



Chapter 5

Fisheries Management and Policies

Leela Edwin

Central Institute of fisheries Technology
Matsyapuri P. O., Cochin - 682 029

E- mail: leelaedwin@hotmail.com

1.0 Introduction

Fisheries play an important role in the global provision of food, directly accounting for at least 15% of the animal protein consumed by humans and indirectly supporting food production by aquaculture and livestock industries. Plateauing of catches from mid 1990s, economic and growth overfishing at several centres, and intersectoral conflicts in the coastal belt have highlighted the need for regulation of fishing capacity, adoption of responsible fishing practices and caution in marine capture fisheries development. Overfishing and fishing down effect is evident in Indian fisheries. Ongoing declines in production of the world's fisheries may have serious ecological and socioeconomic consequences. As a result, a number of international efforts have sought to improve management and prevent overexploitation, while helping to maintain biodiversity and a sustainable food supply .

Fishery laws and regulations enforced by a set of rules to conserve fishes in public waters. Laws support conservation measures and check the injurious methods of fishing. In prehistoric India, people were conscious about conserving natural fishery resource. According to FAO, fisheries management is the integrated process of information gathering, analysis, planning, consultation, decision-making, allocation of resources and formulation and implementation, with enforcement as necessary, of regulations or rules which govern fisheries activities in order to ensure the continued productivity of the resources and the accomplishment of other fisheries objectives. Fisheries production and yield are constrained by a number of factors which can be classified as biological, ecological, environmental,

technological, social, cultural, and economic considerations .

Regulation on mesh size of nets, limiting the size of fish limiting the total catch, restriction in modes of fishing, restrictions on time of fishing, licensing and leasing of fishery rights, declaration of sanctuaries, prohibition of anicuts and fixed engines are some common approaches towards management of Fisheries.

2.0 International Agreements

Four international agreements emerging out of the endorsement of the Code of Conduct for Responsible Fisheries are relevant in this context for incorporation under the relevant laws/legislation proposed in this regard

- i. Agreement for implementation of the provisions of the United Nation Convention on the Law of the Sea of 10 December 1982 relating to the conservation and management of straddling Fish Stock and Highly Migratory fish Stock.
- ii. Agreement to promote compliance with International Conservation and Management Measure by Fishing Vessels on the High Seas.
- iii. International plan of action to prevent, deter and eliminate, illegal, unreported and unregulated fishing.
- iv. International plan of Action for Management of Fishing Capacity, Conservation and Management of Shark, Reducing incidental catch of Sea birds in long line Fishing.

3.0 Fisheries Management in the Indian context

Indian fisheries are increasingly contributing to the nutritional security of the country. The marine fisheries sector in India has registered a phenomenal growth during the last five decades both quantitatively and qualitatively. Fisheries should be managed to ensure that fishing are conducted in ways that minimize negative impacts on the environment. Governments should have enforceable laws with procedures for determining and punishing violators like penalty or the removal of fishing license. Internationally, there has been wide recognition of the need to move towards an ecosystem approach to fisheries, a development spearheaded by FAO through their Code of Conduct for Responsible Fisheries.

Under the Constitution of India, fisheries within the territorial waters, which extend up to a distance of twelve nautical miles from shore, is a state subject and the primary responsibility of its development rests with the state government. The central government is responsible for all fishing activity that takes place beyond this limit- the deep sea or EEZ (exclusive economic zone) that extends up to a distance of 200 nautical miles. There is no seperate ministry of fisheries at the central level, and the two bodies of the Ministry of Agriculture - Department of Animal Husbandry and Dairying and the Indian Council for Agricultural Research- handle fisheries activities. The state government has command over the fisheries, which are in the territorial waters of 12 miles, over communities that are dependent on the fisheries in the area and the marine resources in the area.

