Instruments for global fisheries management - A review

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Abstract

The impact of uncontrolled expansion of fishing activities on living marine resources has been a subject of discussion among the world community since 1940s. With a view to preventing over-exploitation of marine living resources, coastal States and other States have concluded a number of treaties, and established several regional fisheries organizations. However, even with these treaties and organizations in force, fishing activities in the oceans have expanded in an uncontrolled manner leading to depletion of certain fish stocks. Meanwhile the adoption of the United Nations Convention on the Law of the Sea of 10 December 1982 (UNCLOS) provided a framework for governance of all oceanic affairs including exploitation of living resources. UNCLOS provided for coastal States to manage living resources within 200 nautical-mile exclusive economic zones and thereby brought nearly 90% of the living marine resources under the control of coastal States. UNCLOS also made provisions for managing and conserving living marine resources that occur outside the jurisdiction of coastal States. Under the provisions of UNCLOS a convention has been concluded for the purpose of conserving and managing migratory and straddling fish stocks. The Food and Agriculture Organization also has made several instruments to conserve and manage living marine resources. This paper analyzes these instruments, which are now in force. To achieve the objectives of these instruments the will and active involvement of the fishing nations are essential.

Introduction

The global community had expressed concerns on over-fishing since 1940s. However, statistics (FAO 2002a) indicate that the world fish production has increased exponentially from its pre-1950 levels during the half century that followed. This increase could be attributed to the technological developments that have taken place and the continuous

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investment in fisheries made by different countries, during this period. Enhanced fishing activities have led to the depletion of certain major fish stocks, e.g., cod stocks in the North Atlantic (Kurlansky 1998) and California sardine (Churchill and Lowe 1988), and disputes between nations over certain fish stocks, e.g., dispute over tuna fishing between USA and small Pacific island nations (Churchill and Lowe 1988). By early 1950s it was clear that fisheries resources could not absorb and sustain an uncontrolled expansion of fishing activities and therefore new approaches were required to manage the resources at global level to ensure their sustainability.

Since 1950s, 13 international fisheries conventions and agreements have been concluded, and 11 major regional fisheries management organizations have been set up with a view to managing fisheries at the global or regional level (FAO 1996). Although most of these instruments came into force with the deposition of the requisite number of instruments of acceptance by member States, intended objectives could not be fully achieved since non-member States were not obliged to observe the requirements imposed under these instruments. Moreover, since coastal States had the mandate to regulate fisheries only within their territorial waters, which were in most cases limited to 3 or 4 nautical miles, most of the marine fisheries continued unregulated.

Apart from fisheries, the global community had other concerns too in respect of the use of oceans. With a view to addressing these concerns, in 1958 the first United Nations Conference on the Law of the Sea adopted four conventions related to oceans drafted by the International Law Commission. These conventions are: 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 in the High Seas. However, these conventions too did not have a significant impact on the ocean governance. Nevertheless, they formed the basis for development of the treaty named as the United Nations Convention on the Law of the Sea, which is now in force providing the international legal framework relating to the use of the oceans and their resources.

United Nations Convention on the Law of the Sea (UNCLOS)

The United Nations Convention on the Law of the Sea (UNCLOS) was adopted on 10 December 1982 in Montego Bay, Jamaica after the culmination of over 14 years of work involving participation by more than 150 countries representing all regions of the world, all legal and political systems, all degrees of socio-economic development, archipelagic States, island States and land-locked States (United Nations 1996). It came into force on 16 November 1994. The text of UNCLOS is divided into 17 parts,

which together contain 320 articles and 9 annexes. UNCLOS provides a framework for establishing a system of governance covering all aspects concerning oceans, such as delimitation of maritime zones, navigation, fisheries, protection and preservation of the marine environment, scientific research, settlement of disputes relating to ocean matters, etc.

UNCLOS recognized that the sovereignty of a coastal State extends beyond its land territory and internal waters to an adjacent belt of sea described as the territorial sea, and this sovereignty extends to the air space over the territorial sea as well as its bed and subsoil (Article 2). A coastal State has the right to establish the breadth of its territorial sea up a limit not exceeding 12 nautical miles (Article 3). It also provides for a coastal State to establish an exclusive economic zone (EEZ) with sovereign rights for among other things, exploring and exploiting, and conserving and managing the natural resources both living and non-living contained in this zone and conducting marine scientific research with due regard to rights and duties of other States (Article 56). A coastal State can establish the breadth of its EEZ not to exceed 200 nautical miles from the baselines from which the breadth of the territorial sea is measured (Article 57). In 1960s and 1970s many coastal States declared 12 nautical mile territorial seas and 200 nautical mile EEZs anticipating the adoption of UNCLOS. Sri Lanka declared the 12 nautical mile territorial sea on 7 January 1971, and the 200 nautical miles EEZ on 15 January 1977 (Jayasinghe 2003).

