

NATIONAL FISHERIES POLICY, 2020

1. INTRODUCTION

- 1.1. The Indian fisheries sector is set in a unique and diverse set of resources ranging from the pristine waters of the Himalayas to the sprawling Indian Ocean. The fisheries biodiversity of the country encompasses a wide spectrum of physical and biological components that support the livelihoods of millions of people. Fisheries resources are set in different ecosystems. With growing population and the increasing demand for fish protein, the need for sustainable development of aquatic resources is now felt much more than ever before. To meet the compelling demands and to ensure a growth trajectory that fulfils the requirements of today and leaves an equally better fishery for tomorrow, it is necessary to develop a sound National Fisheries Policy (NFP) framework, which is based on the cardinal principles of equity and equality and adopts a people centric and participatory approach; mainstreams gender, and maintains inter-generational equity.
- 1.2. The National Fisheries Policy 2020 would offer a strategized way forward to develop, harness, manage and regulate capture and culture fisheries in a responsible and sustainable manner. The Policy will ensure a productive integration with other economic sectors, such as agriculture, coastal area development and eco-tourism, to meet the goals of the 'Blue Economy'. While center-state and inter-state cooperation, socio-economic upliftment and economic prosperity of fishers and fish farmers' especially traditional and small-scale fisheries are at the core of the Policy. The Policy mirrors national aspirations and the developmental goals set before the nation.

2. BACKGROUND-FISHERIES SECTOR IN INDIA

- 2.1 Fisheries are an important source of food, nutrition, employment and income in India. This sector provides livelihoods to about 16 million fishers and fish farmers at the primary level and almost twice the number along the value chain. Fish being an affordable and rich source of animal protein, is one of the healthiest options to mitigate hunger and malnutrition. The sector has immense potential to more than double the fishers and fish farmers' incomes, as envisioned by the government.

- 2.2 Commencing as a purely traditional activity, fisheries have now transformed into a commercial enterprise. The share of fisheries sector in the total GDP (at current prices) increased from 0.40% in 1950-51 to 1.03% in 2017-18, recording an increase of 157%. The sector contributed Rs. 1,75,573 crore to the GDP (at current prices) during FY 2017–18 (Ministry of Statistics and Programme Implementation, 2020). The sector has been showing a steady growth in the total Gross Value Added and accounts for about 6.58 per cent share of Agricultural GDP.
- 2.3 The sector has been one of the major contributors of foreign exchange earnings with India being one of the leading seafood exporting nations in the world. The marine exports stand at about 5% of total exports of India and constitute 19.23 % of Agri-exports (2017-18). During 2018-19, export of marine products stood at 13, 92, 559 metric tons and valued at Rs.46, 589 crore (USD 6.73 billion). The rapid increase in the growth of seafood exports has been mainly due to boom in brackish water aquaculture.
- 2.4 India has rich and diverse fisheries resources ranging from deep seas to lakes, ponds, rivers and more than 10% of the global biodiversity in terms of fish and shellfish species. The marine fisheries resources are spread along the country's vast coastline and 2.02 million square km Exclusive Economic Zone (EEZ) and 0.53 million sq.km continental shelf area. The inland resources are in the form of rivers and canals (1.95 lakh km), floodplain lakes (8.12 lakh hectares), ponds and tanks (24.1 lakh hectares), reservoirs (31.5 lakh hectares), brackish water (12.4 lakh hectares), saline/alkaline affected areas (12 lakh hectares) etc. The unutilized and underutilized vast and varied inland resources offer great opportunities for livelihood development and ushering economic prosperity.
- 2.5 The total fisheries potential of India has been estimated at 22.31 million metric tons (in 2018), of this, the marine fisheries potential stands at an estimated 5.31 million metric tons and the inland fisheries potential has been estimated at 17 million metric tons. In the recent years, the fish production in India has registered an average annual growth rate of more than 7%. The fish production in the country has shown continuous and sustained increments since independence. The total fish production in the country rose from 0.752 million metric tons in 1950-51 to 13.42 million

metric tons (provisional) during FY 2018-19. Of this, the marine fisheries contributed 3.71 million metric tons and the inland fisheries contributed 9.71 million metric tons. During FY 2018-19, 71% of marine fisheries potential has been harnessed and the inland fisheries potential harnessed during the same period stands at 58%.

- 2.6 Trends show that over the years there has been a significant shift in terms of increasing contribution from inland fisheries sector propelled by freshwater aquaculture and fluctuations in brackish water aquaculture. Aquaculture production has increased to 6.2 million metric tons in FY 2017-18 from 1.9 million metric tons in 2000-01. About 88% of the farmed fish comes from freshwater aquaculture. In spite of its rapid growth, aquaculture today is beset with several issues impacting production and productivity such as disease, absence of species diversification and genetic improvement, poor brood and seed, high input cost, lack of access to institutional credit, credit guarantee and insurance, environmental sustainability etc.
- 2.7 The marine fisheries sector is dominated by the socio-economically backward artisanal and small scale fishers whose lives are closely intertwined with the oceans and seas. However, 75 per cent of the total marine fish production comes from the mechanized sector, 23 per cent from the motorized sector and only 2 per cent from the artisanal sector. In spite of stagnation in the growth of marine capture fish production over the years, the dependency of traditional marine fishers on marine capture fisheries for livelihoods has been increasing and it is only imperative that sustainable alternative livelihood opportunities like mariculture activities are developed and promoted. Mariculture is the fastest growing subsector of aquaculture and the success of the development of inland and brackish water aquaculture in India also corroborates with the prospects of the emergence of the mariculture sector. The projected annual mariculture production potential based on area available in the Indian region ranges from 4 to 8 million tons, whereas the current mariculture production is negligible.
- 2.8 The rapid growth of culture fisheries has enhanced the sector's vulnerability to aquatic diseases which are trans boundary in nature. The mitigation and control of aquatic diseases necessitates a coordinated and concerted effort between the center and states and among the states. The fisheries sector is gradually moving into a globalized environment with emphasis on issues of sharing of water basins, inter-EEZ movement

of migratory fish species, trans-boundary movement of aquatic animals, fisheries trade and India's commitments to international instruments. The regional dimensions also need adequate attention to ensure coordinated and cooperative management of shared fisheries resources and their long-term sustainability.

