

National Policy on Marine Fisheries, 2016

Statement of Intent

Preamble

The overarching goal of the National Policy on Marine Fisheries, 2016 (NPMF, 2016) will be to ensure the health and ecological integrity of the oceanic wealth of India for the benefit of current and future generations of the nation. The overall strategy will be based on four pillars of **sustainable development, principle of subsidiarity, inter-generational equity** and **precautionary approach**. These four pillars will guide the actions of various stakeholders in the marine fisheries sector. While fishers will be at the core of this policy, actions will also be guided by the 'Public Trust Doctrine'.

The specific goals and objectives of the policy will focus on employment and livelihoods; equity and equality; provision of food security and national nutrition; and creation of wealth and prosperity in the sector. The policy framework will aim to meet the national economic goals and is intended to guide the coordination and management of marine fisheries in the country during the next ten years.

The primary concern of the Policy shall be the sustainability of marine resources. To ensure long term sustainability of marine fishery resources, wider consultations with stakeholders may help in providing a more balanced understanding of marine fisheries resources and better implementation of Policy and programs.

A. Marine Fisheries Sector in India

The potential of the fisheries sector in general and the marine fisheries sector in particular was recognized quite early in the Indian development planning and since then a considerable amount of public effort has been channelized into the sector for developing it as a vehicle of growth. Apart from the prime consideration of securing food and nutritional requirements of the population, the fisheries sector plays an important role in trade and commerce and in the process it promotes livelihoods of millions of people who are often living at the margin.

Starting from a purely traditional activity in the fifties, fisheries have now transformed to commercial enterprises. The sector contributed Indian Rupees (₹) 96,824 crores to the GDP (at current prices) during 2013-2014, which is 0.92 per cent of the total GDP and 5.15 percent of the GDP from agriculture, forestry and fishing at current prices. The fisheries sector has also been one of the major contributors of foreign exchange earnings and generated revenue worth ₹ 33,441.61 crores in 2014-15 through export of marine products.

After declaration of the Exclusive Economic Zone (EEZ) in 1976, the oceanic resources available to India are estimated at 2.02 million sq. km, comprising 0.86 million sq. km (42.6 % of the total) on the west coast, 0.56 million sq. km (27.7%) on the east coast and 0.60 million sq. km (29.7%) around the Andaman and Nicobar Islands. The continental shelf area amounts to 530,000 sq. km of which 71 percent area is available in the Arabian Sea (west coast) and the remaining 29 percent in the Bay of Bengal (east coast). With an absolute right on the EEZ, India has also acquired the responsibility to conserve, develop and optimally harness the marine living resources within this area.

The country has a long coastline of 8,118 km and an equally large area under estuaries, backwaters, lagoons, etc., which is highly amenable for developing capture as well as culture fisheries. Marine fisheries activities are spread in approximately 1,537 fish landing centres and 3,432 fishing villages located along the coastline on the mainland and the two Island Territories of the Andaman & Nicobar Islands and Lakshadweep.

The marine fishing fleet comprises about 1,99,141 fishing craft of which 52,982 (26 %) are traditional and 73,410 (37 %) motorized traditional crafts. The mechanized fishing vessels (MFVs) comprise 72,749 vessels – 37 percent of the total. As compared to the west coast, concentration of traditional craft (including motorized) is more on the east coast (about 62 % of the total), while in case of MFVs, it is about 58 % of the total. The Government of India has also undertaken a nation-wide on-line registration programme of fishing crafts for creation of a database known as 'ReALCraft', which will provide real-time registry of fishing vessels in the country.

The National Marine Fisheries Census (NMFC, 2010) conducted by the Government of India has estimated that the marine fisheries sector provides employment to about 0.9 million fishers in active fishing and to about 0.7 million fishers in various other fishing operations. The number of people involved in marine fisheries related activities include nearly 0.2 million in fish marketing, 0.1 million in repair of fisheries requisites, around 0.2 million in fish processing and 0.1 million in other ancillary activities. In all, an estimated 3.51 million people depend on marine fisheries for their livelihoods in India. Compared with the previous NMFC undertaken in 1980, it is seen that marine fisher population has nearly doubled from 1.87 million in 1980 to 3.51 million in 2005 and further to 4.06 million in 2010.

Export of marine products has increased from 15,732 tonnes in 1961-62 to a record 10,51,000 tonnes in 2014-15. In relative terms, it has increased from about 1.79 percent of the total marine landings to more than 33 percent of the total marine landings. Apart from the quantitative growth, there is also improvement in the product basket with addition of commercially important species such as tuna, squids, etc. This growth trajectory has also led to the creation of a large processing capacity in accordance with global standards, which can further fuel the export of fish and fisheries products from India. In the long run, as domestic demand and preference for processed fish increases, this processing capacity will be of much use.