UNCLOS also provides for the right of ships of all States, whether coastal or land-locked, for innocent passage through the territorial sea (Article 17). Innocent passage means navigation in a manner, which is not prejudicial to the peace, good order or security of the coastal State concerned (Article 19(1)). If a foreign ship, among other activities, engages in fishing, research or any survey activity while on passage, such passage is not considered innocent passage (Article 19(2)). A coastal State can adopt laws and regulations relating to innocent passage, and foreign ships exercising right of innocent passage through the territorial sea of such coastal State are required to comply with such laws and regulations (Article 21(1)). However, under this provision a coastal State cannot make laws and regulations concerning design, construction, manning, or equipment of foreign ships, unless they are for giving effect to international rules and regulations (Article 21(2)).

UNCLOS requires coastal States to determine the allowable catch of the living resources in their respective EEZ and take appropriate conservation and management measures to ensure that the living resources in the EEZs are not endangered by over-exploitation, and maintained at levels, which can produce the maximum sustainable yield (Article 61). A coastal State is required to promote the objective of optimum utilization of the living resources in the EEZ, and if it does not have the capacity to harvest the entire allowable catch in the EEZ it should through agreements

or other arrangements give other States the access to the surplus of the allowable catch (Article 62). When two or more coastal States share the same stock, such coastal States are required to seek either directly or through appropriate sub-regional or regional organizations to agree upon the measures necessary to co-ordinate and ensure the conservation and development of such a stock (Article 63 (1)). Similarly, when a stock occurs within the EEZ of a coastal State and in the adjacent high seas, the particular coastal State and the States that fish for the same stock in the high seas are required to make arrangements for conservation and development of the particular stock (Article 63 (2)).

The coastal State and other States whose nationals fish in a region where there are highly migratory fish, which have been listed in Annex 1 of the UNCLOS, are also required to co-operate directly or through appropriate international organizations for the purpose of conserving such species, and to prompt their optimum utilization (Article 64). The species listed as highly migratory species include tunas, promfrets, marlins, sailfishes, swordfish, sauries, oceanic sharks, two species of dolphins and all cetaceans. UNCLOS also provides for management and conservation of anadromous and catadromous stocks. States in whose rivers anadromous stocks originate, are required to ensure their conservation by applying appropriate regulatory measures including establishment of total allowable catches (Article 65). Responsibility of managing catadromous species lies with the coastal States in whose waters such species spend the greater part of their life cycle, and fishing for catadromous species is only allowed inside the EEZs (Article 67).

The universal establishment of 200 nautical mile EEZs would cover 36% of the total area of the sea, and although this is relatively a small proportion, it contains over 90% of the presently commercially exploited fish stocks (Churchill and Lowe 1988). In this context, the provisions of UNCLOS concerning EEZ enable the coastal States to manage the majority of the marine fish resources.

UNCLOS provides for all nations to fish in high seas, i.e., the sea areas that do not fall within the EEZ of any coastal State (Article 87). Even if all coastal States declare their EEZs, high seas will still cover about 64% of the all ocean areas. With a view to taking measures for conservation and management of living resources in the high seas, States are required to co-operate with each other to establish sub-regional or regional fisheries organizations (Articles 117 – 119).

A total of 145 countries had ratified or acceded to UNCLOS as of 12 February 2004 (United Nations, 2004). Sri Lanka ratified UNCLOS on 19 July 1994. Based on the provisions in UNCLOS concerning conservation and management of living resources in the oceans, several specific instruments have been developed.

**The Agreement to Promote Compliance with International
Conservation and Management Measures by Fishing Vessels on the
High Seas (FAO Compliance Agreement)**

For management of high-seas fisheries on a regional basis, several regional fishery organizations have been set up as provided in UNCLOS. States, which are members of such organizations, are required by UNCLOS to ensure that fishing vessels flying their flags while fishing in high seas conform to rules made by these organizations for conservation and management of stocks coming within their purview. This means that the vessels flying flags of States, which are the members of a regional fishery organization, have to apply management and conservation measures prescribed by such an organization when they fish in high sea areas, which come under the management of that particular organization. However, certain fishing vessels avoid the application of such conservation and management measures by selecting a non-member as its flag State, i.e., the State in which the vessel is registered, since vessels, which fly the flags of non-member countries of a regional fisheries organization are not bound by regulations made by such organization. States, which assign their nationality to vessels, disregarding the fact that there is no any genuine link between such State and the vessels in question are referred to as "flag of convenience States".