- 2.9 Since the sector is extremely diverse and dynamic, the scope of the National Fisheries Policy, 2020 encompasses development, management and regulation of inland and marine fishery resources including aquaculture in marine, freshwater, brackish water and saline/alkaline areas and their post-harvest management, strengthening and modernization of the value chain.

3. FISHERIES MANAGEMENT STRUCTURE IN INDIA

- 3.1. Fisheries being a State subject, the States play a pivotal role in fisheries governance. The role of the Central Government is to complement the former's efforts in this regard under the guiding principles of cooperative federalism. While Inland Fisheries are fully managed by State Governments, Marine Fisheries are a shared responsibility between the Central and Coastal State/UT Governments. Coastal States/UTs are responsible for development, management and regulation of fisheries in the sea waters inside the 12 nautical mile (22 km) territorial limit. Government of India is responsible for the development, management and regulation of fisheries in the EEZ waters beyond 12 nautical miles and up to 200 nautical miles (370 km). Therefore, it is imperative that the Center effectively manages and regulates this common property resource for its sustainable and responsible utilization in close collaboration with States.

4. CONSTRAINTS IN THE GROWTH OF FISHERIES SECTOR

- 4.1. Major constraints impacting the growth of marine capture fisheries include limited scope for expansion due to overcapacities in territorial waters, weak regulation, inefficient management and prevalence of traditional fishing practices. Inadequate infrastructure especially fishing harbours, landing centers, cold chain and distribution systems, poor processing and value addition, wastage, traceability and certification, non-availability of skilled manpower, etc. are some of the other factors constraining the growth of the capture fisheries. In inland capture fisheries, seasonal nature of

fishing operations, depleted stocks in natural waters, issues related with tenure and lease rights, use of obsolete technology for harvesting coupled with low capital infusion are some of the significant limiting factors.

- 4.2. Specific problems negating the growth of culture fisheries include poor physical condition of resources (specially the water quality and quantity), low input culture system, lack of diversity in culture practices and species, lower productivity, inadequate regulatory mechanism, increased incidents of disease, low levels of investment, inadequate access to institutional credit and high cost of credit, inadequate infrastructure for pre-production, production, post-harvest and processing facilities, low adoption of technologies and shortage of skilled manpower in aquaculture and extension services.

5. RATIONALE FOR NATIONAL FISHERIES POLICY

- 5.1. The National Fisheries Policy seeks to consolidate thesectoral gains and ensure sustainable growth through policy support in order to enable and accelerate fisheries development in a responsible and inclusive manner through multi-pronged strategies and focused interventions to provide the requisite impetus for realizing the full potential across the country. The Policy lays down a clear road map for unhindered growth of the sector by optimal harnessing of fisheries resources in sync with the best national and international standards. It will also create a conducive environment for attracting investment in to the fisheries sector. The Policy intendsto strengthen the governmentinitiative to double fishers and fish farmers' incomes and double exportsfor improving the lives and livelihoods of Fishers and their families. The NFP will encompass elements of the 'Blue Growth Initiative', the Agriculture Export Policy 2018 and also the targets set under the Sustainable Development Goals for which India is committed.
- 5.2. The NFP serves as an overarching policy framework which will provide guidance to States and UTs in developing state specific policies and legislations having both regulatory and developmental features to be implemented through short, medium and long term plans.
- 5.3. The NFP is an evolving instrument that is open to review based upon evolving needs

and technologies. It will be reviewed in consultation with stakeholders to ensure that the policy remains relevant and is in sync with changing needs and requirements of the sector through an institutional mechanism.

6. VISION

- 6.1. To develop an ecologically healthy, economically viable and socially inclusive fisheries sector that contributes towards economic prosperity and wellbeing of fishers and fish farmers, and provides food and nutritional security to the country in a sustainable and responsible manner.

7. MISSION

- 7.1. Fisheries resources are to be developed, managed, regulated and conserved responsibly and sustainably, harnessed and utilized for improving livelihoods, generating gainful employment, enhancing incomes, food and nutrition security, economic prosperity and socio-economic well-being of stakeholders, especially artisanal and small-scale fishers and fish farmers through appropriate strategies and partnerships in a participatory manner.

8. OBJECTIVES

- 8.1. The policy aims at comprehensive development of the fisheries sector through appropriate interventions to address the critical gaps with an overarching goal for growths in exports, increase in farmer's income and better choice for consumers. The various objectives of the policy are to:
- (i) Optimally harness the capture and culture fisheries potential of the country by enhancing fish production and productivity in a responsible and sustainable manner.
 - (ii) A robust management and regulatory framework with necessary legal backing for effective fisheries resource management through an Ecosystem Approach of Fisheries (EAF) management within the overall framework of relevant national and international instruments, policies and standards.
 - (iii) Modernize, rationalize (infuse science and technology) and diversify fishing practices in oceans and seas with sustainability of resources as the core philosophy.

