various regimes that regulate and order the international system. States have a propensity to comply with such regimes once established and the emerging conditions of the 'new sovereignty' have the potential to increase interactions, interdependence and reliance on international law and international regimes[914]. In this respect, in international environmental law, regional organizations, as well as NGOs, have been allowed new forms of access to and participation in the law-making process that makes them increasingly visible and important players in the process of international co-operation, and that participation often yields political, technical and informational benefits for States[915]. This is the direction to which Agenda 21 pointed the way, e.g. in Chapters 17, 27, 28 and 31.

Under the new regime, regional and sub-regional fisheries organizations have a much enhanced an increased role in the implementation of the provision of the 1995 SSA. Part III of the Agreement establishes the structure, functions and mechanisms of fisheries

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[912] Robert O. Keohane, 'Sovereignty, Interdependence, and International Institutions', in Linda Miller and Michael Joseph Smith (eds.), *Ideas and Ideals, Essays on Politics in Honour of Stanley Hoffmann*, (Boulder, Westview Press, 1993), p. 103.

[913] Anthony C. Arend, 'Do legal rules matter?', *Virginia Journal of International Law*, 38 (1998), p. 140.

[914] Chayes and Chayes, *New Sovereignty*, supra, note 766, p. 27.

organizations. The increased authority of such organizations derives from requirements that: all states fishing in a region either join or at least abide by the measures adopted by the relevant organization; only states which comply with those requirements will have access to the fisheries protected by a regional agreement; states which do not comply are obliged to prevent their vessels from fishing on the stock concerned; other States' members of the regional fishery or arrangement are permitted to take action consistent with international law to deter fishing by vessels from a state which is a non-member or participant. This investigation has substantiated the conclusion that the transfer of powers to regional and sub-regional fisheries organizations is absolutely necessary for the effective implementation of the new international regime. However, a crucial question remains: will the 1995 SSA and the FAO Compliance Agreement enter into force and, if so, for which States? The 1995 SSA could, if this occurs, mark the second time that the international community has gathered the political will to improve on the Convention, the first being the Agreement for the Implementation of Part XI. According to Burke,

> "Unless coastal States are satisfied that foreign fishing effort on straddling stocks can be brought under control either by international mechanisms or through directly agreed coastal States measures, the potential exists for another round of extended jurisdiction to get under way. If the 200 mile EEZ is breached as a result, an accelerating cascade of departures from the treaty could be set in motion, eroding if not destroying the stability of expectations that is the EEZ's foremost contribution to world order"[916].

The theoretical framework adopted for this investigation about international regimes comprehends five categories of analysis: (*i*) scientific and diplomatic consensus; (*ii*) general principles and rules; (*iii*) fisheries management organizations; (iv) decision-making procedures; and (*v*) compliance mechanisms. This methodological approach has facilitated the identification of the strengths and weakness of the new regime, which is basically formed by the 1995 SSA and other related international legally binding instruments for fisheries on the high seas as well as numerous non-binding ones. These instruments are: the 1982 United Nations Convention on the Law of the Sea; the 1993

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[915] Karl Raustiala, The "Participatory Revolution" in International Environmental Law', *HELR*, 21 (1997), pp. 537-586, at 584.

[916] W. T. Burke, 'Importance of the 1982 UN Convention on the Law of the Sea and its Future Development', *ODIL* 27 (1996), pp. 1-17.

FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas; the 1992 Convention on Biological Diversity and the Jakarta Mandate; UNCED's Declaration of Principles on Environment and Development and Agenda 21, particularly its Chapter 17; the FAO Code of Conduct for Responsible Fisheries; the UN Resolutions on Drifnet Fishing; and the Cancun Declaration.

The conclusions of this thesis further demonstrate that the strength of the new regime lies in its provision, at the international level, of a comprehensive set of rules and principles for the rational management of fisheries on the high seas. The 1982 UNCLOS provided the legal framework for the conservation and management of marine living resources beyond areas of national jurisdiction, but did not develop detailed measures for the settlement of conflicting claims to fisheries and conservation measures on the high seas. Neither did it establish decision-making procedures requiring the establishment of fisheries organizations and compliance mechanisms to ensure adequate governance of those resources. Now, however, on the basis of a renewed "balance of interests" between coastal States and States fishing on the High Seas, a new "legal equation" has emerged. The new 1995 SSA has the potential to set important precedents in international law for the conservation and management of international fisheries. The balancing of rights and duties in an increasingly interdependent world is indeed a necessary direction in which international environmental law must head:

> "On the one hand, States have the right to pursue freely their own economic and environmental policies, including conservation and utilization of their natural wealth and the free disposal of their natural resources; on the other hand, obligations and responsibilities have emerged, which confine States' freedom of action"[917].

This thesis has demonstrated that the 1995 SSA not only implements the 1982 UNCLOS but also goes beyond it, providing the legal basis for the new regime. This new system is clearly limiting the principle of freedom of fishing i.e. in conditioning the right to fish on the high seas, as well as establishing more rigorous rules for navigation

[917] Nico Schrijver, *Sovereignty Over Natural Resources. Balancing Rights and Duties*, (Cambridge, Cambridge University Press, 1997), p. 252. See also Camilleri and Falk, *The End of Sovereignty*, supra, note 232, p. 145.

on the high seas with the clear purpose of conserving and managing straddling and highly migratory fish stocks. In so doing, the 1995 SSA is not in conflict with the principle of freedom of the high seas, as recognized by international law. Philip Allott has demonstrated that "the story of the development of international society since 1945 is the story of a progression from legal freedoms to legal powers"[918], in which a freedom implies the absence of legal control while a power implies the absence of unfettered discretion. Each holder of a power under the law must act as an agent of all society. In that writer's opinion, in modern international society, the authority flows from those who participate in the system[919]. Allott concludes that states are not only representatives of their nationals, but are also appointed as representatives of the international community as a whole[920] to organize the world governance[921].

Further correlative findings from this investigation concerning the weaknesses of the new regime emerge from and justify the use of the multi-level analysis adopted in this thesis. These weaknesses can be identified as follows: first, the Agreement does not make specific provision for linkage and co-ordination between regional and sub-regional fisheries organizations although this is vital to the implementation of the Large Marine Ecosystem approach. Secondly, although new entrants have always presented a problem in international fisheries organizations, such organizations will have to face complex problems in the future, mainly regarding the possibility of new members entering such organizations as well as the larger number of members and participants in such organizations demanding access to the fishery. Thirdly, external economic factors identified in this investigation can negatively affect the new regime particularly on the one hand, the increasing number of new vessels now added every year to the world's large-scale industrial fishing fleet; and, on the other, payment of government subsidies that currently encourage overfishing.

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[918] Philip Allott, 'Power Sharing', supra, note 903, pp. 1-28.

[919] Ibid., p. 27.

[920] Ibid.

[921] Global Governance means doing internationally what governments do at home. Global Governance transcends national frontiers and has been defined by Finkelstein as "governing without sovereign authority". See Lawrence Finkelstein, 'What is Global Governance?', *Global Governance*, 1 (1995), pp. 367-375. Desai has defined Global Governance as a framework of rules by which all the participants agree to abide. See Desai and Redfern (eds.), *Global Governance*, supra, note 309, p. 19.

These are complex matters solutions to which demand improved international co-operation and adequate political conditions for a comprehensive approach to the management of the global commons. This thesis identifies possible opportunities to overcome the factors that weaken the new regime of fisheries on the high seas. First, for purposes of improving the co-ordination of fisheries organizations and their co-ordination with commissions, it seems that FAO and WTO are the most suitable organizations to ensure such a co-ordination and to foster extensive institutional developments for protection of the marine living resources in the high seas, taking into account the number of regional fisheries organizations already created and functioning under the auspices of FAO and, on the other hand the linkage between trade and the exploitation of international fish stocks. Secondly, concerning new entrants, the conclusion from this investigation is that the Agreement is *de facto* contributing to the establishment of an institutional framework within which a form of property rights could be recognized. In a rights-based fishery, regulators grant each participant the right to gain access to a geographic area at certain times. It is widely recognized in economic theory that setting up private or public ownership of previously unowned resources will create a better opportunity for their sustainable use. Therefore, in this regard, the 1995 SSA is a positive step in the right direction.

Only with a comprehensive and accurate understanding of fishing industries as well as of its constituent components can fishery policies be properly formulated[922]. Therefore, the issue concerning subsidies and the increasing number of fishing and industrial fishing vessels deserves deeper analysis. It is clear that States, as the main actors in the international system, can determine their behaviour unilaterally and they are able to pursue what are basically their own interests. Thus, at the present stage, many States are promoting development of shipping technology in order to improve the fishing capacity of their industrial fleets. In addition, according to World Bank and FAO estimates, many states, developed states in particular, provide annually between 25-50 billion US dollars in the form of government subsidies to the fishing industry. These two activities

[922] Policy makers and fishery managers require accurate overviews of the performance of their harvesting sectors; productivity or fishing power, trends in effective, as opposed to nominal effort; and productivity "creep" due to unmeasurable factors. See Dale Squires, 'Sources of Growth in Marine Fishing Industries', *Marine Policy*, 18 (1994), pp. 4-11. In addition, Burke recognizes that the management difficulties concerning straddling stocks are not responsible for the widespread failure of fishery management around the globe. W. T. Burke, 'Importance of the 1982 Convention on the Law of the Sea and its Future Development', *ODIL*, 27 (1996), pp. 1-7, at 3.

are increasingly contributing to the plundering of fish stocks and could undermine the new regime. It has been concluded that industrial fishing fleets capacity must be cut by 50 per cent if overfishing is to be eliminated and stocks allowed to recover, and that subsidies must be progressively dismantled. The WTO Subsidies and Countervailing Measures Agreement provide justification for eliminating subsidies which encourage over fishing[923]. However, doing this will require serious commitments and strict implementation at the regional and national levels to become effective[924].

This thesis has demonstrated that the setting of biological objectives alone is not sufficient for the conservation and management of straddling fish stocks. Economic and political objectives also need to be considered for fisheries at the international level. At its present stage, the international system may appear 'anarchical'. As the late Hedley Bull pointed out in 1977,

> "To avert a universal 'tragedy of the commons', all men in the long run may have to learn to accept limitations of their freedom to determine the size of their families, to consume energy and other resources and to pollute their environment, and a states system that cannot provide these limitations may be dysfunctional"[925].

This concept of 'anarchical' international system is closely associated to the economist's model of the perfect market. Outcomes are supposed to emerge automatically as aggregate results of unilateral decisions on the basis of 'spontaneous' co-ordination. But, the fact of the matter is that, so far, the international system has not been effective for the conservation and management of international fisheries. Because the high seas are in effect 'unowned', any State[926] can use, and often abuse them, with relative dispensation. There are no market mechanisms through which access to a common property fisheries'

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[923] Although not aimed at eliminating subsidies, the Council of the European Union has recently adopted a Resolution laying down detailed rules and arrangements limiting the provision of Community structural assistance in the fisheries sector. Council Resolution (EC) No. 2792/1999 of 17 December 1999. Official Journal of the European Community, L337/10, 30.12.1999.