To address this issue, the Food and Agriculture Organization of the United Nations (FAO) has adopted a treaty known as the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas. This agreement is commonly referred to as the FAO Compliance Agreement. After two years of deliberation, it was adopted on 24 November 1993. It entered into force on 24 April 2003 with the deposition of instruments of acceptance from 25 States as required. Sri Lanka has still not acceded to this treaty.

FAO Compliance Agreement requires all parties, irrespective of whether they are members of a regional fishery organization or not, to ensure that vessels flying their flags do not engage in any activity that undermines the effectiveness of international fishery conservation and management measures adopted by such an organization. Fishing vessels less than 24 m in length are generally exempted from this Agreement. Flag States should not allow any fishing vessel to fish in high seas without authorization by an appropriate authority, and such authorization should not be granted to any vessel unless the flag State is able to control the fishing activities of that vessel. The authorization granted to a fishing vessel by a party to fish on the high seas would not be valid once such vessel ceases to be entitled to fly the flag of that party.

Each party should also maintain a record of fishing vessels entitled to fly its flag and authorized for fishing in high seas. This record should be furnished to FAO. If a vessel is identified as violating the regulations of the particular regional fishery organization, that information should also be furnished to FAO with the identity of the particular vessel. States are urged to exchange information regarding vessels that fish in high seas in a manner that undermines the effectiveness of conservation and management measures adopted by regional fisheries organizations.

This Agreement makes the States responsible for ensuring that the fishing vessels flying their flags adhere to fishery management measures prescribed by regional fisheries management organizations. According to FAO (2002b) regional fisheries management organizations have been established to cover major fishing areas of the oceans. Therefore, the FAO Compliance Agreement will be an effective instrument in conserving and managing fish stocks in high seas.

The Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling and Highly Migratory Fish Stocks (UN Fish Stocks Agreement)

By 1990 coastal States felt that there is a need to strengthen the provisions of UNCLOS (Articles 117–120) on conservation and management of high-seas fisheries resources in order to address the problems identified in Chapter 17 of Agenda 21 adopted by the United Nations Conference on Environment and Development held in Rio de Janeiro in June 1992. Accordingly, after three years of negotiation, on 4 August 1995, the Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling and Highly Migratory Fish Stocks was adopted. This agreement is commonly referred to as UN Fish Stocks Agreement. It complements the FAO Compliance Agreement and entered into force on 11 December 2001 (FAO 2002b). Straddling fish stocks are the fish stocks that occur both in the EEZ of a coastal State and the adjacent high-sea area. Highly migratory fish stocks, which are listed in Annex 1 to UNCLOS, are those stocks that migrate extensively through both the EEZs of coastal States and high seas. The objective of the UN Fish Stocks 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 UNCLOS. It is applicable only to ocean areas beyond national jurisdictions, i.e., high seas. The UN Fish Stocks Agreement is based on the following provisions of UNCLOS.

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1. All states have a duty to ensure that their nationals comply with conservation measures adopted for high seas stocks (Article 117).
2. On the high seas, States have jurisdiction over vessels flying their flag (Articles 90-98).

This agreement requires coastal States and States fishing in the high seas to adopt measures to ensure long-term sustainability of straddling fish stocks and highly migratory fish stocks, and promote the objective of the optimum utilization of such stocks. Coastal States and other States fishing on the high seas should take measures to minimize pollution, waste, discards, catch by lost or abandoned gear and catch of non-target species, and prevent or eliminate over-fishing and excess fishing capacity. When there is no scientific evidence as to the status of the stocks, the precautionary approach should be applied in managing them.

UN Fish Stock Agreement provides for the establishment of regional fisheries management organizations for the purpose of conservation and management of straddling fish stocks and highly migratory fish stocks. Coastal States and other States fishing on the high seas are required to become members of the competent regional fisheries management organizations and promote the objective of optimum utilization of stocks within the relevant region. They should apply the fishing rules prescribed by these organizations to fishing vessels flying their flags. This Agreement also requires States to adopt a precautionary approach in fisheries management, when there is no adequate scientific information with regard to the size of the fish stocks.