Following the decadal exercises, in 2010, the Ministry of Agriculture revalidated the potential of marine fisheries adjusting the yield to an upper limit of 4.41 million metric tonnes (MMT) from the previous estimate of 4.39 MMT. However, at the same time in terms of volume, this potential yield has almost been fully utilized from the near shore waters. In terms of deployment of fishing effort, fishing is still largely concentrated up to 200 meters of depth. These are also the waters which are most productive.

In terms of revenue, some of the high value species occurring in deeper waters are yet to be fully harnessed. These resources are largely composed of tuna and tuna like species, deep sea lobsters, etc. Therefore, harnessing the full potential of marine resources is a pre-condition for ensuring flow of sustainable benefits for the country and the people dependent on it. As the sector is quite dynamic, there is a need to

stream line policies and programmes to take advantage of the present sum of technical knowledge and state of resources.

Entry 57 of List 1 of Seventh Schedule of the Constitution of India specifies *Fishing and Fisheries beyond Territorial Waters* as Union Subject, whereas Entry 21 of List II speaks of Fisheries as a State Subject. Reading both the Entries together, it follows that control and regulation of fishing and fisheries within territorial waters is the exclusive province of the State, whereas beyond the territorial waters, it is the exclusive domain of the Union. The Union Government acts as a facilitator and coordinator responsible for policy formulation, carrying out fishery research and channelling funding support to the states in line with the national priorities and the commitments made to the State/UT Governments. The Ministry of Agriculture and Farmers Welfare (DAHD&F) within the purview of its allocated business helps the coastal States and the UTs in development of fisheries within the territorial waters, besides attending to the requirements of the sector in the EEZ. Therefore, management of fishery resources in the EEZ requires close coordination between the Union and the States.

B. Strategic Actions

The following paragraphs detail the strategic actions that specify the intent of the Government towards fulfilling the goals and objectives of the NPMF, 2016.

1.0 Fisheries Management:

While re-defining its strategy for the fisheries sector, the Government is now focused on bringing in 'Blue Revolution' by sustainable utilization of the fisheries wealth from the marine and other aquatic resources of the country for improving the lives and livelihoods of fishers and their families. The 'Blue Revolution' also reinforces the 'Blue Growth Initiative (BGI)' voiced at the 2012 Rio+20 meet held at Rio de Janeiro City, Mexico¹.

To meet the goal of 'Blue Revolution' in marine fisheries, efforts of the Government may be directed towards effort management; fleet-size optimization; mainstreaming biodiversity conservation in production processes; species-specific and area-specific management plans; spatial and temporal measures for resource conservation; conservation of Ecologically and biologically sensitive areas (EBSAs) and Vulnerable Marine ecosystems (VMEs), etc.

Marine fish harvests from the EEZ of the seas around India are close to the current potential yield estimate (4.41 MMT). At current estimates there is an untapped potential of about 1.0 MMT of marine resources, especially the high valued resources like Tuna and allied species. However, considering the wide confidence intervals of catch and potential yield estimates, there is a need for taking a precautionary approach in line with global standards regarding wild fish harvests. Therefore, the main emphasis in this policy document should be to maintain the yields at about the current levels of Maximum Sustainable Yield (MSY) with sustainability and equity as

¹ The BGI, part of the document entitled, 'The future we want' adopted by the global community at Rio+20 talks about sustainable harvests from the marine resources to feed the World's growing population. The document largely reaffirms previous action plans like Agenda 21 and calls for the urgent need to return ocean stocks to sustainable levels and calls on countries to develop and implement science-based management plans.

the key principles. The policy would also aim at maintaining the small-scale character of the entire marine fisheries sector.

Management of fisheries will follow an integrated approach, blending traditional knowledge and science with business principles and effective engagement of industry and other concerned stakeholders to ensure fisheries are ecologically and economically sustainable.

Knowledge management will be one of the key actions that will foster quick and easy availability of information on key attributes of the marine fisheries sector- resource abundance and distribution; real-time resource maps; productivity assessments; potential fishing zone advisories; weather forecasts, etc. for benefit of the fishers. The use of IT sector and space technology may be put to maximum use.

Spatial and temporal closures have helped in sustaining the marine fish wealth of the country. Such management measures may be based on periodic reviews taking into account the best scientific information available, including a precautionary approach, and with effective engagement of fishers and other concerned stakeholders.