[924] The issue of subsidy reform in the fisheries sector has been introduced as part of the agenda for serious consideration in the context of the next round of multilateral trade negotiations. See 'Fisheries Subsidies and Overfishing: Toward a Structured Discussion', Paper prepared and presented by Gareth Porter for the UNEP Fisheries Workshop, Geneva, 12 February 2001, Economics and Trade Unit, UNEP.

[925] Hedley Bull, *The Anarchical Society. A Study of Order in World Politics*, (London, MacMillan, Second Edition 1995), p. 283.

resource could be allocated among users. As demonstrated in this thesis, the main purpose of the new regime is that it will effect the transformation of fisheries from the status of a common property resource to a system based on limited entry. This "market failure" can be overcome only by hierarchical co-ordination.

But in spite of, or because of, this 'anarchical' system and market failures, new institutions are emerging. Pursuing their own interests, States are now able to co-ordinate their behaviour within international organizations established by them in common and are also able to establish international regimes charged to act according to commonly agreed standards[927]. In this context, the role of international law to date has been paradoxical and somewhat ambiguous, as it has contributed, in the view of some authors, to retarding the development of international society as a common society:

> "failing to recognize itself as a society, international society has not known that it has a constitution. Not knowing its own constitution, it has ignored the generic principles of a constitution"[928].

It is in this context that study of international regime theory applied to the global commons can bring insights into international law. Regime theory brings together international law and political factors to help in the understanding of why and how States may co-operate even in the absence of international global authorities and hegemonic powers that could forcefully influence them to do so[929]. In international regime theory, co-ordination is not based on spontaneous co-ordination of the market, but on a community-oriented approach based on the voluntary implementation of obligations by the actors involved[930]. In this perspective, negotiation, balancing of

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[926] A fisherman will need to fly a flag to operate on the seas.

[927] More than 110 countries have adopted a new Plan of Action Against Illegal, Unregulated and Unreported (IUU) Fishing promoted by the FAO. Although a voluntary Agreement, the Plan aims at preventing, deterring and eliminating IUU fishing making more difficult for fishing vessels to threaten the sustainability of the fisheries resources, stressing flag State Responsibility. FAO Press Release 01/11, Rome, 2 March, 2001. See also Greenpeace News Headlines, Newslink, Friday, 2 March, 2001, Greenpeace International, http://www.greenpeace.org

[928] Philip Allott, *Eunomia*, supra, note 903, p. 418.

[929] Gerd Junne, 'Beyond Regime Theory', *Acta Politica*, Amsterdam, January 1992/1.

[930] Lee Kimball has identified three categories of functions performed by international institutions which must be integrated in order to serve the needs of protecting the global environment: scientific data and technical skills; compliance and enforcement; and effective co-ordination. See Lee Kimball, 'International Law and Institutions: the Oceans and Beyond', *ODIL*, 20 (1989), pp. 147-165.

individual interests and the development of common perception of a global problem and its appropriate solution are essential aspects of regime formation[931]. The role played by the United Nations in the last twenty years has been substantial in developing new rules and norms of international law for co-operation and settlement of disputes[932]. More specifically, the United Nations has provided global forums for negotiation and adoption of international agreements, codes and declarations that tackle complex problems of fisheries in international law. Thus, the United Nations promotes the setting of new regimes, but States are expected to act under international law in *bonnae fides* for the benefit of collective co-operation, a principle that also underpins the effectiveness of treaty law.

Whether the new international regime for fisheries on the high seas actually emerges or not, is more a matter of better international co-operation and, therefore, of the capacity of States to overcome their conflicts in the future[933], taking into account that, in strict application of the *pacta tertiis* rule[934], the 1995 Agreement does not create any legal obligation for third States, but only for the States parties[935]. The key issue, with respect to the viability of the Agreement continues to be the resolution of the 'new members

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[931] Thomas Gehring, *Dynamic International Regimes. Institutions for International Environmental Governance*, (Berlin, Peter Lang, 1994), pp. 482-483.

[932] Christopher Joyner, *The United Nations as International Law-giver, in The United Nations and International Law*, (Cambridge, ASIL and Cambridge University Press, 1997), p. 457.

[933] According to Art. 40, the 1994 SSA will enter into force 30 days after the date of deposit of the thirtieth instrument of ratification or accession. The SSA has been ratified by 29 States: Australia, Bahamas, Barbados, Brazil, Canada, Cook Islands, Costa Rica, Fiji, Iceland, Islamic Republic of Iran, Maldives, Mauritius, The Federated States of Micronesia, Monaco, Namibia, Nauru, New Zealand, Norway, Papua New Guinea, Russian Federation, Saint Lucia, Samoa, Senegal, Seychelles, Solomon Islands, Sri Lanka, Tonga, United States of America and Uruguay. Information updated on 27 August 2001, as available on 2 October 2001, on http://www.un.org/Depts/los/Fish-status.htm. While there are some important fishing States absent from the list of ratifications such as the EU and Japan, it seems that it is just a matter of time before the thirtieth ratification is reached.

[934] *Pacta tertiis nec nocent nec prosunt* (agreements do not give rights, neither do they impose obligations on third States) is a basic rule of customary international law dating back to Roman law. See R. Bledsoe and B. Boczek, *The International Law Dictionary*, (Santa Barbara, ABC-Clio, Inc., 1987), pp. 259-260.

[935] Erik Franckx, '*Pacta Tertiis* and the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 december 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks', FAO Legal Papers, Online, No. 8, June 2000. Document in electronic form as available on http://www.fao.org/Legal/Prs-OL/franckx.pdf on 5 March 2000.

problem' and the 'interloper problem'[936]. The 1982 UNCLOS can effectively influence the process of applying the provisions of the 1995 SSA through the participation of States in the process of elaborating norms, rules and standards for international fisheries. The participation of both coastal and fishing States in UNCLOS will be crucial for the implementation on the SSA[937]. The potential for collective action will increase as States begin truly to understand the need for co-operative action and as this understanding outweighs the bias toward the assertion of national sovereignty[938]. The need for integrated, fully functioning authoritative and legitimate regimes for managing the global environment has become increasingly pressing[939]. Johnson has stated that it is not possible to propel the concept of "global resources" too far without coming into conflict with the basic principles of international law as we know them today, in particular, the principle of the sovereignty of States[940]; however, global environmental problems require nations to surrender some sovereignty in order to facilitate and benefit of collective action[941].

The new regime for fisheries has been progressively developed in the direction of reliance on the principle of long-term reciprocity through acceptance of participatory rights. Away from competitive fishing, this regime has been designed to restructure

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[936] According to Bjorndal and Munro, the resolution of these issues will demand the skills and ingenuity of economists and specialists in international law working in close collaboration, a proposal that suggest, indirectly, the need for dealing with high seas fisheries in the context of the International Regime Theory. See Trond Bjorndal and Gordon Munro, 'The Management of High Seas Fisheries Resources and the Implementation of the U. N. Fish Stocks Agreement of 1995: Problems and Prospects'. Article in electronic form as available on http://osu.orst.edu/dept/IIFET/2000/papers/bjorndal.pdf on 5 March 2001.

[937] See A.L. Kolodkin, V.V. Andrianov and V. A. Kiselev, 'Legal Implications of Participation and or Non-participation in the 1982 Convention', *Marine Policy*, July 1988.

[938] Susan Bragdon, 'National Sovereignty and Global Environment Responsibility: Can the Tension be Reconciled for the Conservation of Biological Diversity?', *Harvard International Law Review*, 33 (1992), pp. 381-392.

[939] Nazli Choucri and Robert C. North, 'Global Accord: Imperatives for the Twenty-First Century', in Choucri (ed.), *Global Accord*, supra, note 74, p. 495.

[940] Therefore, according to him, "in years to come, we shall certainly see more intergovernmental co-operation designed to achieve common actions in areas of common concern"; Stanley Johnson, 'Evolving Perceptions: Legal Aspects of the Protection of the Environment in Areas not Subject to National Jurisdiction (Global Commons)', in N. Al-Nauimi and R. Meese (eds.), *International Legal Issues Arising under the United Nations Decade of International Law* (Kluwer, The Netherlands, 1995), pp. 295-315.

[941] Geoffrey Palmer, 'New Ways to Make International Environment Law', supra, note 761, pp. 259-271.

incentives towards rational exploitation and conservation[942]. The depletion of fish stocks is causing wider changes and repercussions in the ocean environment and can affect food security patterns[943]. Declining production and international concern about the sustainability of capture fisheries have the potential to hasten the fisheries' collapse and create major disorder in the world's international system. Declining fisheries in the high seas could incite a real threat to oceanic security and the potential for critical generation of problems is always present[944]. If international society, as it should under the UN Charter, is to prevent extensive outbreaks of conflict, its members have no option but to implement the new regime. Concerning this, in adopting 'managerial' approaches to compliance, the 1995 SSA offers two avenues for implementation. First, the legal obligations of States regarding conservation and management of straddling and highly migratory fish stocks can be 'internalized' in domestic legislation through a process of 'internal acceptance' based mainly on collective interests, rather than on 'imposition'[945]. Secondly, avoiding any attempt to create tools for coercion, the new regime has introduced the possibility of resort to the sanction of international embarrassment and the social opprobrium that accompanies the disclosure of a responsible state's dereliction of its internationally accepted obligations[946]. Reciprocity is also frequently cited as a reason why international law does work[947]. These are, undoubtedly, major achievements of the new regime for international fisheries.

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[942] According to Ellen Hey, behind the developments in the law for international fisheries lies a reconceptualization that involves a shift in the perception of both the interests to be protected and the nature of the actor to be regulated; this reconceptualization in turn has affected the relationship between the duty to cooperate and the right of access to high seas fisheries resources. See Ellen Hey, 'Reconceptualization of the Issues Involved in International Fisheries Conservation and Management', in Ellen Hey (ed.), *Developments in International Fisheries Law*, (Dordrecht, Kluwer Law International, 1999), pp. 577-578. In opinion of Hedley, "in recent years, the international law of fisheries has undergone something of a revolution". See Chris Hedley, 'International Relations and the Common Fisheries Policy: the Legal Framework', Document on electronic form as available on 5 March, 2001, on the Web Site http://www.oceanlaw.net/hedley/pubs/bergen2000.htm

[943] Brown and Kane, *Full House*, supra, note 548, pp. 75-88.

[944] James M. Broadus and Raphael V. Vartanov, *The Oceans and Environmental Security. Shared U.S. and Russian Perspectives*, (Washington, Island Press, 1994), p. 248.

[945] Harold Hongju Koh, Why Do Nations Obey International Law?, *Yale Law Journal*, 106 (1997), pp. 2549-2568. According to Chayes and Chayes, "the fundamental instrument for maintaining compliance with treaties at an acceptable level is an iterative process of discourse among the parties, the treaty organization, and the wider public", supra, note 766, pp. 25.

[946] Colburn, 'Turbot Wars', supra, note 41, p. 363.