The States, which are non-members of sub-regional and regional fisheries management organizations, are not discharged from the obligation to co-operate in the conservation and management of straddling and highly migratory fish stocks. They should not authorize vessels flying their flags to fish for stocks that are subjected to conservation and management measures of such sub-regional or regional fisheries management organization. This agreement provides for any party, which is a member of a sub-regional or regional fisheries management organization to inspect a fishing vessel flying the flag of any other party to see whether such fishing vessel adheres to conservation and management measures prescribed by the relevant sub-regional or regional fisheries management organization in respect of straddling and highly migratory fish stocks, irrespective of whether such party is a member or non-member of the relevant sub-regional or regional fisheries management organization.

Even before this agreement came into force, States individually and in co-operation with each other had been engaged in a range of initiatives designed to promote its implementation. Some States have even adopted new laws in order to have greater control over the fishing vessels flying their flag and operating in high seas (FAO 2002b). This agreement

required 25 instruments of ratification or accession to be deposited in order to come into force. According to United Nations (2004), 51 States have deposited such instruments.

Code of Conduct for Responsible Fisheries

The FAO Committee on Fisheries at its 19th Session held in 1991 agreed that new concepts leading to responsible fisheries are required to conserve and manage fish resources. This requirement was reiterated at the International Conference on Responsible Fishing held in Cancun (Mexico) in May 1992, and the United Nations Conference on Environment and Development held in Rio de Janeiro (Brazil) in June 1992, which adopted the Cancun Declaration and Agenda 21 respectively.

FAO developed the Code of Conduct for Responsible Fisheries in parallel with the development of the FAO Compliance Agreement and the UN Fish Stocks Agreement. The Code, which was adopted on 31 October 1995, complements these two instruments. It provides a framework for national and international efforts to ensure sustainable exploitation of living aquatic resources in harmony with the environment.

The Code is voluntary. However, certain parts of it are based on relevant rules of international law. It provides principles and standards applicable to conservation, management and development of all fisheries. It covers capture, processing and trade of fish and fishery products, fishing operations, aquaculture, fisheries research and integration of fisheries into coastal area management.

Objectives of the Code include the following (FAO 1995).

- Establish principles in accordance with the relevant rules of international law for responsible fisheries taking into account of biological, technological, economic, environmental and social aspects.
- Establish principles and criteria for the elaboration and implementation of national policies for responsible fisheries.
- Serve as an instrument of reference and provide guidance to States.
- Promote the contribution of fisheries to food security and food quality giving priority to nutritional needs of local communities.
- Promote the trade in fish and fishery products in conformity with international rules.
- Promote research on fisheries.
- Provide standards of conduct for all persons involved in the fisheries sector.

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The Code advocates that conservation and management decisions for fisheries should be based on the best scientific evidence, traditional knowledge of the resources and their habitats, and environmental, economic and social factors. States and regional fisheries organizations are urged to apply a precautionary approach in the management of living aquatic resources. States and resource users are required to minimize waste, catch of non-target species and impacts on associated or dependent species.

The Code recognizes the rights of artisanal fishers, and those engaged in subsistence fisheries. States are required to secure their livelihoods and access to traditional fishing grounds and resources.

With regards to fisheries management, the Code urges that States, through an appropriate policy, and legal and institutional framework should adopt measures for long-term conservation and sustainable use of resources based on best scientific evidence available. States are required to take necessary measures to eliminate excess fishing capacity, and ensure that levels of fishing effort are commensurate with sustainable use of resources. The Code requires States to ensure that the fishing gear, methods and practices used in fishing are sufficiently selective so as to minimize waste and discards, and the catch of non-target species. States should promote development of appropriate standards and guidelines leading to efficient use of energy in harvesting and post-harvest activities. The Code also includes provisions for protection of the aquatic environment, protection of the atmosphere, and development of responsible aquaculture including culture-based fisheries.

FAO is expected to monitor the implementation of the Code by member countries, and assist member countries, particularly developing countries to implement the Code.

FAO International Plans of Action (IPOAs)

To address specific conservation and management issues that have been identified by the international community as problems needing urgent attention, FAO has developed four IPOAs within the framework of the Code of Conduct for Responsible Fisheries. The four IPOAs individually address the following issues (FAO 1999, 2001).

- Reducing incidental catch of seabirds in long-line fisheries (IPOA-Seabirds).
- Conservation and management of sharks (IPOA-Sharks).
- Management of fishing capacity (IPOA-Fishing Capacity).
- Prevention, deterrence and elimination of illegal, unreported and unregulated fishing (IPOA-IUU Fishing).