3.1 Indian Fisheries Act, 1897

The need of fisheries legislation was emphasised as long back as in 1873 when the attention of government was drawn to the destruction of fishery resource in the dam and reservoirs. The government then enacted the Indian Fisheries Act which came into being in 1897 and is considered as the mother act of fisheries in India. The act highlighted the conservation aspect and banned use of explosive and poisoning of water which destruct the fish. It enables the provisional government (state) to frame rule in selected waters for protection of fish. After independence the various development programmes took place with the creation of the large number of reservoirs, stagnant and running water spreads offering scope for increase in inland production. New techniques were introduced for hatchery production of major fish seeds. The vast change and rapid industrialization created pollution problems affecting the fish life which necessitated the revision of the 1897 Act and for formulating new legislations. The Indian Fisheries Act, 1897 is meant to regulate riverine fisheries and fisheries in inshore waters, to prohibit the use of poisons and dynamite in fishing, and to protect fish resources in selected waters through regulation of, among other things, the erection and use of fixed engines (the reference is to nets, cages, traps, etc.), the construction of weirs, the use of nets of certain types and dimensions, etc.

3.2 The Merchant Shipping Act, 1958

An Act to foster the development and ensure the efficient maintenance of an Indian mercantile marine in a manner best suited to serve the national interests and for that purpose to establish a National Shipping Board to provide for the registration of Indian ships and generally to amend and consolidate the law relating to merchant shipping. The Act was amended in 1983 to provide for registration and control of Indian fishing boats. The Act enables defining a fishing vessel and prescribes registration procedure besides provision for data collection. It applies to fishing boats of 20 m and above, while specifying that the Central government will have the power to declare that boats of less than 20 m shall be required to be registered under The Merchant Shipping Act, 1958.

3.3 Indian Wildlife (Protection) Act, 1972

It is under this act that marine protected areas/ sanctuaries are declared. Certain marine species are protected under this Act by listing them in Schedule I of the Act, which prohibited hunting and trading of these species.

3.4 The Marine Product Export Development Authority Act, 1972

The MPEDA was established in 1972 under an Act of the Parliament, namely the MPEDA Act, 1972 (Act 13 of 1972), under the Ministry of Commerce, Government of India, when it was felt and declared that it is expedient in the public interest that the union should take under its control the marine products industry for its development.

4.0 Code of Conduct for Responsible Fisheries

The code which was unanimously adopted on 31 October 1995 by the FAO Conference

provides the required framework for national and international efforts to ensure sustainable exploitation of aquatic living resources in harmony with the environment. In fisheries management, the Code advocates conservation and management measures based on the best scientific evidence available. The Code advocates that countries should have clear and well-organized fishing policies in order to manage their fisheries. It is important that fishing industries at all levels operate within a clear fisheries management and legal framework so that everyone involved in fisheries has a clear understanding of the rules to be followed. The Code also advocates optimum fishing fleet and gear to ensure sustainability and precautionary approach as the guiding principle for fishery management. The regulations should facilitate resolution of conflict among fisheries and also suggest policy measures to facilitate sustainable use of coastal resources.

5.0 Steps Initiated by India to Implement Responsible Fisheries and Aquaculture

A national level committee has been set up in the Department of Animal Husbandry, Dairying and Fisheries for implementation of FAO Code. The Code has been translated into all the regional languages, programmes have been designed to create awareness among the fishermen and fish farmers, recommended to categorize fishing vessels below 20m OAL in the terrestrial waters and deeper zone. A national level committee has been revalidated to evaluate existing fisheries potential in the Indian EEZ for future planning and exploitation. Forty-five day monsoon fishing ban has been imposed in Indian coast for resource conservation and the reduction in the fishing pressure to stimulate rejuvenation of fish stock. The broad objectives of the policies are fishing in responsible manner and ensuring socio-economic security.