[947] See Georges Abi-Saab, 'De la sanction en Droit International. Essai de clarification', in Makarczyk (ed.), *Theory of International Law*, supra, note 83, pp. 61-78, and in particular pp. 69-70.

This thesis represents an attempt to study a specific international environmental problem holistically rather than in a pragmatic way. This interdisciplinary investigation into international law and international relations focused on high seas fisheries has been traversed by the idea that international regime theory provides an integrated and adequate framework for the study of interstate co-operation over fisheries regarded as a global commons. The central problem here is how to integrate the approach concerning interstate relations regarding fisheries on the high seas with an understanding of a State's position within a global market. In this context, this thesis has attempted to contribute to the knowledge about both the theoretical and pragmatic legal issues arising in relation to the emerging regime of fisheries on the high seas. To the extent that the resolution of the problem of depletion of fisheries on the high seas requires political measures to be taken in order to restrain production and to introduce mechanisms of more equitable justice and distribution[948], it will also require broad transformation in States' legal interactions on this issue. Indeed, any interdisciplinary enterprise in such fields cannot finish with limited integration of international law and international relations. As Byers argues, "other disciplines, such as history, economics, sociology, linguistics and theology, may also be relevant to an integrated study of international society"[949]. In the same direction, Lynne Jurgielewicz has pointed out that,

> "while international law is not politics or economics or sociology, it is surely shaped by these areas, and understanding not only that but the manner in which those disciplines go about their scholarly pursuits is essential. The use of regime theory within international law requires that this interdisciplinary linkage be observed and incorporated as part of international legal studies"[950].

Principles and rules are the core of international law and establishment of international regimes. Byers has pointed out that the impact of a legal rule derives not merely from its having been 'iterated' but from "the fact that it is the result of a rule creating processes

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[948] According to FAO, 20 States take 80% of world marine catches. FAO, The State of World Fisheries and Aquaculture, supra, note 16, p. 6.

[949] Byers, *Custom, Power and the Power of Rules*, supra, note 59, p. 215.

[950] Lynne Jurgielewicz, *Global Environmental Change and International Law*, supra, note 56, p. 250. See also, Lynne Jurgielewicz, 'Global Environmental Change and International Law: Prospects for Progress in the Legal Order', PhD Thesis, University of London, 1994, Institute of Advanced Legal Studies Library, Thesis 756, p. 341.

within a legal system"[951]. Customary rule-creating processes as well as treaties give rules a legal specificity that enables them to shape future behaviour through a sense of obligation, thus constraining and modifying state power[952]. By focusing on the 1995 SSA, this thesis has used International Regime Theory to explain the role and function of law in conserving SFS and HMFS on the high seas and, on the other hand, to explain why States have an incentive to create and implement a new international regime for international fisheries. The 1995 SSA and related international instruments; new developments with respect to non-members and non-participants adopted by some international fisheries organizations; and the Plans of Action adopted by FAO regarding illegal, unregulated and unreported fishing (Section 4, Chapter 4), prove that the new regime for high seas fisheries is a reality in the international arena. This new regime responds to the need for concerted action to develop regional and sub-regional cooperation and harmonization with respect to scientific and diplomatic consensus, principles and rules, international organizations, decision-making procedures, monitoring, control, surveillance and enforcement concerning international fisheries.

Environmental issues, including fisheries on the high seas, emerged in the late twentieth century as a major focus of international concern and activity. Much international political activity related to environmental issues has focused on the development and implementation of regimes, involving a wide range of actors, legal instruments and decision-making processes. International regime theory provides important insights into the character of such activities, in particular raising questions about the role of states in environmental politics; the relationship between power and science; and the distinctions between international and domestic spheres of activity. However, it is important to recognize that regimes are essentially reformist and have been regarded as falling short for the task of changing the socio-economic processes generating environmental degradation.

The theoretical framework adopted for this thesis, based on the International Regime Theory and the provisions of the SSA, may help States and actors to make their required

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[951] Michael Byers, 'Taking the Law out of International Law', *HILJ*, 38 (1997), pp. 201-226.

[952] Michael Byers, Custom, Power and the Power of Rules: Customary International Law from an Interdisciplinary Perspective', *Michigan Journal of International Law*, 17 (1995), p. 109.

behaviour intelligible within a rational-choice mode of analysis that emphasizes, at the same time, the role of international legal obligations and duties as well as the role of incentives and constraints for compliance and enforcement.

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A N N E X

1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks

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STRADDLING FISH STOCKS AND
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Sixth session
New York, 24 July-4August 1995

AGREEMENT FOR THE IMPLEMENTATION OF THE PROVISIONS OF THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA OF 10 DECEMBER 1982 RELATING TO THE CONSERVATION AND MANAGEMENT OF STRADDLING FISH STOCKS AND HIGHLY MIGRATORY FISH STOCKS

AGREEMENT FOR THE IMPLEMENTATION OF THE PROVISIONS OF THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA OF 10 DECEMBER 1982 RELATING TO THE CONSERVATION AND MANAGEMENT OF STRADDLING FISH STOCKS AND HIGHLY MIGRATORY FISH STOCKS

The States Parties to this Agreement,

Recalling the relevant provisions of the United Nations Convention on the Law of the Sea of 10 December 1982,

Determined to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks,

Resolved to improve cooperation between States to that end,

Calling for more effective enforcement by flag States, port States and coastal States of the conservation and management measures adopted for such stocks,

Seeking to address in particular the problems identified in chapter 17, programme area C, of Agenda 21 adopted by the United Nations Conference on Environment and Development, namely, that the management of high seas fisheries is inadequate in many areas and that some resources are overutilized; noting that there are problems of unregulated fishing, over-capitalization, excessive fleet size, vessel reflagging to escape controls, insufficiently selective gear, unreliable databases and lack of sufficient cooperation between States,

Committing themselves to responsible fisheries,

Conscious of the need to avoid adverse impacts on the marine environment, preserve biodiversity, maintain the integrity of marine ecosystems and minimize the risk of long-term or irreversible effects of fishing operations,

Recognizing the need for specific assistance, including financial, scientific and technological assistance, in order that developing States can participate effectively in the conservation, management and sustainable use of straddling fish stocks and highly migratory fish stocks,

Convinced that an agreement for the implementation of the relevant provisions of the Convention would best serve these purposes and contribute to the maintenance of international peace and security,

Affirming that matters not regulated by the Convention or by this Agreement continue to be governed by the rules and principles of general international law,

Have agreed as follows:

PART I

GENERAL PROVISIONS

Article 1

Use of terms and scope

1. For the purposes of this Agreement:

(a) "Convention" means the United Nations Convention on the Law of the Sea of 10 December 1982;

(b) "conservation and management measures" means measures to conserve and manage one or more species of living marine resources that are adopted and applied consistent with the relevant rules of international law as reflected in the Convention and this Agreement;

(c) "fish" includes molluscs and crustaceans except those belonging to sedentary species as defined in article 77 of the Convention; and

(d) "arrangement" means a cooperative mechanism established in accordance with the Convention and this Agreement by two or more States for the purpose, inter alia, of establishing conservation and management measures in a subregion or region for one or more straddling fish stocks or highly migratory fish stocks.

2. (a) "States Parties" means States which have consented to be bound by this Agreement and for which the Agreement is in force.

(b) This Agreement applies mutatis mutandis:

(i) to any entity referred to in article 305, paragraph 1 (c), (d) and (e), of the Convention and

(ii) subject to article 47, to any entity referred to as an "international organization" in Annex IX, article 1, of the Convention

which becomes a Party to this Agreement, and to that extent "States Parties" refers to those entities.

3. This Agreement applies mutatis mutandis to other fishing entities whose vessels fish on the high seas.

Article 2

Objective

The objective of this Agreement is to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks through effective implementation of the relevant provisions of the Convention.

Article 3

Application

1. Unless otherwise provided, this Agreement applies to the conservation and management of straddling fish stocks and highly migratory fish stocks beyond areas under national jurisdiction, except that articles 6 and 7 apply also to the conservation and management of such stocks within areas under national jurisdiction, subject to the different legal regimes that apply within areas under national jurisdiction and in areas beyond national jurisdiction as provided for in the Convention.

2. In the exercise of its sovereign rights for the purpose of exploring and exploiting, conserving and managing straddling fish stocks and highly migratory fish stocks within areas under national jurisdiction, the coastal State shall apply mutatis mutandis the general principles enumerated in article 5.

3. States shall give due consideration to the respective capacities of developing States to apply articles 5, 6 and 7 within areas under national jurisdiction and their need for assistance as provided for in this Agreement. To this end, Part VII applies mutatis mutandis in respect of areas under national jurisdiction.

Article 4

Relationship between this Agreement and the Convention

Nothing in this Agreement shall prejudice the rights, jurisdiction and duties of States under the Convention. This Agreement shall be interpreted and applied in the context of and in a manner consistent with the Convention.

PART II

CONSERVATION AND MANAGEMENT OF STRADDLING FISH STOCKS AND HIGHLY MIGRATORY FISH STOCKS

Article 5

General principles

In order to conserve and manage straddling fish stocks and highly migratory fish stocks, coastal States and States fishing on the high seas shall, in giving effect to their duty to cooperate in accordance with the Convention:

(a) adopt measures to ensure long-term sustainability of straddling fish stocks and highly migratory fish stocks and promote the objective of their optimum utilization;

(b) ensure that such measures are based on the best scientific evidence available and are designed to maintain or restore stocks at levels capable of producing maximum sustainable yield, as qualified by relevant environmental and economic factors, including the special requirements of developing States, and taking into account fishing patterns, the interdependence of stocks and any generally

recommended international minimum standards, whether subregional, regional or global;

(c) apply the precautionary approach in accordance with article 6;

(d) assess the impacts of fishing, other human activities and environmental factors on target stocks and species belonging to the same ecosystem or associated with or dependent upon the target stocks;

(e) adopt, where necessary, conservation and management measures for species belonging to the same ecosystem or associated with or dependent upon the target stocks, with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened;

(f) minimize pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species, (hereinafter referred to as non-target species) and impacts on associated or dependent species, in particular endangered species, through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost-effective fishing gear and techniques;

(g) protect biodiversity in the marine environment;

(h) take measures to prevent or eliminate overfishing and excess fishing capacity and to ensure that levels of fishing effort do not exceed those commensurate with the sustainable use of fishery resources;

(i) take into account the interests of artisanal and subsistence fishers;

(j) collect and share, in a timely manner, complete and accurate data concerning fishing activities on, inter alia, vessel position, catch of target and non-target species and fishing effort, as set out in Annex I, as well as information from national and international research programmes;

(k) promote and conduct scientific research and develop appropriate technologies in support of fishery conservation and management; and

(l) implement and enforce conservation and management measures through effective monitoring, control and surveillance.

Article 6

Application of the precautionary approach

1. States shall apply the precautionary approach widely to conservation, management and exploitation of straddling fish stocks and highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment.

2. States shall be more cautious when information is uncertain, unreliable or inadequate. The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.