- (iv) Promote Inland fisheries and aquaculture through standardized SoP's, inputs and farming systems for sustainable and responsible culture and capture fisheries.
- (v) Conserve and manage native fish genetic stocks and associated habitats and ecosystem.
- (vi) Strengthen and modernize value chain including creation of fisheries infrastructure to increase shelf life, reduction of post-harvest losses and production of value added products.
- (vii) Market, trade and export of globally competitive fish and value-added fish products benchmarked with global standards.
- (viii) Access to institutional credit as priority lending on the lines of crop sector especially to small and marginal fishers and fish farmers and unemployed youth.
- (ix) Promote community partnerships, private participation and effective cooperative movement in fisheries sector.
- (x) Generate gainful employment and entrepreneurship opportunities along the value chain leading to higher income of fishers and fish farmers, improve their living standards and usher in economic prosperity.
- (xi) Ensure food and nutritional security by increasing the per capita availability of safe, affordable and quality fish.

Towards this end, the National Fisheries Policy 2020 makes the following recommendations for policy intervention in marine and inland fisheries as well as mariculture, aquaculture and post-harvest.

POLICY INTERVENTIONS

9. MARINE SECTOR

Fisheries Management

- (i) Fisheries governance will be improved to facilitate coordination among States/UTs, National Agencies and other stakeholders. The comprehensive Management and regulation of fisheries resources in the EEZ will be ensured with a national law. The Central Government will empower the coastal State Governments/Union Territories through delegation of powers to grant marine fishing licences for the EEZ and high seas.

- (ii) The legislation(s) for Regulation and Management will be updated to cater to the needs of the sector and also to meet the applicable international standards and norms. This will be carried out through a Model Bill prepared in consultation with the coastal States/UTs. New legislations wherever required will be put in place.
- (iii) Center will encourage and empower traditional and small-scale fisher and fisher groups for undertaking resource specific Deep-sea Fishing for harnessing untapped potential of high value resources like tuna, tuna-like species, myctophids and oceanic squids in a sustainable manner with a precautionary approach in line with the global standards regarding wild fish harvests. Some of the thrust areas for sustainable utilization of the Deep-sea Fisheries resources are an optimum fleet size of modern fishing vessels capable of undertaking extended voyages, infusion of modern technology and capacity building.
- (iv) Marine capture fishing is a risky occupation and also causes reduction of natural resources. Center in consultation with maritime States/UTs will promote suitable conservation measures like ranching, temporary ban periods, and will also promote suitable 'at sea' and 'on shore' alternative livelihood activities in order to enable fishers/fish workers to gradually shift to safer and secure economic activities including mariculture.
- (v) Some coastal States/UTs have specific areas reserved for traditional fishers in territorial waters where mechanized fishing is not permitted. The Government will continue to promote and support artisanal/traditional fishers in consultation with the States and the user groups.
- (vi) In 'Areas Beyond National Jurisdiction' (ABNJ) where there is considerable scope to harvest fishery resources in the high seas, the Government will promote harnessing the fishery resources subject to compliance with International Agreements/Arrangements.
- (vii) The expertise of scientific institutions and fishers will be utilized for optimizing fishing efforts and implementing measures to check resource depletion and to ensure sustainability.
- (viii) Measures to ensure safety-at-sea for fishers and fishing vessels will be adequately strengthened and implemented. Only enlisted fishing vessels will operate in waters for which they have license.

- (ix) The Central, State/UT Governments will put in place a sound and effective Monitoring, Control and Surveillance (MCS) system with necessary legal backing. All fishing vessels will abide by MCS requirements and have suitable transponders/communication systems when out at sea which reveal the latitude-longitude of vessel adequately.
- (x) Foreign fishing vessels will not be allowed to fish or undertake fishing related activities in India's sovereign waters.
- (xi) The regulatory and enforcing agencies especially the Indian Coast Guard and Coastal Police along with communities will be adequately trained and equipped to strengthen & implement the MCS system.
- (xii) The matters relating to protection of national security of India and maintenance of law and order at sea will be addressed adequately.
- (xiii) In order to reduce the incidences of Indian fishermen crossing the International Maritime Boundary Line (IMBL), the Government will take appropriate measures such as capacity building, awareness and training to sea venturing fishers. Cooperation in the field of marine fisheries through bilateral arrangements will be enhanced including safeguard of human rights, in particular for fishermen straying in waters of other countries. The trans-boundary stock management issues with the neighbouring nations in the Indian EEZ will also be adequately addressed.
- (xiv) The Central Governments will work with the States/UTs to put in place timelines for ratification of the ILO Convention 188 and for its speedy implementation for best labour conditions on fishing vessels including migratory labour from one State /UT to another.
- (xv) India being a party to several International Agreements/Arrangements to deter, prevent and eliminate Illegal, Unreported and Unregulated (IUU) fishing, the Government will establish a sound mechanism to ensure that the Indian fishing fleet does not engage IUU fishing in contravention of any national laws and any bilateral, international or regional conventions or obligations or agreements concerning fisheries which are applicable to India.
- (xvi) The marine fisheries resources in the sovereign waters of India will be harnessed in a responsible and sustainable manner for nutrition and livelihoods. Comprehensive

fisheries management plans will be drawn up with the aim of conservation and sustainable management of natural fishery resources in India's sovereign waters.

9.1. Island Fisheries

- (i) Keeping in view the fact that more than 30% India's EEZ lies around the Island territories, Government will implement dedicated programmes for developing fisheries sector in islands. Such plans will *inter alia* include framework for sustainable fisheries exploitation, Island tourism, availability of floating refueling barges, mother carrier vessels and mobile fisheries ambulances. In consonance with the initiative of the GOI for holistic development of islands, mariculture will be made a key developmental activity apart from tourism and capture fisheries. The capacities of local fishers and post-harvest facilities will be supported to promote export.
- (ii) Game Fishing and concept of Catch, Photograph and Release Scheme (CPR), to popularize ecotourism or fisheries tourism, especially in the Andaman & Nicobar Islands, the Lakshadweep Group of Islands and some coasts on the mainland will also be promoted as an alternative livelihood activity.

10. MARICULTURE

Mariculture is the cultivation of economically important marine plants and animals in the sea having tidal influence and includes onshore facilities like brood banks, hatcheries, nursery rearing and grow-out systems using seawater.