These IPOAs are voluntary instruments. The IPOA-Seabirds, IPOA-Sharks and IPOA-Fishing Capacity have been developed as decided by the FAO Committee on Fisheries at its 22nd Session held in February 1997 with a view to having some form of international agreement in order to address the concerned issues in compliance with the Code of Conduct for Responsible Fisheries. They were adopted at the 23rd Session of the Committee held in February 1999.

The IPOA-Seabirds applies to all States whose fishers engage in long-line fisheries, and it sets out a series of activities that need to be carried out by the States. These activities include an assessment to determine whether a problem exists with respect to catching seabirds in long line fishery, and if a problem exists, development and implementation of a national plan of action to address that problem. The national plan should prescribe mitigation measures, and include a research and development component and an awareness component. The IPOA-Seabirds also gives certain technical options for mitigation of the problem.

The IPOA-Sharks applies to all States whose fishers engage in shark fisheries. Its objective is to ensure the conservation and management of sharks, and their long-term sustainable use. The IPOA-Sharks requires States to develop and implement a national plan of action for conservation and management of shark stocks, if their fishing vessels regularly catch sharks.

The IPOA-Fishing Capacity applies to all States whose fishers engage in capture fisheries. Its objective is to achieve an efficient, equitable and transparent management of fishing capacity worldwide by 2005. It requires States to undertake an assessment of fishing capacity, and preparation and implementation of a national plan.

The IPOA-IUU Fishing has been developed in response to a request made by the 23rd Session of the FAO Committee on Fisheries held in February 1999. It was adopted at the 24th Session of the Committee held in March 2001. It applies to all States and all fishers. Its objective is to prevent, deter and eliminate illegal, unreported and unregulated fishing. The IPOA-IUU Fishing says that States are encouraged as a matter of priority to ratify, accept or accede to UNCLOS, the FAO Compliance Agreement and the UN Fish Stocks Agreement and fully implement the relevant provisions. The States are also required to develop national plans of action and implement them to achieve the objective of the IPOA-IUU Fishing.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

This Convention was drafted in accordance with a decision of the meeting of the members of the World Conservation Union (IUCN) held in

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1963, and adopted on 3 March 1973 at a meeting held in USA where representatives from 80 countries participated. It entered into force on 1 July 1975. Currently 164 countries are parties to CITES (CITES 2004).

CITES deals with management of international trade in wild animals and plants, and therefore has an impact on conservation and management of living aquatic resources as well. It has three Appendices. Appendix I includes species threatened with extinction. CITES has prohibited the commercial trade of these species. With regard to fish species, Appendix I includes two species of sturgeons (*Acipenser brevirostrum* and *A. sturio*), bony tongue (*Scleropagus formosus*), pleesok (*Probatus jullieni*), cui-ui (*Chasmistus cujus*), pangasid catfish (*Pangasinodon gigas*), totoba (*Totoba macdonaldi*) and coelacanth (*Latimaria* spp.). These species could be traded in for scientific purposes subject to obtaining permits from the competent authorities of both importing and exporting countries.

Appendix II includes species, which although not necessarily threatened with extinction, may become so unless trade in specimens of such species is regulated. These species need a permit from the competent authority of the exporting country for exportation. Whale shark (*Rhincodon typus*), basking shark (*Cetorhinus maximus*), Acipenseriformes species, arapaima (*Arapaima gigas*), blind carp (*Caecobarbus geertsi*), pipe-fishes and seahorses (*Hippocampus* spp.) and Australian lungfish (*Neoceratodus forsteri*) are the fish species that are listed in Appendix II.

Appendix III includes species, which individual parties have identified as those that need restriction of trade in order to prevent over-exploitation within their jurisdictions, and therefore the co-operation from other parties for such restriction of trade. Great white shark (*Carcharodon carcharias*) as identified by Australia and a sea-cucumber species (*Isotichopus fuscus*) as identified by Ecuador are listed in Appendix III.

Effectiveness of the instruments

The UN General Assembly is monitoring the status of implementation of the above instruments through reports submitted by member countries. FAO is also periodically requesting member countries to submit reports on the implementation of these instruments. However, no information is available as to whether there has been any comprehensive evaluation on their effectiveness in conservation and management of living aquatic resources. An important requisite to achieve the objectives of these instruments is the political will of the fishing nations and their active involvement in implementing these instruments.

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