3. In implementing the precautionary approach, States shall:

(a) improve decision-making for fishery resource conservation and management by obtaining and sharing the best scientific information available and implementing improved techniques for dealing with risk and uncertainty;

(b) apply the guidelines set out in Annex II and determine, on the basis of the best scientific information available, stock-specific reference points and the action to be taken if they are exceeded;

(c) take into account, inter alia, uncertainties relating to the size and productivity of the stocks, reference points, stock condition in relation to such reference points, levels and distribution of fishing mortality and the impact of fishing activities on non-target and associated or dependent species, as well as existing and predicted oceanic, environmental and socio-economic conditions; and

(d) develop data collection and research programmes to assess the impact of fishing on non-target and associated or dependent species and their environment, and adopt plans which are necessary to ensure the conservation of such species and to protect habitats of special concern.

4. States shall take measures to ensure that, when reference points are approached, they will not be exceeded. In the event that they are exceeded, States shall, without delay, take the action determined under paragraph 3 (b) to restore the stocks.

5. Where the status of target stocks or non-target or associated or dependent species is of concern, States shall subject such stocks and species to enhanced monitoring in order to review their status and the efficacy of conservation and management measures. They shall revise those measures regularly in the light of new information.

6. For new or exploratory fisheries, States shall adopt as soon as possible cautious conservation and management measures, including, inter alia, catch limits and effort limits. Such measures shall remain in force until there are sufficient data to allow assessment of the impact of the fisheries on the long-term sustainability of the stocks, whereupon conservation and management measures based on that assessment shall be implemented. The latter measures shall, if appropriate, allow for the gradual development of the fisheries.

7. If a natural phenomenon has a significant adverse impact on the status of straddling fish stocks or highly migratory fish stocks, States shall adopt conservation and management measures on an emergency basis to ensure that fishing activity does not exacerbate such adverse impact. States shall also adopt such measures on an emergency basis where fishing activity presents a serious threat to the sustainability of such stocks. Measures taken on an emergency basis shall be temporary and shall be based on the best scientific evidence available.

Article 7

Compatibility of conservation and management measures

1. Without prejudice to the sovereign rights of coastal States for the purpose of exploring and exploiting, conserving and managing the living marine resources within areas under national jurisdiction as provided for in the Convention, and the right of all

States for their nationals to engage in fishing on the high seas in accordance with the Convention:

(a) with respect to straddling fish stocks, the relevant coastal States and the States whose nationals fish for such stocks in the adjacent high seas area shall seek, either directly or through the appropriate mechanisms for cooperation provided for in Part III, to agree upon the measures necessary for the conservation of these stocks in the adjacent high seas area;

(b) with respect to highly migratory fish stocks, the relevant coastal States and other States whose nationals fish for such stocks in the region shall cooperate, either directly or through the appropriate mechanisms for cooperation provided for in Part III, with a view to ensuring conservation and promoting the objective of optimum utilization of such stocks throughout the region, both within and beyond the areas under national jurisdiction.

2. Conservation and management measures established for the high seas and those adopted for areas under national jurisdiction shall be compatible in order to ensure conservation and management of the straddling fish stocks and highly migratory fish stocks in their entirety. To this end, coastal States and States fishing on the high seas have a duty to cooperate for the purpose of achieving compatible measures in respect of such stocks. In determining compatible conservation and management measures, States shall:

(a) take into account the conservation and management measures adopted and applied in accordance with article 61 of the Convention in respect of the same stocks by coastal States within areas under national jurisdiction and ensure that measures established in respect of such stocks for the high seas do not undermine the effectiveness of such measures;

(b) take into account previously agreed measures established and applied for the high seas in accordance with the Convention in respect of the same stocks by relevant coastal States and States fishing on the high seas;

(c) take into account previously agreed measures established and applied in accordance with the Convention in respect of the same stocks by a subregional or regional fisheries management organization or arrangement;

(d) take into account the biological unity and other biological characteristics of the stocks and the relationships between the distribution of the stocks, the fisheries and the geographical particularities of the region concerned, including the extent to which the stocks occur and are fished in areas under national jurisdiction;

(e) take into account the respective dependence of the coastal States and the States fishing on the high seas on the stocks concerned; and

(f) ensure that such measures do not result in harmful impact on the living marine resources as a whole.

3. In giving effect to their duty to cooperate, States shall make every effort to agree on compatible conservation and management measures within a reasonable period of time.

4. If no agreement can be reached within a reasonable period of time, any of the States concerned may invoke the procedures for the settlement of disputes provided for in Part VIII.

5. Pending agreement on compatible conservation and management measures, the States concerned, in a spirit of understanding and cooperation, shall make every effort to enter into provisional arrangements of a practical nature. In the event that they are unable to agree on such arrangements, any of the States concerned may, for the purpose of obtaining provisional measures, submit the dispute to a court or tribunal in accordance with the procedures for the settlement of disputes provided for in Part VIII.

6. Provisional arrangements or measures entered into or prescribed pursuant to paragraph 5 shall take into account the provisions of this Part, shall have due regard to the rights and obligations of all States concerned, shall not jeopardize or hamper the reaching of final agreement on compatible conservation and management measures and shall be without prejudice to the final outcome of any dispute settlement procedure.

7. Coastal States shall regularly inform States fishing on the high seas in the subregion or region, either directly or through appropriate subregional or regional fisheries management organizations or arrangements, or through other appropriate means, of the measures they have adopted for straddling fish stocks and highly migratory fish stocks within areas under their national jurisdiction.

8. States fishing on the high seas shall regularly inform other interested States, either directly or through appropriate subregional or regional fisheries management organizations or arrangements, or through other appropriate means, of the measures they have adopted for regulating the activities of vessels flying their flag which fish for such stocks on the high seas.

PART III

MECHANISMS FOR INTERNATIONAL COOPERATION CONCERNING STRADDLING FISH STOCKS AND HIGHLY MIGRATORY FISH STOCKS

Article 8

Cooperation for conservation and management

1. Coastal States and States fishing on the high seas shall, in accordance with the Convention, pursue cooperation in relation to straddling fish stocks and highly migratory fish stocks either directly or through appropriate subregional or regional fisheries management organizations or arrangements, taking into account the specific characteristics of the subregion or region, to ensure effective conservation and management of such stocks.

2. States shall enter into consultations in good faith and without delay, particularly where there is evidence that the straddling fish stocks and highly migratory fish stocks concerned may be under threat of over-exploitation or where a new fishery is being developed for such stocks. To this end, consultations may be initiated at the request of any interested State with a view to establishing appropriate arrangements to ensure conservation and management of the stocks. Pending agreement on such

arrangements, States shall observe the provisions of this Agreement and shall act in good faith and with due regard to the rights, interests and duties of other States.

3. Where a subregional or regional fisheries management organization or arrangement has the competence to establish conservation and management measures for particular straddling fish stocks or highly migratory fish stocks, States fishing for the stocks on the high seas and relevant coastal States shall give effect to their duty to cooperate by becoming members of such organization or participants in such arrangement, or by agreeing to apply the conservation and management measures established by such organization or arrangement. States having a real interest in the fisheries concerned may become members of such organization or participants in such arrangement. The terms of participation in such organization or arrangement shall not preclude such States from membership or participation; nor shall they be applied in a manner which discriminates against any State or group of States having a real interest in the fisheries concerned.

4. Only those States which are members of such an organization or participants in such an arrangement, or which agree to apply the conservation and management measures established by such organization or arrangement, shall have access to the fishery resources to which those measures apply.

5. Where there is no subregional or regional fisheries management organization or arrangement to establish conservation and management measures for a particular straddling fish stock or highly migratory fish stock, relevant coastal States and States fishing on the high seas for such stock in the subregion or region shall cooperate to establish such an organization or enter into other appropriate arrangements to ensure conservation and management of such stock and shall participate in the work of the organization or arrangement.

6. Any State intending to propose that action be taken by an intergovernmental organization having competence with respect to living resources should, where such action would have a significant effect on conservation and management measures already established by a competent subregional or regional fisheries management organization or arrangement, consult through that organization or arrangement with its members or participants. To the extent practicable, such consultation should take place prior to the submission of the proposal to the intergovernmental organization.

Article 9

Subregional and regional fisheries management organizations and arrangements

1. In establishing subregional or regional fisheries management organizations or in entering into subregional or regional fisheries management arrangements for straddling fish stocks and highly migratory fish stocks, States shall agree, inter alia, on:

(a) the stocks to which conservation and management measures apply, taking into account the biological characteristics of the stocks concerned and the nature of the fisheries involved;

(b) the area of application, taking into account article 7, paragraph 1, and the characteristics of the subregion or region, including socio-economic, geographical and environmental factors;

(c) the relationship between the work of the new organization or arrangement and the role, objectives and operations of any relevant existing fisheries management organizations or arrangements; and

(d) the mechanisms by which the organization or arrangement will obtain scientific advice and review the status of the stocks, including, where appropriate, the establishment of a scientific advisory body.

2. States cooperating in the formation of a subregional or regional fisheries management organization or arrangement shall inform other States which they are aware have a real interest in the work of the proposed organization or arrangement of such cooperation.

Article 10

Functions of subregional and regional fisheries management organizations and arrangements

In fulfilling their obligation to cooperate through subregional or regional fisheries management organizations or arrangements, States shall:

(a) agree on and comply with conservation and management measures to ensure the long-term sustainability of straddling fish stocks and highly migratory fish stocks;

(b) agree, as appropriate, on participatory rights such as allocations of allowable catch or levels of fishing effort;

(c) adopt and apply any generally recommended international minimum standards for the responsible conduct of fishing operations;

(d) obtain and evaluate scientific advice, review the status of the stocks and assess the impact of fishing on non-target and associated or dependent species;

(e) agree on standards for collection, reporting, verification and exchange of data on fisheries for the stocks;

(f) compile and disseminate accurate and complete statistical data, as described in Annex I, to ensure that the best scientific evidence is available, while maintaining confidentiality where appropriate;

(g) promote and conduct scientific assessments of the stocks and relevant research and disseminate the results thereof;

(h) establish appropriate cooperative mechanisms for effective monitoring, control, surveillance and enforcement;

(i) agree on means by which the fishing interests of new members of the organization or new participants in the arrangement will be accommodated;

(j) agree on decision-making procedures which facilitate the adoption of conservation and management measures in a timely and effective manner;

(k) promote the peaceful settlement of disputes in accordance with Part VIII;

(l) ensure the full cooperation of their relevant national agencies and industries in implementing the recommendations and decisions of the organization or arrangement; and

(m) give due publicity to the conservation and management measures established by the organization or arrangement.

Article 11

New members or participants

In determining the nature and extent of participatory rights for new members of a subregional or regional fisheries management organization, or for new participants in a subregional or regional fisheries management arrangement, States shall take into account, inter alia:

(a) the status of the straddling fish stocks and highly migratory fish stocks and the existing level of fishing effort in the fishery;

(b) the respective interests, fishing patterns and fishing practices of new and existing members or participants;

(c) the respective contributions of new and existing members or participants to conservation and management of the stocks, to the collection and provision of accurate data and to the conduct of scientific research on the stocks;

(d) the needs of coastal fishing communities which are dependent mainly on fishing for the stocks;

(e) the needs of coastal States whose economies are overwhelmingly dependent on the exploitation of living marine resources; and

(f) the interests of developing States from the subregion or region in whose areas of national jurisdiction the stocks also occur.