- (i) An enabling environment for sustainable development of mariculture in India will be promoted with required policy and legal framework.
- (ii) Mariculture will be promoted in consonance with the relevant national and global instruments and other guidelines. The States/UTs will license, regulate and manage mariculture activities within their territorial waters as per model guidelines formulated by the Union Government under this Policy for mariculture enterprises.
- (iii) A leasing policy to facilitate mariculture will be put in place by coastal states and UTs in their jurisdictional waters based upon a model leasing policy prepared by Govt. of India. Government will make necessary amendments in the extant rules to permit mariculture with adequate safeguards to supplement the conservation efforts. The State/UTs may involve the Panchayat Raj Institutions (PRI) or other local governing bodies for promoting mariculture in natural water bodies with tidal

influence. While leasing out/licensing waters for mariculture priority will be given to local groups/dwellers.

- (iv) All native food and non-food species having mariculture potential will be promoted. Exotic species will not be allowed for any mariculture activity in open systems. However, they may be considered only in land based closed aquaculture systems after stringent risk assessment and monitoring.
- (v) Genetically Modified (GM) species shall not be allowed for mariculture activity.
- (vi) Considering the risk of over-exploitation of wild ornamental fish species, hatchery production of ornamental species and pearl oysters will be promoted.
- (vii) Additional areas will be identified for expansion of seaweed culture using existing cultivated species. Technologies for culture of native species will be upgraded.
- (viii) Within the identified mariculture zones, the government shall designate certain areas as mariculture technology parks. Government shall also encourage the setting up of off-shore technology parks.
- (ix) Major focus will be given for the improvement of existing technologies to be at par with international standards, bio-security and code of practices.

11. INLAND FISHERIES

11.1. Riverine Fisheries

- (i) The restoration of natural productivity and conservation of indigenous fisheries resources through ecosystem restoration would be the primary focus of riverine fisheries. States/UTs will put in place appropriate plans for habitat conservation, measures for protection and rehabilitation of native fish stocks in association with concerned agencies and active participation of communities. Population of native species in the rivers will be enhanced through seed ranching of native stock by developing dedicated seed production units in the vicinity. Fishing regulations encompassing closed season, mesh size, wanton killing of juveniles, destructive fishing, etc. will be updated followed by effective implementation by States/UTs. Fisheries management has to be integral to river management.

11.2. Reservoir Fisheries

- (i) The management of fisheries in all reservoirs should be brought under the administrative control of State Fisheries Department(s)/Agencies for scientific management and efficient governance framework.
- (ii) Cage culture will be promoted in reservoirs based on recommendations of scientific organizations, States/UT and central government. Primary focus will be on production optimization through culture based fisheries in small and medium reservoirs while for large reservoirs, integrated site-specific Action Plans will be developed by the State Fisheries Department(s)/Agencies with the inclusion of Post-harvest and marketing facilities.
- (iii) Adequate fingerling production units will be established at suitable locations in the vicinity of the reservoirs along with requisite infrastructure. Fishing in reservoirs within the jurisdiction of areas declared as sanctuaries/reserves by Ministry of Environment, Forest and Climate Change needs to be resolved by the State/UTs through consultation to balance ecological, food and fisher's livelihood needs and ensure optimum utilization of resources.

11.3. **Wetlands**

- (i) Ecological integrity of important natural wetlands has to be conserved and restored for promotion of sustainable fisheries in these water bodies. The connectivity between natural wetlands and rivers has to be maintained or restored to ensure physical health of these areas. The States/UTs will demarcate public water bodies, prevent encroachments and regulate their use.
- (ii) Facilities for hatcheries and seed rearing will be developed in the vicinity of potential areas following scientific practices. State/ UTs may declare certain water bodies as "Reserves for fish" to conserve important fish species in a suitable wetland.

11.4. **Cold water Fisheries**

- (i) Comprehensive Action Plans for development and conservation of Cold Water Fisheries will be put in place in Himalayan and North Eastern States/UTs. Availability of adequate broodstock of cultivable species will be ensured along with strengthening of seed production infrastructure by adopting sustainable model about ownership, revenue-expenditure and technical up-gradation.

- (ii) International collaboration/cooperation would be explored for acquiring improved germplasm, disease management and farming practices.
- (iii) Trout farming is the main stay of fish production in high altitude areas of the country. Trout seed and feed production will be promoted in suitable areas following a cluster approach and increased private sector participation. Introduction of new/exotic species will be explored subject to scientific clearances and strict bio-security controls.
- (iv) Introduction of suitable high value species to boost culture fisheries in cold waters in association with advanced countries e.g. Salmon, Sturgeon (for Caviar), Brown Trout etc. will be explored for promotion to enhance resource utility and economic profitability of farmers.

11.5. Ornamental Fisheries

The Collection and trade of native ornamental fish species from natural waters will be regulated by the States/UTs. For promotion of growth of ornamental fisheries, institutional support and efforts for breeding, rearing and promotion of trade of indigenous ornamental fishes will be intensified.

11.6. Recreational Fisheries

Appropriate sustainable models of recreational fisheries and ecotourism enterprises will be developed and promoted by the States/UTs in association with local communities and the private sector within the existing regulatory framework and guidelines.

12. FRESHWATER AQUACULTURE

- 12.1. Centre and State would partner in establishing a uniform, integrated and concerted regulatory framework for planned and sustained growth of cage culture in open-water resources. States/UTs will promote development of scientific aquaculture in existing ponds/tanks, new ponds in low-lying areas, lands with saline and alkaline soils, and lands not suitable for crop cultivation.
- 12.2. In order to ensure that the fish produced from polluted /waste water aquaculture is safe, appropriate regulatory, management and precautionary measures will be put in place in coordination with relevant agencies.
- 12.3. States will work out Action Plans for expansion of Shrimp/prawn farming in inland saline/alkaline and freshwater areas under scientific guidance.