5.1 The Territorial Waters, Continental Shelf, EEZ and other Maritime Zones Act, 1976

This act recognizes the sovereign rights to conservation and management of living resources in the Indian EEZ, in addition to their exploration and exploitation. Section 15 (c) further gives powers to the Central Government to make rules, inter alia, for conservation and management of the living resources of the EEZ, and Section 15 (e), for the protection of the marine environment

The EEZ is a sea zone prescribed by the UN Convention on the Law of the Sea over which a state has special rights over the exploitation and use of marine resources, including energy production from water and wind. The territorial sea extends to 200 nautical miles on the seas around India through enactment of territorial waters, continental shelf, EEZ and other maritime act, 1976. India has acquired exclusive right to exploit the living and non-living resources of this area comprising 2.02 million km² and Ministry of Agriculture enacted the Maritime Zones of India (Regulation of Fishing by Foreign Vessel) Act, 1981 to regulate the fishing by foreign vessels in the EEZ of India. Introduction of legislation for wholly Indian owned deep-sea fishing vessels (more than 20 m OAL) operation in EEZ is essential to optimize the catch and share the catch data with research organizations for further analysis to evolve further programmes. Ministry of Agriculture should prepare model legislation and circulate to the state Government and others concerned seeking their comments before

its finalization for enactment.

The Indian Maritime Zones Act deals with the prohibition of fishing in maritime zones of India by foreign vessels, grant of licences, prohibition of fishing by Indian citizens using foreign vessels, and cancellation or suspension of licenses or permit. It also deals with foreign vessels entering maritime zones of India without license or permit to stow gear and the power for seizure and contravention. The act permits fishing for scientific research, investigation etc.

According to the maritime zones of India Rules, 1982, every owner of a foreign vessel or any other person described in section 4, who intends to use such vessel for fishing within any maritime zone of India, shall make an application in Form A to the Central Government. This form shall include information like the name and description of the vessel, its equipment and complement; the flag state and home port of the vessel; the name and address of the owner and master of the vessel and, where applicable, its character; the side number of the vessel, the radio frequencies and call sign; a description of the proposed purpose and the period for which the licence is required; the name and address of a person resident in India having a permanent office or establishment in India who is authorised by the owner of the vessel to represent him for the purpose of providing liaison with the Government of India; and any information required by the Central Government or by an officer designated by it to grant a licence in any case where, in its opinion the information furnished by the applicant requires clarification or amplification.

5.2 Marine fishing regulations in the coastal states of India

In the marine sector, the fast pace of development of mechanization programmes created conflicts between the traditional, mechanized and deep-sea fishing sectors and such instance were frequently noticed in the coastal waters of many parts of country during the seventies. A committee, appointed by Government of India in 1977 (Majumdar Committee) to study their problems, recommended that the state governments should be advised to enact necessary legislation to enable them to regulate fishing in their respective territorial water as per the constitutional provision. A model bill was prepared and circulated by the Ministry of Agriculture in 1979 based on the recommendation of the above advising the state and union territories to enact suitable marine-fishing regulations.

Based on the model bill, all the maritime states and union territories of Andaman and Nicobar Islands and Lakshadweep Islands enacted the marine fisheries regulation Act (marine fishing regulation in the case of UTs) which mostly provides the provisions given below.

- ▶ Restricting the catching of any species of fish for such period of time
- ▶ Regulating the mesh size of the fishing vessels
- ▶ Licensing and registration of fishing vessels
- ▶ Conservation of fishery resource in ecologically sensitive areas
- ▶ Punitive action for violations of the Act/Rules.

All the states regulate the marine fishing activities under these Act while the Gujarat Fisheries Act, besides regulating marine-fishing operation in territorial waters, also regulate fishing in inland waters providing standards for sale of fry and fingerlings, mariculture prohibition of fishing within a radius of 100 m down stream in the river mouth and prohibition of exotic fish introduction, etc.

The marine fishing regulation Act enacted by the states indicate that there is no uniformity in the regulations of fishing and the areas exclusively earmarked for traditional fishing operations varied from 5km from shore in Odisha and Goa, 6 km in Karnataka, 8 km in Andhra Pradesh and 10 km in the case of Gujarat and Kerala. Hence there is a need for harmonising a regulation at least with regard to the adjoining states. The implementation of marine fishing regulations poses a greater challenge to the maritime state in the absence of suitable infrastructure and manpower for its enforcement. The Government of India, under a centrally sponsored scheme, provided assistance to the state governments to procure patrol boat to monitor the operation of fishing vessels in the coastal areas. However, most of the states have not put this in use effectively for various reasons. It is high time that the coastal states revisit the provision of these Acts with a view to incorporate suitable change/additions by amending the Acts to suit the current requirement and for their effective implementation by creating the required enforcement mechanism.