Article 12

Transparency in activities of subregional and regional fisheries management organizations and arrangements

1. States shall provide for transparency in the decision-making process and other activities of subregional and regional fisheries management organizations and arrangements.

2. Representatives from other intergovernmental organizations and representatives from non-governmental organizations concerned with straddling fish stocks and highly migratory fish stocks shall be afforded the opportunity to take part in meetings of subregional and regional fisheries management organizations and arrangements as observers or otherwise, as appropriate, in accordance with the procedures of the organization or arrangement concerned. Such procedures shall not be unduly restrictive in this respect. Such intergovernmental organizations and non-

governmental organizations shall have timely access to the records and reports of such organizations and arrangements, subject to the procedural rules on access to them.

Article 13

Strengthening of existing organizations and arrangements

States shall cooperate to strengthen existing subregional and regional fisheries management organizations and arrangements in order to improve their effectiveness in establishing and implementing conservation and management measures for straddling fish stocks and highly migratory fish stocks.

Article 14

Collection and provision of information and cooperation in scientific research

1. States shall ensure that fishing vessels flying their flag provide such information as may be necessary in order to fulfil their obligations under this Agreement. To this end, States shall in accordance with Annex I:

(a) collect and exchange scientific, technical and statistical data with respect to fisheries for straddling fish stocks and highly migratory fish stocks;

(b) ensure that data are collected in sufficient detail to facilitate effective stock assessment and are provided in a timely manner to fulfil the requirements of subregional or regional fisheries management organizations or arrangements; and

(c) take appropriate measures to verify the accuracy of such data.

2. States shall cooperate, either directly or through subregional or regional fisheries management organizations or arrangements:

(a) to agree on the specification of data and the format in which they are to be provided to such organizations or arrangements, taking into account the nature of the stocks and the fisheries for those stocks; and

(b) to develop and share analytical techniques and stock assessment methodologies to improve measures for the conservation and management of straddling fish stocks and highly migratory fish stocks.

3. Consistent with Part XIII of the Convention, States shall cooperate, either directly or through competent international organizations, to strengthen scientific research capacity in the field of fisheries and promote scientific research related to the conservation and management of straddling fish stocks and highly migratory fish stocks for the benefit of all. To this end, a State or the competent international organization conducting such research beyond areas under national jurisdiction shall actively promote the publication and dissemination to any interested States of the results of that research and information relating to its objectives and methods and, to the extent practicable, shall facilitate the participation of scientists from those States in such research.

Article 15

Enclosed and semi-enclosed seas

In implementing this Agreement in an enclosed or semi-enclosed sea, States shall take into account the natural characteristics of that sea and shall also act in a manner consistent with Part IX of the Convention and other relevant provisions thereof.

Article 16

Areas of high seas surrounded entirely by an area under the national jurisdiction of a single State

1. States fishing for straddling fish stocks and highly migratory fish stocks in an area of the high seas surrounded entirely by an area under the national jurisdiction of a single State and the latter State shall cooperate to establish conservation and management measures in respect of those stocks in the high seas area. Having regard to the natural characteristics of the area, States shall pay special attention to the establishment of compatible conservation and management measures for such stocks pursuant to article 7. Measures taken in respect of the high seas shall take into account the rights, duties and interests of the coastal State under the Convention, shall be based on the best scientific evidence available and shall also take into account any conservation and management measures adopted and applied in respect of the same stocks in accordance with article 61 of the Convention by the coastal State in the area under national jurisdiction. States shall also agree on measures for monitoring, control, surveillance and enforcement to ensure compliance with the conservation and management measures in respect of the high seas.

2. Pursuant to article 8, States shall act in good faith and make every effort to agree without delay on conservation and management measures to be applied in the carrying out of fishing operations in the area referred to in paragraph 1. If, within a reasonable period of time, the fishing States concerned and the coastal State are unable to agree on such measures, they shall, having regard to paragraph 1, apply article 7, paragraphs 4, 5 and 6, relating to provisional arrangements or measures. Pending the establishment of such provisional arrangements or measures, the States concerned shall take measures in respect of vessels flying their flag in order that they not engage in fisheries which could undermine the stocks concerned.

PART IV

NON-MEMBERS AND NON-PARTICIPANTS

Article 17

Non-members of organizations and non-participants in arrangements

1. A State which is not a member of a subregional or regional fisheries management organization or is not a participant in a subregional or regional fisheries management arrangement, and which does not otherwise agree to apply the

conservation and management measures established by such organization or arrangement, is not discharged from the obligation to cooperate, in accordance with the Convention and this Agreement, in the conservation and management of the relevant straddling fish stocks and highly migratory fish stocks.

2. Such State shall not authorize vessels flying its flag to engage in fishing operations for the straddling fish stocks or highly migratory fish stocks which are subject to the conservation and management measures established by such organization or arrangement.

3. States which are members of a subregional or regional fisheries management organization or participants in a subregional or regional fisheries management arrangement shall, individually or jointly, request the fishing entities referred to in article 1, paragraph 3, which have fishing vessels in the relevant area to cooperate fully with such organization or arrangement in implementing the conservation and management measures it has established, with a view to having such measures applied de facto as extensively as possible to fishing activities in the relevant area. Such fishing entities shall enjoy benefits from participation in the fishery commensurate with their commitment to comply with conservation and management measures in respect of the stocks.

4. States which are members of such organization or participants in such arrangement shall exchange information with respect to the activities of fishing vessels flying the flags of States which are neither members of the organization nor participants in the arrangement and which are engaged in fishing operations for the relevant stocks. They shall take measures consistent with this Agreement and international law to deter activities of such vessels which undermine the effectiveness of subregional or regional conservation and management measures.

PART V

DUTIES OF THE FLAG STATE

Article 18

Duties of the flag State

1. A State whose vessels fish on the high seas shall take such measures as may be necessary to ensure that vessels flying its flag comply with subregional and regional conservation and management measures and that such vessels do not engage in any activity which undermines the effectiveness of such measures.

2. A State shall authorize the use of vessels flying its flag for fishing on the high seas only where it is able to exercise effectively its responsibilities in respect of such vessels under the Convention and this Agreement.

3. Measures to be taken by a State in respect of vessels flying its flag shall include:

(a) control of such vessels on the high seas by means of fishing licences, authorizations or permits, in accordance with any applicable procedures agreed at the subregional, regional or global level;

(b) establishment of regulations:

(i) to apply terms and conditions to the licence, authorization or permit sufficient to fulfil any subregional, regional or global obligations of the flag State;

(ii) to prohibit fishing on the high seas by vessels which are not duly licensed or authorized to fish, or fishing on the high seas by vessels otherwise than in accordance with the terms and conditions of a licence, authorization or permit;

(iii) to require vessels fishing on the high seas to carry the licence, authorization or permit on board at all times and to produce it on demand for inspection by a duly authorized person; and

(iv) to ensure that vessels flying its flag do not conduct unauthorized fishing within areas under the national jurisdiction of other States;

(c) establishment of a national record of fishing vessels authorized to fish on the high seas and provision of access to the information contained in that record on request by directly interested States, taking into account any national laws of the flag State regarding the release of such information;

(d) requirements for marking of fishing vessels and fishing gear for identification in accordance with uniform and internationally recognizable vessel and gear marking systems, such as the Food and Agriculture Organization of the United Nations Standard Specifications for the Marking and Identification of Fishing Vessels;

(e) requirements for recording and timely reporting of vessel position, catch of target and non-target species, fishing effort and other relevant fisheries data in accordance with subregional, regional and global standards for collection of such data;

(f) requirements for verifying the catch of target and non-target species through such means as observer programmes, inspection schemes, unloading reports, supervision of transhipment and monitoring of landed catches and market statistics;

(g) monitoring, control and surveillance of such vessels, their fishing operations and related activities by, inter alia:

(i) the implementation of national inspection schemes and subregional and regional schemes for cooperation in enforcement pursuant to articles 21 and 22, including requirements for such vessels to permit access by duly authorized inspectors from other States;

(ii) the implementation of national observer programmes and subregional and regional observer programmes in which the flag State is a participant, including requirements for such vessels to permit access by observers from other States to carry out the functions agreed under the programmes; and

(iii) the development and implementation of vessel monitoring systems, including, as appropriate, satellite transmitter systems, in accordance with any national programmes and those which have been

subregionally, regionally or globally agreed among the States concerned;

(h) regulation of transhipment on the high seas to ensure that the effectiveness of conservation and management measures is not undermined; and

(i) regulation of fishing activities to ensure compliance with subregional, regional or global measures, including those aimed at minimizing catches of non-target species.

4. Where there is a subregionally, regionally or globally agreed system of monitoring, control and surveillance in effect, States shall ensure that the measures they impose on vessels flying their flag are compatible with that system.

PART VI

COMPLIANCE AND ENFORCEMENT

Article 19

Compliance and enforcement by the flag State

1. A State shall ensure compliance by vessels flying its flag with subregional and regional conservation and management measures for straddling fish stocks and highly migratory fish stocks. To this end, that State shall:

(a) enforce such measures irrespective of where violations occur;

(b) investigate immediately and fully any alleged violation of subregional or regional conservation and management measures, which may include the physical inspection of the vessels concerned, and report promptly to the State alleging the violation and the relevant subregional or regional organization or arrangement on the progress and outcome of the investigation;

(c) require any vessel flying its flag to give information to the investigating authority regarding vessel position, catches, fishing gear, fishing operations and related activities in the area of an alleged violation;

(d) if satisfied that sufficient evidence is available in respect of an alleged violation, refer the case to its authorities with a view to instituting proceedings without delay in accordance with its laws and, where appropriate, detain the vessel concerned; and

(e) ensure that, where it has been established, in accordance with its laws, a vessel has been involved in the commission of a serious violation of such measures, the vessel does not engage in fishing operations on the high seas until such time as all outstanding sanctions imposed by the flag State in respect of the violation have been complied with.

2. All investigations and judicial proceedings shall be carried out expeditiously. Sanctions applicable in respect of violations shall be adequate in severity to be effective in securing compliance and to discourage violations wherever they occur and shall deprive offenders of the benefits accruing from their illegal activities. Measures

applicable in respect of masters and other officers of fishing vessels shall include provisions which may permit, inter alia, refusal, withdrawal or suspension of authorizations to serve as masters or officers on such vessels.

Article 20

International cooperation in enforcement

1. States shall cooperate, either directly or through subregional or regional fisheries management organizations or arrangements, to ensure compliance with and enforcement of subregional and regional conservation and management measures for straddling fish stocks and highly migratory fish stocks.

2. A flag State conducting an investigation of an alleged violation of conservation and management measures for straddling fish stocks or highly migratory fish stocks may request the assistance of any other State whose cooperation may be useful in the conduct of that investigation. All States shall endeavour to meet reasonable requests made by a flag State in connection with such investigations.