The marine fish resources are not inexhaustible, and uncontrolled harvests will lead to depletion of resources, as experienced in many cases. Appropriate steps would be taken in consultation with fishers in optimizing fishing effort and implementing measures that will help in sustaining the resources. Such measures will *inter alia* include mechanisms to limit fishing effort through input and output controls, fleet size, fishing days and area of operation, engine horsepower, gear size, MSY, minimum mesh size, etc.; moving effort to areas which are relatively less exploited; developing fleet plan maps; and creating fisheries management areas to ensure that resource depletion is contained.

Presently, the coastal states/UTs have specific areas earmarked (based on depth or distance from shore) as reserved for traditional fishers. Such Territorial Use Rights to Fisheries or TURFs have proved to be useful in sustaining the livelihoods of such artisanal fishers. The government may continue to provide such support to artisanal/traditional fishers and in consultation with user groups consider further enlarging the scope through increase in the area available to them in the Territorial Waters.

The Ecosystem Approach to Fisheries Management (EAFM), in which participatory management is a significant component, is widely recognised as a way forward in effective fisheries management. EAFM may be implemented with due consideration to the well-being of all living and non-living components in the marine ecosystem and the social status of stakeholders. In the same vein, Government may promote participatory management or co-management in fisheries, which is recognized as one of the successful management systems for multi-stakeholder, multispecies and multi-fleet fisheries throughout the world. The norms for introducing such management measures will be worked out in consultation with the coastal State/UT Governments, fishers and their associations and other concerned stakeholders in the sector.

Considering that the LOP scheme has not had the expected impact in the inclusive development of the deep-sea fishing sector, an alternate mechanism may be looked at for development of the deep sea fishing sector. This mechanism may include schemes

for providing skill enhancement support to stakeholders, modernization of existing indigenous deep sea going vessels and new indigenous vessels etc. Utilization of deep sea resources in the EEZ may have to be reconsidered in terms of not only the resources available in the EEZ, but also in terms of infrastructure, human capacity development and a comprehensive and implementable set of rules and regulations with a strong Monitoring, Control and surveillance (MCS) regime in place, availability of scientific and technical information on the commercial fisheries resources and the best fishing methods with which to target them.

Requirements of coastal States should be taken into consideration and a holistic resource utilization plan may be developed for the EEZ. At the same time, coastal States should also need to appreciate that while the larger EEZ (beyond 12 nautical miles) is a common resource, isolated production strategies by States may lead to destruction of this common resource. Therefore, the Union Government and the State Governments need to act together to agree upon management policies and measure for sustainable utilization of the resources in the EEZ.

Keeping in view the developments in utilization of the resources in waters beyond 12 nautical miles, there is a need for regulation of Indian fishing fleet in the EEZ through appropriate legislation. Steps may therefore be taken to bring in such legislations for development and management of fisheries in this area.

There is a scope to harvest the fishery resources of the Areas beyond national Jurisdiction (ABNJ) as done by many other countries. The Government will promote the utilization of fishery resources in ABNJ by Indian fishing vessels subject to compliance with the requirements of International Agreement/ arrangements concerning fisheries in the high seas.

2.0 Monitoring, Control and Surveillance

The present mechanisms in place for an effective Monitoring, Control and surveillance (MCS) regime for marine fisheries sector need further strengthening. The Government has put in place an online uniform registration and licensing system (ReALCraft) to register all fishing craft operating in the marine sector (traditional, motorized, mechanized and non-mechanized). While monitoring of fish catch & effort and control of fishing through registration and licensing is in place, surveillance activities need to be further strengthened. The Government may strengthen and improve MCS in a phased manner, by using conventional means (such as use of log books, movement tokens, colour coding of fish vessels, biometric cards to fishers for their identity, etc) and also space technologies and IT tools (e.g. vessel monitoring system, automatic identification system, etc.) in a phased manner. The MCS system will allow the Government to put in place a sound enforcement mechanism at sea and at port to ensure full compliance.

3.0 Mariculture

Mariculture is a method by which marine fish production in the country can be substantially enhanced. Schemes to set up mariculture farms/ parks and setting up of hatcheries for seed supply for development of the sector may be encouraged. Government in consultation with the coastal State Governments/UTs and concerned stakeholders may address the institutional needs of this emerging sector, which *inter*

alia would include lease rights, technology (farming practices, seed, feed, aquatic animal health management); environmental and social impacts; capacity building of fishers and entrepreneurs to take up mariculture; and market value chains.