- 12.4. Freshwater aquaculture is dependent largely on Indian Major Carps (IMC). Culture of identified exotic species with high production and profit potential will be introduced with adequate bio-security protocols adopting Best Management Practices (BMPs)/ Good Aquaculture Practices (GAPs).
- 12.5. Efforts will be made by States to enhance fish production and productivity through application of technology and formation of Farmers Producer Organizations (FPOs) to cater small pond holder's needs.

13. BRACKISH WATER AQUACULTURE

- (i) States/UTs will promote development of aquaculture in suitable areas having brackish waters. Large land blocks of such areas may be earmarked for development as aquaculture zones.
- (ii) States/UTs will undertake Aquaculture Zoning using modern scientific tools for scientific and planned development of aquaculture and its regulation.
- (iii) Integrated Brackish Water Aquaculture Development Plans at district and sub-district level will be developed as per the recommendations of scientific organizations and government regulations with due consideration to sustainability and ecosystem health.
- (iv) Market, trade and export of globally competitive fish and value-added fish products benchmarking with global standards will adequately be promoted.
- (v) The needs and aspirations of farmers and youth with small aquaculture holdings are different from those having large holdings. Center in consultation with States/UTs need to define, document and handhold fish farmers and youth with small aquaculture holdings through schemes and programmes.
- (vi) Mandatory registration of aquaculture farms, simplification of legal and environmental requirements for farm registration and leasing will be ensured.
- (vii) Best Management Practices including screening of seed will be promoted to minimize disease incidence and other ecological externalities thereby ensuring sustainability.

- (viii) Foolproof mechanism for Monitoring, Control and surveillance will be put in place for Disease control and animal health, traceability, standards, testing and certification of the aquaculture produce along with requisite regulatory framework and infrastructure.
- (ix) Aquaculture development efforts will be in aligned with relevant national and global instruments, guidelines and good practices including Sustainable Development Goals (SDGs).
- (x) In order to ensure that the fish produced from waste water aquaculture is safe for consumption, appropriate regulatory, management and precautionary measures will be put in place in coordination with relevant agencies.

14. POST-HARVEST

- 14.1. Modernization of fishing vessels in compliance to requirements of post-harvest handling and storage and quality preservation of fish will be encouraged.
- 14.2. Fishing harbours and fish landing centers play a vital role in ensuring safe fish landing, berthing of fishing vessels, preprocessing and auctioning. Besides the construction of new fishing harbours/fish landing centers, up-gradation of existing fishing harbours/fish landing centers wherever feasible in conformity with the prescribed standards including civic amenities will be taken up to ensure hygienic handling and quality of fish catch. Necessary SOPs and best management practices for development and management of all fisheries infrastructure facilities will be evolved in the Indian context using national and international guidelines wherever applicable.
- 14.3. Post-harvest infrastructure including Cold chain for reduction of post-harvest losses will be developed and strengthened. Requisite infrastructure such as processing plants, cold storages, ice plants, freezing and packing plants, value addition, fish and fisheries products transportation vehicles including refrigerated and insulated vehicles, ice flaking and ice crushing units, ice/fish holding boxes, warehouses etc. will be encouraged.
- 14.4. Development and management of modern wholesale fish markets including supermarkets, retail fish markets and outlets, mobile fish and live fish markets will be encouraged so as to ensure quality and hygienic fish to the consumers.
- 14.5. Development and management of fisheries post-harvest infrastructure especially modern wholesale fish markets, fisheries warehouses/cold storages, processing plants etc. will be promoted through private entrepreneurs/private firms and Public Private

Partnership (PPP). The option of implementation projects/activities through creation of Special Purpose Vehicles (SPVs), Joint Venture Companies (JVCs) and FFPOs *etc.* will also be explored.

- 14.6. Fish marketing mechanisms will be strengthened to protect fishers and fish farmers from the vagaries of middlemen, traders and safeguard the interests of consumers. E-markets and e-trading of fish and fish products will be encouraged and promoted. Licensing and registration of fish markets and vendors along with appropriate SOPs for streamlining all activities of fish markets would be encouraged.
- 14.7. An appropriate IT enabled traceability and labeling system will be put in place to ensure tracking of fish and fish products throughout the supply chain from 'bait to plate' and describing accurately to consumers. Requisite SOPs, best management practices and regulatory framework will be developed and implemented.
- 14.8. Organic Aquaculture will be promoted and steps will be taken for certification to create fish quality assurance and fish consumers demand.
- 14.9. Production and productivity linked critical infrastructure facilities having implication along the value chain such as aquatic animal health management including Quarantine facilities, input quality testing and diagnostics laboratories including referral laboratories, Integrated Aqua parks, promotion of technologically advanced vessels to fishermen/fishermen groups through state/UTs governments, etc. will be promoted.
- 14.10. Proper processes and SoPs for utilization and disposal of fish waste generated at various post-harvest activities including their recycling will be developed.
- 14.11. To upscale and improve the skill sets of the workers in post-harvest segment programmes will be implemented separately under SKILL INDIA initiative.
- 14.12. Necessary steps will be taken to encourage women in fish processing, value addition, marketing activities, fisheries management including creation of requisite amenities for improving work place environment.
- 14.13. Modern markets, processing units, value addition, transportation, branding, niche labeling and traceability in fish from 'bait to plate' through creation of fish documentation and network system shall be encouraged to ensure quality and increasing

profitability in the post-harvest operations and for improvement of the overall efficiency of the value chain.

14.14. Steps would be taken to encourage the sales of preserved and processed fish in the national and overseas markets. Development of appropriate packaging material for fish and fishery products will be encouraged. Steps will be taken to facilitate export as well as promotion of domestic consumption fish, GI in fish, branding of fish like 'Himalayan Trout', 'Tuna branding etc.