3. A flag State may undertake such investigations directly, in cooperation with other interested States or through the relevant subregional or regional fisheries management organization or arrangement. Information on the progress and outcome of the investigations shall be provided to all States having an interest in, or affected by, the alleged violation.

4. States shall assist each other in identifying vessels reported to have engaged in activities undermining the effectiveness of subregional, regional or global conservation and management measures.

5. States shall, to the extent permitted by national laws and regulations, establish arrangements for making available to prosecuting authorities in other States evidence relating to alleged violations of such measures.

6. Where there are reasonable grounds for believing that a vessel on the high seas has been engaged in unauthorized fishing within an area under the jurisdiction of a coastal State, the flag State of that vessel, at the request of the coastal State concerned, shall immediately and fully investigate the matter. The flag State shall cooperate with the coastal State in taking appropriate enforcement action in such cases and may authorize the relevant authorities of the coastal State to board and inspect the vessel on the high seas. This paragraph is without prejudice to article 111 of the Convention.

7. States Parties which are members of a subregional or regional fisheries management organization or participants in a subregional or regional fisheries management arrangement may take action in accordance with international law, including through recourse to subregional or regional procedures established for this purpose, to deter vessels which have engaged in activities which undermine the effectiveness of or otherwise violate the conservation and management measures established by that organization or arrangement from fishing on the high seas in the subregion or region until such time as appropriate action is taken by the flag State.

Article 21

Subregional and regional cooperation in enforcement

1. In any high seas area covered by a subregional or regional fisheries management organization or arrangement, a State Party which is a member of such organization or a participant in such arrangement may, through its duly authorized inspectors, board and inspect, in accordance with paragraph 2, fishing vessels flying the flag of another State Party to this Agreement, whether or not such State Party is also a member of the organization or a participant in the arrangement, for the purpose of ensuring compliance with conservation and management measures for straddling fish stocks and highly migratory fish stocks established by that organization or arrangement.

2. States shall establish, through subregional or regional fisheries management organizations or arrangements, procedures for boarding and inspection pursuant to paragraph 1, as well as procedures to implement other provisions of this article. Such procedures shall be consistent with this article and the basic procedures set out in article 22 and shall not discriminate against non-members of the organization or non-participants in the arrangement. Boarding and inspection as well as any subsequent enforcement action shall be conducted in accordance with such procedures. States shall give due publicity to procedures established pursuant to this paragraph.

3. If, within two years of the adoption of this Agreement, any organization or arrangement has not established such procedures, boarding and inspection pursuant to paragraph 1, as well as any subsequent enforcement action, shall, pending the establishment of such procedures, be conducted in accordance with this article and the basic procedures set out in article 22.

4. Prior to taking action under this article, inspecting States shall, either directly or through the relevant subregional or regional fisheries management organization or arrangement, inform all States whose vessels fish on the high seas in the subregion or region of the form of identification issued to their duly authorized inspectors. The vessels used for boarding and inspection shall be clearly marked and identifiable as being on government service. At the time of becoming a Party to this Agreement, a State shall designate an appropriate authority to receive notifications pursuant to this article and shall give due publicity of such designation through the relevant subregional or regional fisheries management organization or arrangement.

5. Where, following a boarding and inspection, there are clear grounds for believing that a vessel has engaged in any activity contrary to the conservation and management measures referred to in paragraph 1, the inspecting State shall, where appropriate, secure evidence and shall promptly notify the flag State of the alleged violation.

6. The flag State shall respond to the notification referred to in paragraph 5 within three working days of its receipt, or such other period as may be prescribed in procedures established in accordance with paragraph 2, and shall either:

(a) fulfil, without delay, its obligations under article 19 to investigate and, if evidence so warrants, take enforcement action with respect to the vessel, in which case it shall promptly inform the inspecting State of the results of the investigation and of any enforcement action taken; or

(b) authorize the inspecting State to investigate.

7. Where the flag State authorizes the inspecting State to investigate an alleged violation, the inspecting State shall, without delay, communicate the results of that investigation to the flag State. The flag State shall, if evidence so warrants, fulfil its obligations to take enforcement action with respect to the vessel. Alternatively, the flag State may authorize the inspecting State to take such enforcement action as the flag State may specify with respect to the vessel, consistent with the rights and obligations of the flag State under this Agreement.

8. Where, following boarding and inspection, there are clear grounds for believing that a vessel has committed a serious violation, and the flag State has either failed to respond or failed to take action as required under paragraphs 6 or 7, the inspectors may remain on board and secure evidence and may require the master to assist in further investigation including, where appropriate, by bringing the vessel without delay to the nearest appropriate port, or to such other port as may be specified in procedures established in accordance with paragraph 2. The inspecting State shall immediately inform the flag State of the name of the port to which the vessel is to proceed. The inspecting State and the flag State and, as appropriate, the port State shall take all necessary steps to ensure the well-being of the crew regardless of their nationality.

9. The inspecting State shall inform the flag State and the relevant organization or the participants in the relevant arrangement of the results of any further investigation.

10. The inspecting State shall require its inspectors to observe generally accepted international regulations, procedures and practices relating to the safety of the vessel and the crew, minimize interference with fishing operations and, to the extent practicable, avoid action which would adversely affect the quality of the catch on board. The inspecting State shall ensure that boarding and inspection is not conducted in a manner that would constitute harassment of any fishing vessel.

11. For the purposes of this article, a serious violation means:

(a) fishing without a valid licence, authorization or permit issued by the flag State in accordance with article 18, paragraph 3 (a);

(b) failing to maintain accurate records of catch and catch-related data, as required by the relevant subregional or regional fisheries management organization or arrangement, or serious misreporting of catch, contrary to the catch reporting requirements of such organization or arrangement;

(c) fishing in a closed area, fishing during a closed season or fishing without, or after attainment of, a quota established by the relevant subregional or regional fisheries management organization or arrangement;

(d) directed fishing for a stock which is subject to a moratorium or for which fishing is prohibited;

(e) using prohibited fishing gear;

(f) falsifying or concealing the markings, identity or registration of a fishing vessel;

(g) concealing, tampering with or disposing of evidence relating to an investigation;

(h) multiple violations which together constitute a serious disregard of conservation and management measures; or

(i) such other violations as may be specified in procedures established by the relevant subregional or regional fisheries management organization or arrangement.

12. Notwithstanding the other provisions of this article, the flag State may, at any time, take action to fulfil its obligations under article 19 with respect to an alleged violation. Where the vessel is under the direction of the inspecting State, the inspecting State shall, at the request of the flag State, release the vessel to the flag State along with full information on the progress and outcome of its investigation.

13. This article is without prejudice to the right of the flag State to take any measures, including proceedings to impose penalties, according to its laws.

14. This article applies mutatis mutandis to boarding and inspection by a State Party which is a member of a subregional or regional fisheries management organization or a participant in a subregional or regional fisheries management arrangement and which has clear grounds for believing that a fishing vessel flying the flag of another State Party has engaged in any activity contrary to relevant conservation and management measures referred to in paragraph 1 in the high seas area covered by such organization or arrangement, and such vessel has subsequently, during the same fishing trip, entered into an area under the national jurisdiction of the inspecting State.

15. Where a subregional or regional fisheries management organization or arrangement has established an alternative mechanism which effectively discharges the obligation under this Agreement of its members or participants to ensure compliance with the conservation and management measures established by the organization or arrangement, members of such organization or participants in such arrangement may agree to limit the application of paragraph 1 as between themselves in respect of the conservation and management measures which have been established in the relevant high seas area.

16. Action taken by States other than the flag State in respect of vessels having engaged in activities contrary to subregional or regional conservation and management measures shall be proportionate to the seriousness of the violation.

17. Where there are reasonable grounds for suspecting that a fishing vessel on the high seas is without nationality, a State may board and inspect the vessel. Where evidence so warrants, the State may take such action as may be appropriate in accordance with international law.

18. States shall be liable for damage or loss attributable to them arising from action taken pursuant to this article when such action is unlawful or exceeds that reasonably required in the light of available information to implement the provisions of this article.

Article 22

Basic procedures for boarding and inspection pursuant to article 21

1. The inspecting State shall ensure that its duly authorized inspectors:

(a) present credentials to the master of the vessel and produce a copy of the text of the relevant conservation and management measures or rules and regulations in force in the high seas area in question pursuant to those measures;

(b) initiate notice to the flag State at the time of the boarding and inspection;

(c) do not interfere with the master's ability to communicate with the authorities of the flag State during the boarding and inspection;

(d) provide a copy of a report on the boarding and inspection to the master and to the authorities of the flag State, noting therein any objection or statement which the master wishes to have included in the report;

(e) promptly leave the vessel following completion of the inspection if they find no evidence of a serious violation; and

(f) avoid the use of force except when and to the degree necessary to ensure the safety of the inspectors and where the inspectors are obstructed in the execution of their duties. The degree of force used shall not exceed that reasonably required in the circumstances.

2. The duly authorized inspectors of an inspecting State shall have the authority to inspect the vessel, its licence, gear, equipment, records, facilities, fish and fish products and any relevant documents necessary to verify compliance with the relevant conservation and management measures.

3. The flag State shall ensure that vessel masters:

(a) accept and facilitate prompt and safe boarding by the inspectors;

(b) cooperate with and assist in the inspection of the vessel conducted pursuant to these procedures;

(c) do not obstruct, intimidate or interfere with the inspectors in the performance of their duties;

(d) allow the inspectors to communicate with the authorities of the flag State and the inspecting State during the boarding and inspection;

(e) provide reasonable facilities, including, where appropriate, food and accommodation, to the inspectors; and

(f) facilitate safe disembarkation by the inspectors.

4. In the event that the master of a vessel refuses to accept boarding and inspection in accordance with this article and article 21, the flag State shall, except in circumstances where, in accordance with generally accepted international regulations, procedures and practices relating to safety at sea, it is necessary to delay the boarding and inspection, direct the master of the vessel to submit immediately to boarding and inspection and, if the master does not comply with such direction, shall suspend the vessel's authorization to fish and order the vessel to return immediately to port. The flag State shall advise the inspecting State of the action it has taken when the circumstances referred to in this paragraph arise.

Article 23

Measures taken by a port State

1. A port State has the right and the duty to take measures, in accordance with international law, to promote the effectiveness of subregional, regional and global conservation and management measures. When taking such measures a port State shall not discriminate in form or in fact against the vessels of any State.

2. A port State may, inter alia, inspect documents, fishing gear and catch on board fishing vessels, when such vessels are voluntarily in its ports or at its offshore terminals.

3. States may adopt regulations empowering the relevant national authorities to prohibit landings and transhipments where it has been established that the catch has been taken in a manner which undermines the effectiveness of subregional, regional or global conservation and management measures on the high seas.

4. Nothing in this article affects the exercise by States of their sovereignty over ports in their territory in accordance with international law.

PART VII

REQUIREMENTS OF DEVELOPING STATES

Article 24

Recognition of the special requirements of developing States

1. States shall give full recognition to the special requirements of developing States in relation to conservation and management of straddling fish stocks and highly migratory fish stocks and development of fisheries for such stocks. To this end, States shall, either directly or through the United Nations Development Programme, the Food and Agriculture Organization of the United Nations and other specialized agencies, the Global Environment Facility, the Commission on Sustainable Development and other appropriate international and regional organizations and bodies, provide assistance to developing States.