The Indian Marine Fishing Regulation (IMFR) Act 1980 was the first comprehensive national legislation designed to regulate marine and coastal fishing activities along the Indian coast. IMFRA (1980) was enacted to protect the interests of different sections of people using traditional fishing crafts, to conserve fish, to regulate fishing on a scientific basis and to maintain law and order in the sea. The central government also directed all coastal states to formulate similar acts to regulate mechanised fishing activities along their coastal waters. Today, most of the coastal states have enacted legislations to regulate mechanised fishing.

The regulations concerning Indian Marine Fisheries are:

- i. The Indian Fisheries Act, No. IV of 1987, Government of India
- ii. The Indian Fisheries Act as adopted and applied by the state of Saurashtra, 1897
- iii. The Mysore Game and Fish preservation Act 2 of 1901, Government of Mysore
- iv. The Game and Fish preservation Regulation Act 12 of 1914, Government of Travancore (1914) (Modified 1921)
- v. Cochin Fisheries Act 3 of 1917 (Modified 1921), Government of Cochin
- vi. Andaman and Nicobar Island Fisheries Regulation 1 of 1938
- vii. The United Province Fisheries Act 45 of 1948
- viii. Government of Travancore-Cochin Fisheries Act 34 of 1950
- ix. Maharashtra Fisheries Act 1960 (Modified 1962), Government of Maharashtra
- x. The Indian Fisheries (Pondicherry Amendment) Act, 18 of 1965

- xi. The Indian wild life Act 1972. 21b-The Territorial Waters, Continental Shelf, EEZ and other maritime zone Act, 1972
- xii. The Marine Product Export Development Authority Act, 1972
- xiii. Maritime zone of India (Regulation of fishing by foreign vessels) Act, 1981
- xiv. The Kerala Marine Fishing regulation Act and Rules, 1980 (Act 10 of 1981)
- xv. The Goa Marine fishing Regulation Act, 1980
- xvi. The Maharashtra Marine Fishing Regulation Act, 1981, Government of Maharashtra
- xvii. The Orissa Marine Fishing Regulation Act, 1981, (Orissa Act 10 of 1982) and the Orissa Marine fishing Regulation Rules, 1983
- xviii. The Tamil Nadu Marine Fishing Regulation Rules, 1983
- xix. The Karnataka Marine Fishing Regulation Act, 1986
- xx. The Andhra Pradesh Marine Fishing Regulation Act, 1994
- xxi. Lakshadweep Marine Fishing Regulation -Rules, 2000
- xxii. The Gujarat Fisheries Act, 2003
- xxiii. Andaman and Nicobar Marine Fishing Regulation Act, 2003

5.3 Biological Diversity Act, 2002

The objective of the Act is to protect biological diversity and sustainable use of biological resource of India. The Act also encourages conservation and has a provision to declare a fish stock threatened if it is over-exploited.

5.4 Coastal Aquaculture Authority Act, 2005

The coastal aquaculture authority Act, 2005 (Act 24 of 2005) came on 23 June 2005. The main objective of the authority is to regulate aquaculture activities in coastal area to ensure sustainable development without causing damage to the coastal environment. The authority is empowered with the regulations for the construction and operation of aquaculture farms in coastal areas, inspection of farms for ascertaining their environmental impact, registration of aquaculture farms, removal or demolition of coastal aquaculture farms which cause pollution, etc. Aquaculture Authority established this law, which gives some provisions to prevent construction of shrimp farm in mangrove areas, sensitive area and in agriculture land. Compulsory Environment Impact Assessment (EIA) for large farms, effluent treatment plant, use of chemical and drugs and licensing and mandatory application of code of conduct.

5.5 Other Legislations directly relevant to Marine Fisheries

The Coast Guard Act, 1978 provides for the constitution and regulation of an Armed Force of the Union for ensuring the security of the maritime zones of India with a view to the protection of maritime and other national interests in such zones. Among other things, it provides for safety and protection of islands and offshore structures; protection and preservation of maritime environment and endangered species; prevention and control of

pollution in the maritime zones; assistance to fishermen in distress at sea; safeguarding life and property at sea; preventing poaching in Indian waters; assisting in ocean research-related activities; enforcing maritime law; and carrying out other duties as and when assigned by the Government of India, without duplication of efforts.