4.0 Fish Marketing and Exports

Fishery product traceability and chain-of-custody needs to be addressed as it has assumed paramount significance in global seafood trade. Besides, there is room to diversify seafood products at par with international standards in order to get maximum value for fishery products. Furthermore, fishery products need to be integrated with FSSAI benchmarks to improve the domestic marketing value chain.

Traceability of seafood and ecolabelling is gradually gaining as an important market based intervention to ensure environmental sustainability of fisheries. Demonstrating the traceability of seafood is an important requirement for all the seafood that is exported to EU markets. It is likely that in the coming years, more importing countries as also markets will demand only certified and labeled seafood to be sold through their counters. An enabling environment needs to be created for promoting ecolabelling of key Indian fisheries which would benefit the fish stocks, seafood industry and fishers.

5.0 Marine environment, Climate Change and Pollution

The state of the marine environment in India is under stress due to pollution and is probably one of the reasons for decline in fish stocks. Further, factors like effluent treatment on land, plastics in the sea and ghost fishing are equally affecting fish stocks. Regulatory mechanisms to control such pollutants may be made more stringent.

Commercial port development is one of the causes for erosion and accretion along Indian coasts. This is a matter of utmost importance affecting fisher livelihoods. Fishermen opinions may be taken before such projects are launched in future

It is well known that coastal and inshore marine resources are highly dependent on many inland water bodies (estuaries, lakes and backwaters) for completing their life cycles. These water bodies are subject to anthropogenic pressures and their environmental quality has been compromised, affecting stocks of several important marine fishery resources, particularly the high value shrimps. Appropriate mechanisms may be considered by various authorities in the Central and State Governments to address such issues related to development and ecological sustainability in large water bodies and also in critically vulnerable coastal areas (CVCA).

While promoting the development of fisheries, emphasis may be accorded to maintain ecological integrity of marine environment, so as to ensure that there is no adverse effect on the endangered, threatened or protected marine species.

The impacts of climate change on marine fisheries are amply visible in the seas surrounding India. Such impacts have brought perceptible changes in the fishery of some species, forcing fishers to make changes. Climate change is deemed to be one of

the reasons for changes in abundance of some fish stocks. Focused studies on climate change impacts on fish stocks shall be encouraged. Efforts may be taken for development of adaptation strategies for reducing the vulnerability of coastal fishing communities.

6.0 Post-harvest & Processing

The general condition and hygiene of fishing harbours and fish markets in the country needs improvement to raise it to international standards. All stakeholders may be sensitized for maintaining cleanliness and hygiene in the fishing harbours. State Governments and Port Trust Authorities may be encouraged to develop suitable mechanisms to address the issue.

Post-harvest losses need to be adequately addressed through better on-board handling of fish, and it can lead to better quality and prices particularly for high value fishes. Mitigation measures to reduce post-harvest losses should be promoted through use of implements and gears to reduce bycatch (BRDs).

Use of low-value fish in fish feed industry is a matter of concern as it can lead to overfishing of low value fish and bycatch, and this could ultimately undermine the entire marine ecosystem. The spread of fish meal plants in some parts of the country and their overwhelming demand for small pelagics has already driven the valuable oil sardine stock to very low levels in some parts of the country. The government may address this issue by taking steps to control and regulate the proliferation of fish meal plants.

7.0 Fisher Welfare

The current welfare measures that are in vogue may be continued and even strengthened to provide adequate safety nets in the country. Such measures *inter alia* may include insurance coverage, housing and other amenities and community welfare programmes.

Women constitute almost 50% of the total work force in post-harvest activities of the fisheries sector. Besides raising families' women play important roles in retailing fish, fish drying and other value addition activities. The Government may continue to support its contributions to the roles played by women and may further enhance support by way of forming separate women cooperatives; women-friendly financial support schemes; good working conditions which would include safety, security and hygiene; and encouragement to take up small-scale fishing.

The institution of fisheries cooperatives has gained momentum over the years and in some states such cooperatives have demonstrated their success stories, however, in most other states the cooperatives in fisheries sector are yet to demonstrate its effectiveness. The cooperatives in fisheries sector can best serve the community if they adopt good business models, which would include both harvest and post-harvest functions. There is a need for facilitating and strengthening the fisheries cooperatives in the country through technical and financial support wherever necessary.

Institutionalizing the cooperatives can also help in collecting a minimum levy or cess on fish production, which can then be pooled for funding fisher welfare measures and in the long run also aid in fisher-directed local and regional research on fisheries. The Government may encourage and support cooperatives in carrying out a science-based approach to address fisheries and climate related issues.