2. In giving effect to the duty to cooperate in the establishment of conservation and management measures for straddling fish stocks and highly migratory fish stocks, States shall take into account the special requirements of developing States, in particular:

(a) the vulnerability of developing States which are dependent on the exploitation of living marine resources, including for meeting the nutritional requirements of their populations or parts thereof;

(b) the need to avoid adverse impacts on, and ensure access to fisheries by, subsistence, small-scale and artisanal fishers and women fishworkers, as well as indigenous people in developing States, particularly small island developing States; and

(c) the need to ensure that such measures do not result in transferring, directly or indirectly, a disproportionate burden of conservation action onto developing States.

Article 25

Forms of cooperation with developing States

1. States shall cooperate, either directly or through subregional, regional or global organizations:

(a) to enhance the ability of developing States, in particular the least-developed among them and small island developing States, to conserve and manage straddling fish stocks and highly migratory fish stocks and to develop their own fisheries for such stocks;

(b) to assist developing States, in particular the least-developed among them and small island developing States, to enable them to participate in high seas fisheries for such stocks, including facilitating access to such fisheries subject to articles 5 and 11; and

(c) to facilitate the participation of developing States in subregional and regional fisheries management organizations and arrangements.

2. Cooperation with developing States for the purposes set out in this article shall include the provision of financial assistance, assistance relating to human resources development, technical assistance, transfer of technology, including through joint venture arrangements, and advisory and consultative services.

3. Such assistance shall, inter alia, be directed specifically towards:

(a) improved conservation and management of straddling fish stocks and highly migratory fish stocks through collection, reporting, verification, exchange and analysis of fisheries data and related information;

(b) stock assessment and scientific research; and

(c) monitoring, control, surveillance, compliance and enforcement, including training and capacity-building at the local level, development and funding of national and regional observer programmes and access to technology and equipment.

Article 26

Special assistance in the implementation of this Agreement

1. States shall cooperate to establish special funds to assist developing States in the implementation of this Agreement, including assisting developing States to meet the costs involved in any proceedings for the settlement of disputes to which they may be parties.

2. States and international organizations should assist developing States in establishing new subregional or regional fisheries management organizations or arrangements, or in strengthening existing organizations or arrangements, for the

conservation and management of straddling fish stocks and highly migratory fish stocks.

PART VIII

PEACEFUL SETTLEMENT OF DISPUTES

Article 27

Obligation to settle disputes by peaceful means

States have the obligation to settle their disputes by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice.

Article 28

Prevention of disputes

States shall cooperate in order to prevent disputes. To this end, States shall agree on efficient and expeditious decision-making procedures within subregional and regional fisheries management organizations and arrangements and shall strengthen existing decision-making procedures as necessary.

Article 29

Disputes of a technical nature

Where a dispute concerns a matter of a technical nature, the States concerned may refer the dispute to an ad hoc expert panel established by them. The panel shall confer with the States concerned and shall endeavour to resolve the dispute expeditiously without recourse to binding procedures for the settlement of disputes.

Article 30

Procedures for the settlement of disputes

1. The provisions relating to the settlement of disputes set out in Part XV of the Convention apply mutatis mutandis to any dispute between States Parties to this Agreement concerning the interpretation or application of this Agreement, whether or not they are also Parties to the Convention.

2. The provisions relating to the settlement of disputes set out in Part XV of the Convention apply mutatis mutandis to any dispute between States Parties to this Agreement concerning the interpretation or application of a subregional, regional or global fisheries agreement relating to straddling fish stocks or highly migratory fish stocks to which they are parties, including any dispute concerning the conservation and management of such stocks, whether or not they are also Parties to the Convention.

3. Any procedure accepted by a State Party to this Agreement and the Convention pursuant to article 287 of the Convention shall apply to the settlement of disputes under this Part, unless that State Party, when signing, ratifying or acceding to this Agreement, or at any time thereafter, has accepted another procedure pursuant to article 287 for the settlement of disputes under this Part.

4. A State Party to this Agreement which is not a Party to the Convention, when signing, ratifying or acceding to this Agreement, or at any time thereafter, shall be free to choose, by means of a written declaration, one or more of the means set out in article 287, paragraph 1, of the Convention for the settlement of disputes under this Part. Article 287 shall apply to such a declaration, as well as to any dispute to which such State is a party which is not covered by a declaration in force. For the purposes of conciliation and arbitration in accordance with Annexes V, VII and VIII to the Convention, such State shall be entitled to nominate conciliators, arbitrators and experts to be included in the lists referred to in Annex V, article 2, Annex VII, article 2, and Annex VIII, article 2, for the settlement of disputes under this Part.

5. Any court or tribunal to which a dispute has been submitted under this Part shall apply the relevant provisions of the Convention, of this Agreement and of any relevant subregional, regional or global fisheries agreement, as well as generally accepted standards for the conservation and management of living marine resources and other rules of international law not incompatible with the Convention, with a view to ensuring the conservation of the straddling fish stocks and highly migratory fish stocks concerned.

Article 31

Provisional measures

1. Pending the settlement of a dispute in accordance with this Part, the parties to the dispute shall make every effort to enter into provisional arrangements of a practical nature.

2. Without prejudice to article 290 of the Convention, the court or tribunal to which the dispute has been submitted under this Part may prescribe any provisional measures which it considers appropriate under the circumstances to preserve the respective rights of the parties to the dispute or to prevent damage to the stocks in question, as well as in the circumstances referred to in article 7, paragraph 5, and article 16, paragraph 2.

3. A State Party to this Agreement which is not a Party to the Convention may declare that, notwithstanding article 290, paragraph 5, of the Convention, the International Tribunal for the Law of the Sea shall not be entitled to prescribe, modify or revoke provisional measures without the agreement of such State.

Article 32

Limitations on applicability of procedures for the settlement of disputes

Article 297, paragraph 3, of the Convention applies also to this Agreement.

PART IX

NON-PARTIES TO THIS AGREEMENT

Article 33

Non-parties to this Agreement

1. States Parties shall encourage non-parties to this Agreement to become parties thereto and to adopt laws and regulations consistent with its provisions.

2. States Parties shall take measures consistent with this Agreement and international law to deter the activities of vessels flying the flag of non-parties which undermine the effective implementation of this Agreement.

PART X

GOOD FAITH AND ABUSE OF RIGHTS

Article 34

Good faith and abuse of rights

States Parties shall fulfil in good faith the obligations assumed under this Agreement and shall exercise the rights recognized in this Agreement in a manner which would not constitute an abuse of right.

Part XI

RESPONSIBILITY AND LIABILITY

Article 35

Responsibility and liability

States Parties are liable in accordance with international law for damage or loss attributable to them in regard to this Agreement.

PART XII

REVIEW CONFERENCE

Article 36

Review conference

1. Four years after the date of entry into force of this Agreement, the Secretary-General of the United Nations shall convene a conference with a view to assessing the effectiveness of this Agreement in securing the conservation and management of straddling fish stocks and highly migratory fish stocks. The Secretary-General shall invite to the conference all States Parties and those States and entities which are entitled to become parties to this Agreement as well as those intergovernmental and non-governmental organizations entitled to participate as observers.

2. The conference shall review and assess the adequacy of the provisions of this Agreement and, if necessary, propose means of strengthening the substance and methods of implementation of those provisions in order better to address any continuing problems in the conservation and management of straddling fish stocks and highly migratory fish stocks.

PART XIII

FINAL PROVISIONS

Article 37

Signature

This Agreement shall be open for signature by all States and the other entities referred to in article 1, paragraph 2(b), and shall remain open for signature at United Nations Headquarters for twelve months from the fourth of December 1995.

Article 38

Ratification

This Agreement is subject to ratification by States and the other entities referred to in article 1, paragraph 2(b). The instruments of ratification shall be deposited with the Secretary-General of the United Nations.

Article 39

Accession

This Agreement shall remain open for accession by States and the other entities referred to in article 1, paragraph 2(b). The instruments of accession shall be deposited with the Secretary-General of the United Nations.

Article 40

Entry into force

1. This Agreement shall enter into force 30 days after the date of deposit of the thirtieth instrument of ratification or accession.

2. For each State or entity which ratifies the Agreement or accedes thereto after the deposit of the thirtieth instrument of ratification or accession, this Agreement shall enter into force on the thirtieth day following the deposit of its instrument of ratification or accession.

Article 41

Provisional application

1. This Agreement shall be applied provisionally by a State or entity which consents to its provisional application by so notifying the depositary in writing. Such provisional application shall become effective from the date of receipt of the notification.

2. Provisional application by a State or entity shall terminate upon the entry into force of this Agreement for that State or entity or upon notification by that State or entity to the depositary in writing of its intention to terminate provisional application.

Article 42

Reservations and exceptions

No reservations or exceptions may be made to this Agreement.

Article 43

Declarations and statements

Article 42 does not preclude a State or entity, when signing, ratifying or acceding to this Agreement, from making declarations or statements, however phrased or named, with a view, inter alia, to the harmonization of its laws and regulations with the provisions of this Agreement, provided that such declarations or statements do not purport to exclude or to modify the legal effect of the provisions of this Agreement in their application to that State or entity.

Article 44

Relation to other agreements

1. This Agreement shall not alter the rights and obligations of States Parties which arise from other agreements compatible with this Agreement and which do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this Agreement.

2. Two or more States Parties may conclude agreements modifying or suspending the operation of provisions of this Agreement, applicable solely to the relations between them, provided that such agreements do not relate to a provision derogation from which is incompatible with the effective execution of the object and purpose of this Agreement, and provided further that such agreements shall not affect the application of the basic principles embodied herein, and that the provisions of such agreements do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this Agreement.

3. States Parties intending to conclude an agreement referred to in paragraph 2 shall notify the other States Parties through the depositary of this Agreement of their intention to conclude the agreement and of the modification or suspension for which it provides.

Article 45

Amendment

1. A State Party may, by written communication addressed to the Secretary-General of the United Nations, propose amendments to this Agreement and request the convening of a conference to consider such proposed amendments. The Secretary-General shall circulate such communication to all States Parties. If, within six months from the date of the circulation of the communication, not less than one half of the States Parties reply favourably to the request, the Secretary-General shall convene the conference.

2. The decision-making procedure applicable at the amendment conference convened pursuant to paragraph 1 shall be the same as that applicable at the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, unless otherwise decided by the conference. The conference should make every effort to reach agreement on any amendments by way of consensus and there should be no voting on them until all efforts at consensus have been exhausted.

3. Once adopted, amendments to this Agreement shall be open for signature at United Nations Headquarters by States Parties for twelve months from the date of adoption, unless otherwise provided in the amendment itself.

4. Articles 38, 39, 47 and 50 apply to all amendments to this Agreement.

5. Amendments to this Agreement shall enter into force for the States Parties ratifying or acceding to them on the thirtieth day following the deposit of instruments of ratification or accession by two thirds of the States Parties. Thereafter, for each State Party ratifying or acceding to an amendment after the deposit of the required number of such instruments, the amendment shall enter into force on the thirtieth day following the deposit of its instrument of ratification or accession.