The Indian Ports Act, 1908 confers the power of administering major ports to the Central Government and lays down rules for safety of shipping and conservation of ports. The Major Port Trusts Act, 1963 specifies that the administration, control and management of major ports lie with the respective Port Trusts.

Section 26A of the Indian Wildlife (Protection) Act, 1972 recognizes the need to protect the occupational interests of fishermen, while declaring a sanctuary in territorial waters. It also specifies that the right of innocent passage of any vessel or boat through the territorial waters shall not be affected in this process.

The Environment Protection Act, 1986 authorizes the Central Government to protect and improve environmental quality, control and reduce pollution from all sources, and prohibit or restrict the setting and/or operation of any industrial facility on environmental grounds. Notably, for the first time, it makes provisions for citizen suits in the lower courts, allowing a citizen to prosecute a polluter by filing a complaint with a Judicial Magistrate Court. Subsequent notifications under the Environment Protection Act, 1986 have also made it mandatory to conduct environmental impact assessments (EIAS) for specified developmental activities and have made public hearings mandatory for all developmental activities that require environmental clearance from the MOEF.

6.0 Marine and Coastal Resource Management Policies: The Indian Scenario

This policy initiated with the introduction of the "Indo-Norwegian Project" and envisaged a series of state interventions in the harvesting, processing and marketing of fish and fishery products that triggered off a "blue revolution" in the Indian fishery economy. The government has adopted a similar approach for the development of aquaculture and commercial processing. Commercial prawn culture activities were promoted both in fresh and brackish-water bodies by providing economic incentives and export promotion guidelines.

The early integration of a primitive fishery economy with the global markets has led to overcapitalisation in the harvesting, aquaculture and processing activities. New issues and problems, especially focussing on sustainability of resources, environmental impacts of commercial fishing, processing and marketing, trade barriers of non-tariff category, including conservation, biodiversity and food safety emerged as the leading issues. Environmental activism also started influencing global fish trade and consumption in a very significant manner. International organisations insisted a rapid action programme to rationalise fisheries policies of individual member countries.

Faced with these international compulsions, the government decided to restructure its policies by accepting in principle the decision to implement the Code of Conduct for

Responsible Fisheries (CCRF) to manage Indian fisheries. International quality standards for exports and aquaculture were also introduced with state assistance. The conditions imposed by the consumer nations of the West on the quality of seafood from India have violated all fair norms of international trade. The costs of introducing quality standards based on ISO 9000, EU and special restrictions imposed by the US directly or through the WTO were unbearable to the infant shrimp processing industry of India.

6.1 Coastal Zone Management Policies

In addition to these measures in the fisheries sector, the government also planned a series of interventions through the declaration of its Coastal zone management policies. Recognising the economic values of tropical coastal zone biodiversity, the UN Convention on the Law of the Sea (UNCLOS) advised member states to "adopt laws and regulations to prevent, reduce and control pollution of the marine environment including rivers, estuaries and other structures, taking into account internally agreed rules, standards and procedures. Inspired by this international obligation, the Ministry of Environment and Forests (MoEF) issued a notification in 1991 to regulate economic activities along the Indian coastal zone. The basic objective of the CRZ notification 1991 was to demarcate the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters, which are influenced by tidal action as Coastal Zone Regulation Zone mainly to protect coastal communities, conserve coastal resources and maintain a balance between development and environmental protection. The Central Government asked Coastal States and Union Territory Administrations to identify the CRZ areas within their respective territories and prepare Coastal Zone Management Plans for the development of these areas. The state shall be responsible for monitoring and enforcement of the provisions of this notification within their respective jurisdictions.