15. CROSS CUTTING ISSUES

- (i) **Inter-Sector Coordination:** Fisheries sector will be recognized as a partner in determining the water policy, river management, watershed management and rural development. Inter-sectoral coordination among users *i.e.* irrigation, hydroelectricity, industries or any other purpose would be essential to protect the integrity of aquatic ecosystem. Union MoF, AH&D and States/UTs will take up with nodal departments to ensure that Department of Fisheries is fittingly represented in the all the committees of various levels entrusted with the management and usages of water resources.
- (ii) **Water use and Management:** The present National water policy, 2012 clearly recognizes the use of water for basic human requirements as part of right to life and livelihood. Its scope needs to be enlarged to emphatically recognize the minimal right to water for fisheries and aquaculture. Existing provisions contained in the guidelines of various Ministries such as Rural Development, Water resources, Shipping, etc. will be fully used to ensure the resource utilization and creation. The Government will strengthen the regulatory mechanisms to control pollution in the inland water bodies as well as marine environment.
- (iii) **Leasing, Licensing and Management of water bodies for culture fisheries:** States will develop comprehensive leasing and licensing policy for all public water bodies by balancing competing objectives of resource development, livelihoods, welfare and revenue generation, etc., with due priority to local fishing communities and their cooperatives, fisheries professionals /trained entrepreneurs while respective agencies may continue to retain trusteeship/custodial rights of these resources. The guidelines will

also suggest a minimum lease period in the range of 7-10 years with periodic review and the minimum lease value will be determined on scientific principles, equity and long-term sustainable resource utilization. A part of revenue obtained will be mandatorily used for development of fisheries in that entity.

- (iv) **Aquaculture at par with Agriculture:** Aquaculture sector documented one of the highest growth rates in productions and providing livelihood and nutritional security in the country. It deserves greater attention of the Government in the form of incentives/concessions as in agriculture like income tax, power supply, loan facility, Insurance covered, drought and flood relief and transportation, etc. Therefore, efforts will be enhanced to provide needed facilities to aqua farmers. To utilize vast unutilized resources including government owned land for aquaculture, the scope of land use categories at state level would require redefinition and enlarging to specifically include fisheries and aquaculture as integral components of agriculture.
- (v) **Cluster approach for development of aquaculture:** The government will encourage establishment of integrated fisheries production and processing clusters based on production strengths of various geographical regions in order to enable focused and coordinated development of market and export oriented higher value species. Emphasis will be on application of technology, adoption of improved aquaculture practices, promotion of usage of disease free or Specific Pathogen Free (resistant quality seed), collectivization of farmers and community mobilization, addressing critical pre-harvest and post-harvest infrastructure gaps along the value chain, creation of common facilities, human capital, logistics, capacity building, etc. A comprehensive value chain development strategy for each cluster will be put in place. States governments should make efforts in identifying and developing the production and processing clusters across the value chain, market access, access to capital, priority land allocation, single window clearances, incentives, providing end to end solutions and backward and forward linkages, etc.
- (vi) **Aquaculture Zonation and Spatial Planning:** The spatial plan consisting of identification of appropriate location, zones and common practice options helps in management of disease, environmental issues, post-harvest and marketing, mitigation of risks etc. Spatial planning will be done with the help of relevant agencies for improving social, economic and ecosystem outcomes.

- (vii) **Health Management and Disease Surveillance:** Early warning system will be developed and made operational about the spread of diseases along with awareness, recommended control and preventive measures to help farmers. The present disease surveillance and reporting system will be further strengthened with inbuilt provisions to identify and contain emerging diseases.
- (viii) **Certification and Traceability:** Legal instruments supported by institutional mechanism will be put in place with mandatory provisions for registration of hatcheries, growers; feed and other aqua input producers and suppliers for all aquaculture services and inputs. The specification for different ingredients to be used in feed and other inputs will be notified, inspected and regulated by Union/ State/ UTs for compliance. The use of local produce in the production of feed, drugs, chemicals, probiotics, antibiotics and pesticides etc. will be preferred.
- (ix) The Department of Fisheries, Government of India will draft the guidelines in consultation with the Ministry of Shipping, Coast Guard, Indian Navy, Ministry of Science and Ministry of Environment, Forest & Climate Change for undertaking mariculture activities in the EEZ. The model guidelines will factor in the relevant international/voluntary agreements, laws and standards and supporting both regulation and development of mariculture for the adoption by States/UTs.
- (x) **Diversification:** Major thrust will be given for the diversification of species in both freshwater and brackish water culture systems, especially with suitable native fish species having high preference and demand in domestic market by establishing hatcheries, brood stock multiplication centers and nuclear breeding centers. Research and Development programs will focus on developing breeding, hatching, seed rearing and grow-out technology for identified alternative species suitable for aquaculture by bringing in/adoption of advanced technologies and practices to enhance production and productivity. Priority will be for propagation of area specific integrated farming systems for adoption after evaluation and field trials.
- (xi) **Regulation of exotics:** Introduction of aquatic species will be regulated in terms of the existing National laws/ rules for import, breeding and farming. Quarantine centers will

be established at important points of entry and exit to facilitate ease of exports/imports of fish within the purview of existing guidelines.