6. An amendment may provide that a smaller or a larger number of ratifications or accessions shall be required for its entry into force than are required by this article.

of amendments in accordance with paragraph 5 shall, failing an expression of a different intention by that State:

(a) be considered as a Party to this Agreement as so amended; and

(b) be considered as a Party to the unamended Agreement in relation to any State Party not bound by the amendment.

Article 46

Denunciation

1. A State Party may, by written notification addressed to the Secretary-General of the United Nations, denounce this Agreement and may indicate its reasons. Failure to indicate reasons shall not affect the validity of the denunciation. The denunciation shall take effect one year after the date of receipt of the notification, unless the notification specifies a later date.

2. The denunciation shall not in any way affect the duty of any State Party to fulfil any obligation embodied in this Agreement to which it would be subject under international law independently of this Agreement.

Article 47

Participation by international organizations

1. In cases where an international organization referred to in Annex IX, article 1, of the Convention does not have competence over all the matters governed by this Agreement, Annex IX to the Convention shall apply mutatis mutandis to participation by such international organization in this Agreement, except that the following provisions of that Annex shall not apply:

(a) article 2, first sentence; and

(b) article 3, paragraph 1.

2. In cases where an international organization referred to in Annex IX, article 1, of the Convention has competence over all the matters governed by this Agreement, the following provisions shall apply to participation by such international organization in this Agreement:

(a) at the time of signature or accession, such international organization shall make a declaration stating:

(i) that it has competence over all the matters governed by this Agreement;

(ii) that, for this reason, its member States shall not become States Parties, except in respect of their territories for which the international organization has no responsibility; and

(iii) that it accepts the rights and obligations of States under this Agreement;

(b) participation of such an international organization shall in no case confer any rights under this Agreement on member States of the international organization;

(c) in the event of a conflict between the obligations of an international organization under this Agreement and its obligations under the agreement establishing the international organization or any acts relating to it, the obligations under this Agreement shall prevail.

Article 48

Annexes

1. The Annexes form an integral part of this Agreement and, unless expressly provided otherwise, a reference to this Agreement or to one of its Parts includes a reference to the Annexes relating thereto.

2. The Annexes may be revised from time to time by States Parties. Such revisions shall be based on scientific and technical considerations. Notwithstanding the provisions of article 45, if a revision to an Annex is adopted by consensus at a meeting of States Parties, it shall be incorporated in this Agreement and shall take effect from the date of its adoption or from such other date as may be specified in the revision. If a revision to an Annex is not adopted by consensus at such a meeting, the amendment procedures set out in article 45 shall apply.

Article 49

Depositary

The Secretary-General of the United Nations shall be the depositary of this Agreement and any amendments or revisions thereto.

Article 50

Authentic texts

The Arabic, Chinese, English, French, Russian and Spanish texts of this Agreement are equally authentic.

IN WITNESS WHEREOF, the undersigned Plenipotentiaries, being duly authorized thereto, have signed this Agreement.

OPENED FOR SIGNATURE at New York, this fourth day of December, one thousand nine hundred and ninety-five, in a single original, in the Arabic, Chinese, English, French, Russian and Spanish languages.

ANNEX I

STANDARD REQUIREMENTS FOR THE COLLECTION AND SHARING OF DATA

Article 1

General principles

1. The timely collection, compilation and analysis of data are fundamental to the effective conservation and management of straddling fish stocks and highly migratory fish stocks. To this end, data from fisheries for these stocks on the high seas and those in areas under national jurisdiction are required and should be collected and compiled in such a way as to enable statistically meaningful analysis for the purposes of fishery resource conservation and management. These data include catch and fishing effort statistics and other fishery-related information, such as vessel-related and other data for standardizing fishing effort. Data collected should also include information on non-target and associated or dependent species. All data should be verified to ensure accuracy. Confidentiality of non-aggregated data shall be maintained. The dissemination of such data shall be subject to the terms on which they have been provided.

2. Assistance, including training as well as financial and technical assistance, shall be provided to developing States in order to build capacity in the field of conservation and management of living marine resources. Assistance should focus on enhancing capacity to implement data collection and verification, observer programmes, data analysis and research projects supporting stock assessments. The fullest possible involvement of developing State scientists and managers in conservation and management of straddling fish stocks and highly migratory fish stocks should be promoted.

Article 2

Principles of data collection, compilation and exchange

The following general principles should be considered in defining the parameters for collection, compilation and exchange of data from fishing operations for straddling fish stocks and highly migratory fish stocks:

(a) States should ensure that data are collected from vessels flying their flag on fishing activities according to the operational characteristics of each fishing method (e.g., each individual tow for trawl, each set for long-line and purse-seine, each school fished for pole-and-line and each day fished for troll) and in sufficient detail to facilitate effective stock assessment;

(b) States should ensure that fishery data are verified through an appropriate system;

(c) States should compile fishery-related and other supporting scientific data and provide them in an agreed format and in a timely manner to the relevant

subregional or regional fisheries management organization or arrangement where one exists. Otherwise, States should cooperate to exchange data either directly or through such other cooperative mechanisms as may be agreed among them;

(d) States should agree, within the framework of subregional or regional fisheries management organizations or arrangements, or otherwise, on the specification of data and the format in which they are to be provided, in accordance with this Annex and taking into account the nature of the stocks and the fisheries for those stocks in the region. Such organizations or arrangements should request non-members or non-participants to provide data concerning relevant fishing activities by vessels flying their flag;

(e) such organizations or arrangements shall compile data and make them available in a timely manner and in an agreed format to all interested States under the terms and conditions established by the organization or arrangement; and

(f) scientists of the flag State and from the relevant subregional or regional fisheries management organization or arrangement should analyse the data separately or jointly, as appropriate.

Article 3

Basic fishery data

1. States shall collect and make available to the relevant subregional or regional fisheries management organization or arrangement the following types of data in sufficient detail to facilitate effective stock assessment in accordance with agreed procedures:

(a) time series of catch and effort statistics by fishery and fleet;

(b) total catch in number, nominal weight, or both, by species (both target and non-target) as is appropriate to each fishery. [Nominal weight is defined by the Food and Agriculture Organization of the United Nations as the live-weight equivalent of the landings];

(c) discard statistics, including estimates where necessary, reported as number or nominal weight by species, as is appropriate to each fishery;

(d) effort statistics appropriate to each fishing method; and

(e) fishing location, date and time fished and other statistics on fishing operations as appropriate.

2. States shall also collect where appropriate and provide to the relevant subregional or regional fisheries management organization or arrangement information to support stock assessment, including:

(a) composition of the catch according to length, weight and sex;

(b) other biological information supporting stock assessments, such as information on age, growth, recruitment, distribution and stock identity; and

(c) other relevant research, including surveys of abundance, biomass surveys, hydro-acoustic surveys, research on environmental factors affecting stock abundance, and oceanographic and ecological studies.

Article 4

Vessel data and information

1. States should collect the following types of vessel-related data for standardizing fleet composition and vessel fishing power and for converting between different measures of effort in the analysis of catch and effort data:

(a) vessel identification, flag and port of registry;

(b) vessel type;

(c) vessel specifications (e.g., material of construction, date built, registered length, gross registered tonnage, power of main engines, hold capacity and catch storage methods); and

(d) fishing gear description (e.g., types, gear specifications and quantity).

2. The flag State will collect the following information:

(a) navigation and position fixing aids;

(b) communication equipment and international radio call sign; and

(c) crew size.

Article 5

Reporting

A State shall ensure that vessels flying its flag send to its national fisheries administration and, where agreed, to the relevant subregional or regional fisheries management organization or arrangement, logbook data on catch and effort, including data on fishing operations on the high seas, at sufficiently frequent intervals to meet national requirements and regional and international obligations. Such data shall be transmitted, where necessary, by radio, telex, facsimile or satellite transmission or by other means.

Article 6

Data verification

States or, as appropriate, subregional or regional fisheries management organizations or arrangements should establish mechanisms for verifying fishery data, such as:

(a) position verification through vessel monitoring systems;

(b) scientific observer programmes to monitor catch, effort, catch composition (target and non-target) and other details of fishing operations;

(c) vessel trip, landing and transhipment reports; and

(d) port sampling.

Article 7

Data exchange

1. Data collected by flag States must be shared with other flag States and relevant coastal States through appropriate subregional or regional fisheries management organizations or arrangements. Such organizations or arrangements shall compile data and make them available in a timely manner and in an agreed format to all interested States under the terms and conditions established by the organization or arrangement, while maintaining confidentiality of non-aggregated data, and should, to the extent feasible, develop database systems which provide efficient access to data.

2. At the global level, collection and dissemination of data should be effected through the Food and Agriculture Organization of the United Nations. Where a subregional or regional fisheries management organization or arrangement does not exist, that organization may also do the same at the subregional or regional level by arrangement with the States concerned.

ANNEX II

GUIDELINES FOR THE APPLICATION OF PRECAUTIONARY REFERENCE POINTS IN CONSERVATION AND MANAGEMENT OF STRADDLING FISH STOCKS AND HIGHLY MIGRATORY FISH STOCKS

1. A precautionary reference point is an estimated value derived through an agreed scientific procedure, which corresponds to the state of the resource and of the fishery, and which can be used as a guide for fisheries management.

2. Two types of precautionary reference points should be used: conservation, or limit, reference points and management, or target, reference points. Limit reference points set boundaries which are intended to constrain harvesting within safe biological limits within which the stocks can produce maximum sustainable yield. Target reference points are intended to meet management objectives.

3. Precautionary reference points should be stock-specific to account, inter alia, for the reproductive capacity, the resilience of each stock and the characteristics of fisheries exploiting the stock, as well as other sources of mortality and major sources of uncertainty.

4. Management strategies shall seek to maintain or restore populations of harvested stocks, and where necessary associated or dependent species, at levels consistent with previously agreed precautionary reference points. Such reference points shall be used to trigger pre-agreed conservation and management action. Management strategies shall include measures which can be implemented when precautionary reference points are approached.

5. Fishery management strategies shall ensure that the risk of exceeding limit reference points is very low. If a stock falls below a limit reference point or is at risk of falling below such a reference point, conservation and management action should be initiated to facilitate stock recovery. Fishery management strategies shall ensure that target reference points are not exceeded on average.

6. When information for determining reference points for a fishery is poor or absent, provisional reference points shall be set. Provisional reference points may be established by analogy to similar and better-known stocks. In such situations, the fishery shall be subject to enhanced monitoring so as to enable revision of provisional reference points as improved information becomes available.

7. The fishing mortality rate which generates maximum sustainable yield should be regarded as a minimum standard for limit reference points. For stocks which are not overfished, fishery management strategies shall ensure that fishing mortality does not exceed that which corresponds to maximum sustainable yield, and that the biomass does not fall below a predefined threshold. For overfished stocks, the biomass which would produce maximum sustainable yield can serve as a rebuilding target.