6.2 New Deep Sea Fishing Policy (1991)

In March 1991, the Indian government announced NDSP as part of the economic reforms programme. The policy involved three schemes - leasing out of foreign fishing vessels to operate in the Indian EEZ, engaging foreign fishing vessels for test fishing and forming joint ventures between foreign companies and Indian companies on 49:51 equity basis in deep sea fishing, processing and marketing. Government of India started giving licenses to joint venture, lease and test fishing vessels. This was opposed by millions of fishers.

6.2.1 Murari committee (1995)

The committee studied the proposal of the NDSP and the opposition that was made to it. The parliament members from all the political parties were members of the Committee. It came up with 21 recommendations, some of them being:

- ▶ No renewal, extension or new licenses be issued in future to joint venture/ charter/ lease/ test fishing vessels.
- ▶ The present licenses be cancelled as per going through the legal procedures,

- ▶ Up grade the skill of the fishing community to equip them with exploiting the deep sea resources,
- ▶ Stop pollutions
- ▶ Supply of fuel at subsidised rate
- ▶ Fishing regulations in the entire EEZ
- ▶ A separate ministry to deal with the entire fisheries
- ▶ Monsoon trawl ban
- ▶ The area already being exploited or which may be exploited in the medium term by fishermen operating traditional craft or mechanized vessels below 20m size should not be permitted for exploitation by any vessels above 20m length except currently operated Indian vessels which may operate in the current areas for only three years.

The Central Cabinet, GOI, had accepted all the recommendations in the committee on 28th of September 1997. The Minister of Food Processing Industry nominated a small committee from the National Fisheries Action Committee against Foreign Fishing Vessels to oversee the implementation of Murari Committee recommendations. The committee met several times and worked together with the Food Processing Ministry and transferred the Deep Sea Fishing from the Ministry of Food Processing to the Ministry of Animal Husbandry. Since then, the Ministry of Animal Husbandry never called the committee who was indeed responsible for the transfer. Now the Ministry of Animal Husbandry is not implementing the Murari Committee recommendations, but has started giving new licenses and importing fish like Bombay duck, sardines and mackerels.

6.3 National Environment Policy 2004

The National Environment Policy (NEP, 2004) is intended to be a guide to action: in regulatory reform, programmes and projects for environmental conservation; and review and enactment of legislation, by agencies of the central, state, and local governments. It also seeks to stimulate partnerships of different stakeholders, i.e. public agencies, local communities, the investment community, and international development partners, in harnessing their respective resources and strengths for environmental management. On the whole, it is expected to do better than fiscal neutrality, and likely raise substantial resources from outside the fiscal regime to realize its objectives. The principal objectives of NEP 2004 are Conservation of Critical Environmental Resources; Intra-generational Equity; Livelihood Security for the Poor; Inter-generational Equity; Integration of Environmental Concerns in Economic and Social Development; Efficiency in Environmental Resource Use; Environmental Governance and Enhancement of Resources for Environmental Conservation.

6.4 The Marine Fishing Policy, 2004

The Marine Fishing Policy seeks to bring the traditional and coastal fishermen in to the focus together with stakeholders in the deep-sea sector so as to achieve harmonized development of marine fishery both in the territorial and extra territorial waters of our

country.

The policy objectives are: (1) to augment marine fish production of the country up to the sustainable level in a responsible manner so as to boost export of sea food from the country and also to increase per capita fish protein intake of the masses, (2) to ensure socio-economic security of the artisan fishermen whose livelihood solely depends on this vocation. (3) to ensure sustainable development of marine fisheries with due concern for ecological integrity and bio-diversity.

7.0 Informal management systems

The most effective way to solve the problem is to allocate rights to stakeholders. Traditional fishing communities should be given the right to fishing. Management of fisheries should be entirely in the hand of the communities, with governments serving only as technical advisors, if needed by the communities. People who press for nationalisation of fisheries subscribe to the Tragedy of the Commons argument to defend their stand. However, it is important to realise that Hardin actually meant the tragedy of the collective- when there is no specified set of users or use rules that govern the management of the resource, where entry is free and open to all, without any accountability. Community managed systems on the other hand, have a defined set of users and have in place intricate rules, norms and sanctions that govern use, entry and conflict resolution. There are already many informal community management schemes that are in place in many parts of India.