- (xii) **Fish Seed Production and Genetic Up-gradation:** Private sector will be encouraged to setup hatcheries and seed rearing farms, especially in deficient areas to ensure year round availability of quality stocking material in water bodies. Registration and accreditation of hatcheries will be made mandatory. The norms for seed sale and subsequent stocking will be implemented to ensure quality of stocking material. Brood banks are to be established to cater the requirements of hatcheries. Broodstock Multiplication Centers and Nuclear Breeding Centers of native and exotic species will be promoted under both public and private sectors.
- (xiii) **Research & Development Linkages:** Programs focused to fill the technological gaps in various fields related to production, processing, value addition and conservation etc. will be initiated through involvement of user groups namely State DOFs, farmers/fishers and their organizations and industry in prioritizing research agenda of ICAR- Fisheries Institutes, Fisheries Universities and other agencies.
- (xiv) Establishment of 'Center of Excellence' entailing state of art facility for different activities at appropriate place to supply services and demonstrate the technical feasibility, economic profitability and commercial viability of fisheries activities.
- (xv) **Post-Harvest & Value Addition:** Necessary measures will be taken up to modernize and strengthen value chain including creation of adequate infrastructure to minimize post-harvest loss and increased value addition to ensure higher income for fishers and fish farmers. Greater focus will be on 'sustainable user management' of the infrastructure and services for long term viability and efficiency. The Government will take steps to control and proliferation of fish meal plants taking in to consideration of the probabilities of overfishing caused by the same.
- (xvi) Increased attention will be given for product and market diversification in exports with improved infrastructure, trained human resources and support facilities to move up the value chain and meet international standards. Promotion of fish as health food and creation of consumer awareness about increased fish protein consumption would be taken up in a major way for increasing domestic demand-supply for fish.

- (xvii) **Food Safety & Trade:** NFP will ensure food and nutritional security by increasing the per capita availability of safe, affordable and quality fish. Institutional mechanism will be strengthened to preserve and improve the quality of fishery products at various stages. Laboratory network for testing and cold chain facilities will be developed. Use of undesirable chemicals will be banned. Food Safety Standards Authority of India (fssai) regulations will also be applicable for domestically traded fish to protect consumer interests. Brand promotion based on the inherent strength of the country will be encouraged to give unique identity for the Indian products.
- (xviii) **Extension and Support System:** Efforts will be made to introduce globally best technologies for production enhancement and better resource utilization through technology based interventions and equitable distribution of benefits to all stakeholders. Artificial Intelligence (AI) technologies will be used through suitable platforms and apps to improve efficiency and sustainability of fisheries sector.
- (xix) **Human Resource Development:** Capacity of planners and managers at different levels will be strengthened with regular interaction with Knowledge Centers. Department of Fisheries will develop linkages for effective convergence with other agencies to upscale skills of fishery personnel and workers in the context of emerging technologies, fisheries management and national and international developments. NFP will generate gainful employment and promote community partnerships, private participation and effective cooperative movement in fisheries sector. Technical positions in fisheries establishments will be filled on priority and instituting cadre based service with clearly defined roles and responsibilities in all State Department of Fisheries in parity with other development departments would get due attention.
- (xx) **Community Participation, Cooperatives & Farmers' Organizations:** Fisheries cooperatives will be encouraged to take up development oriented activities along with transforming them in to proactive business entities. The formation and development of FFPOs is to be actively encouraged for mobilizing and building farmers' capacity for collective production and marketing.
- (xxi) **Welfare & Gender equity:** Current welfare and social protection programs will be streamlined and further strengthened to provide adequate safety nets to all categories of

fishers, fish workers and their families through Direct Benefit Transfer Scheme (DBTS). Convergence of schemes with other welfare schemes will be undertaken. Gender equity as well as mainstreaming will be made integral part across fisheries and aquaculture value chain for socio-economic well-being of women.

(xxii) Ecosystem, Biodiversity, Climate Change and Disaster Management: Conservation of indigenous fisheries resources and restoration of natural productivity through ecosystem restoration in association with concerned agencies will be the primary focus of the policy. Aquatic biodiversity will become integral components of fisheries management. Fish pass will be made mandatory component in the construction of dams. To safeguard breeding and migration of Hilsa, Mahseer, Scampi and other migratory fishes, fishing operation at sensitive locations will be banned. Adaptive mechanisms will be put in place to mitigate the ill effects through capacity building. While disaster risk reduction is a national priority and within the domain of the National Disaster Management Authority, community based disaster management and cluster approaches in fisheries and aquaculture sectors will also be initiated in a collaborative cross-sector mode. Government will also consider landscape to seascape approach for the sound management of Inland coastal ecosystems, considering their importance in sustaining the marine fisheries resources.

(xxiii) The Government will consider placing adequate mechanisms to address issues related to while considering infrastructure development on the coast.

(xxiv) **Data Base:** States will pay adequate attention to collect and report field data about various fisheries resources and operations through census at regular intervals to ascertain complete picture of the sector. Government will implement a 'National Fisheries Data Acquisition Plan', involving Central and State Governments, research institutions and stake holders.

(xxv) **Institutional Finance, Private Investment and Public-Private-Partnership:** Union government and State/UTs will coordinate with financial institutions like- NABARD, NCDC, and external Agencies - World Bank, ADB, JICA, etc. to ensure increased flow of institutional credit to fisheries sector. Business friendly environment will be made to

attract private investment across the value chain based on demand rather than incentives or subsidies. Business models are to be developed in consultation with IIT/IIM/ICAR etc. for replication in the sector. A robust system of public private partnership will be developed where the private sector, industry, farmers, communities, government, research institutes and civil societies are part of it. Access to institutional credit as priority lending on the lines of crop sector especially to small and marginal fishers and fish farmers and unemployed youth will be promoted.