Steps may be taken for training, capacity building as well as upgradation of technological skills and onboard equipment used by the traditional fishers, for mechanised boats and the Indian deep-sea fishing fleet.

8.0 Regional Cooperation

The Indian sub-continent is surrounded on the west by the Arabian Sea and on the east by the Bay of Bengal. Together, the two seas form part of the upper Indian Ocean. On the west coast, India shares its maritime boundaries with Pakistan and the Maldives, while on the east coast the boundaries are shared with Sri Lanka, Bangladesh, Myanmar, Thailand and Indonesia. In some cases, it is not only the shared maritime boundaries but also the shared ecosystems, such as the Gulf of Mannar and Palk Bay between India and Sri Lanka; Sunderbans between Bangladesh and India. Both the Arabian Sea and the Bay of Bengal harbor migratory as well as straddling fish stocks such as tuna and tuna like species, sharks and mackerels. Such a situation necessitates strong regional cooperation in management and sustainable utilization of the resources, including conservation of species/stocks wherever necessary.

Cooperation in safety and security of fishermen is also necessary as the upper Indian Ocean, especially the Bay of Bengal, has high number of adverse weather events and every year many fishers lose their lives or suffer extreme hardships. The Government may further enhance its cooperation in the field of marine fisheries through bilateral arrangements as also by participating in the regional fisheries and environment bodies. Such cooperation will facilitate managing of shared resources and shared ecosystems; harmonization of policies and programmes aimed at harvesting of trans-boundary resources; safeguard of human rights, in particular for fishermen straying in waters of other countries.

9.0 International Agreements/Arrangements

Indian fisheries is now set in a globalized world. The global agenda on fisheries is guided by a set of binding and non-binding instruments that concern both fisheries and environmental aspects. India being a signatory to such instruments and agreements needs to implement the provisions of such instruments and agreements to meet its international obligations and make fisheries sustainable. As non-compliance of the provisions of such instruments/agreements will affect the fisheries sector and in turn the livelihoods of fishermen, demonstrating India's leadership in management of its marine resources that are part of the 'Common heritage of the world' and active participation in the activities of regional/international bodies is also highly important.

The FAO's Code of Conduct for Responsible Fisheries (CCRF or Code) is today the most significant of the non-binding agreements in the global fisheries sector. It is

global in scope and is directed toward members and non-members of FAO, fishing entities, organizations of all kinds, fishers, people engaged in the processing and marketing of fish and fishery products – in short, everyone concerned with conservation of fishery resources and management and development of fisheries. The Code is voluntary, but certain parts of the Code reflect and include major articles and provisions from a number of global UN conventions and agreements, as mentioned earlier. The Code sets forth principles and standards applicable to the conservation, management and development of all fisheries. The Government will ensure that the Code and its Principles are well-integrated in all its activities that relate to marine fisheries sector.

The global community has recognized the importance of small-scale fisheries as a principal contributor to poverty alleviation and food security and have agreed to the Voluntary guidelines on the Small-scale fisheries (VG-SSF). The main objectives of the VG-SSF Guidelines are expected to be achieved through the promotion of a human rights-based approach, by empowering small-scale fishing communities. Efforts may be made to implement the provisions of the VG-SSF.

As the provisions contained in the binding and non-binding international instruments normally draw strength from each other, it is essential that these instruments are considered holistically and not in isolation. Wider consultations with stakeholders and fisheries organizations will be encouraged to provide a more balanced understanding and better implementation.

10.0 Governance & Institutional Aspects

The marine fisheries sector is being dealt by a range of institutions from coastal State/UT Governments (DoF), Central Government (DAHD&F), scientific bodies, Ministry of Defense (through Indian Coast Guard). The government may ensure that the coordination between all concerned agencies is enhanced to the required extent.

Marine fisheries in India is dynamic with changes in practices and resource harness. The MFRAs have come into existence from the 1980s, and barring a few states and UTs, the MFRAs were in place by mid-1990s. Keeping in view the time of enactment of MFRAs in the country, and the adoption of key international agreements/arrangements (1982 UNCLOS, 1992 UNFSA, 1995 CCRF etc.), the existing rules and regulations for governing fisheries in the MFRAs may be updated to cover all aspects of fisheries management.

Central Government is mandated to control and regulate fisheries in the Exclusive Economic Zone (EEZ), i.e., the area between 12 to 200 nmi. There is a need to regulate the fisheries sector in the EEZ with appropriate legislation. Steps may therefore be taken to bring in such legislations for development and management of fisheries in this area.