16. STRATEGIES

- (i) A State level Inter-departmental Coordination Committee for Fisheries will be formed under the Chairmanship of the Agriculture Production Commissioner to provide coordination support and addressing the cross-sector issues confronting the development of fisheries and aquaculture.
- (ii) The Centre will formulate 'Fisheries Management Plans' (FMPs) for scientific management and regulation of marine fisheries resources of the country in consultation with the concerned State by adopting Ecosystem Approach to Fisheries (EAF) management within the overall framework of relevant national and international instruments. Focus will be directed towards Species-specific and area-specific management plans, including conservation of ecologically and Biologically Significant Areas (EBSAs) and Vulnerable Fisheries Ecosystems (VMEs); protection of iconic and endangered and threatened (ETP) species; spatial and temporal measures for sustainable utilization of resources; and creation of fish refuge through consultative processes.
- (iii) The government will prepare and implement 'Integrated Fisheries Development Plan' for Islands to enhance the share in their economy.
- (iv) The State governments will prepare Fisheries Spatial Plans (MSP) based on guidelines prepared by the central government for data management, analysis, modeling and decision making, after taking cognizance of Coastal Regulation Zone (CRZ) rules.
- (v) Knowledge management including use of artificial Intelligence will be an approach to foster quick and easy dissemination and availability of information on key attributes of marine fisheries sector, such as resource abundance and distribution; real-time resource

maps; productivity assessments; real-time Potential Fishing Zone (PFZ) advisories; and weather forecasts for the benefit of fishers.

- (vi) The Marine Fisheries Regulation Acts (MFRAs) have been enacted by coastal states/UTs for regulation and management of the Territorial waters with inter alia stipulate mandatory registration and licensing of fishing vessels. There is no such legislation for EEZ at national level. The center will also enact a comprehensive legislation (“National Marine Fisheries (Regulation and Management) Bill, 2019”)for holistic resource utilization in EEZ. Institutional mechanism will be set up and strengthened to reduce and manage inter-State conflicts as well as international conflicts for management of marine fisheries.
- (vii) Maximum Sustainable Yield (MSY) will be maintained in inshore waters. Government will undertake review and periodic evaluation of the existing Marine Protected Areas (MPAs) and for providing legislative support to ensure that tenure rights of the traditional fishermen are secured. All concerned stakeholders will be consulted to reduce overcapacity in Territorial waters and undertake rationalization of fishing fleet size with respect to different categories of fishing vessels and implement in a phased manner.
- (viii) Traditional and small-scale fisher and fisher groups will encouragedfor undertaking resource specific deep-sea fishing for harnessing untapped potential of high value resources with the global standards regarding wild fish harvests through infusion of modern technology and capacity building.
- (ix) The fisheries and related institutions will ensure formulation of rebuilding/recovery plans for those fish stocks that are in depleted or collapsed state. A capacity appraisal framework will be framed for fisheries management. Feasibility of undertaking sea ranching for rebuilding stocks without altering the natural genetic diversity, variability and integrity will be explored in consultation with states/UTs and scientific institutions.
- (x) MCS activities will be further strengthened through greater engagement of the maritime States/UTs and Marine Police and the Indian Coast Guard (ICG). The government will put in place an institutional mechanism in consultation with State/UTs for dealing various issues about vessel management. Sites will be demarcated based on scientific information and evaluation of environmental parameters for phase-wise expansion of mariculture. It

will be a component of the integrated coastal/fisheries development plans of States and Integrated Coastal Zone Management (ICZM) program of GOI.

- (xi) In inland open waters, fishing regulations on closed season, mesh size regulation, preventing use of destructive gears, wanton killing of juveniles and destructive fishing, *etc.*, will be strictly adhered through enactment of updated 'Fisheries Act' supported by effective enforcement mechanism and facilities.
- (xii) Maximizing fish production by addressing challenges and gaps in the fisheries sector including shortage of quality seed, feed, low productivity, fish health, knowledge gaps and promotion of indigenous species for sustainable culture.
- (xiii) Promotion of cluster approach as a key strategy for focused and concentrated development of aquaculture with emphasis on creation of integrated production and processing clusters with supporting infrastructure.
- (xiv) Development of requisite infrastructure facilities with strong backward and forward linkages throughout the value chain that will ensure end to end solutions, complete utilization of fishery resources both in inland and marine fisheries sector and minimize harvest and post-harvest losses.
- (xv) Setting up of protocols and standards for fish and fishery products in compliance with international food safety standards including HACCP, promoting safe food and sustainable trade.
- (xvi) Increase access to institutional credit at affordable cost for financing investment in fixed and working capital in fisheries sector especially aquaculture, mariculture, post-harvest and marketing. Facilitate credit guarantee and insurance cover for fisheries sector.
- (xvii) Encouraging Promoting Public Private Partnerships (PPPS) to leverage private sector investments in fisheries sector in infrastructure including O&M of Fishing Harbors.
- (xviii) Promotion of Fishers/Fish Farmers Producer Organizations, Companies, Cooperatives and Federations in collaboration with the Department of Agriculture and Farmers Welfare, Government of India for enhancing the bargaining power of fishers and fish farmers in marketing of fish and fish products and empowering them to graduate in to entrepreneurs.

- (xix) States will encourage and strengthen, if permissible, Contract farming and Collaborative farming in fisheries sector by processors and fishers/fish farmers on agreed terms for their mutual benefits.
- (xx) Focused interventions would be made for gender mainstreaming, creation of congenial workplace environment including amenities and working conditions. Government will further enhance support to women cooperatives, women self-help groups (SHGs) and through women-friendly financial support schemes.
- (xxi) Institutions of central and state governments associated with fisheries sector will be strengthened for advancement of learning and dissemination of knowledge, entrepreneurship and skill training to meet the growing demands of the sector.
- (xxii) Government will support R&D activities in fisheries sector aimed at dissemination, adoption and commercialization of latest technologies in fisheries, promotion of best practices in aquaculture, species diversification etc. The programmes for genetic improvement and production of Specific Pathogen Free/Resistant seed will get adequate attention.
- (xxiii) Creation of awareness on fish quality, safety and standards, training manpower for ensuring regulatory compliances, promoting voluntary compliances to regulatory standards.
- (xxiv) There will be efforts directed towards fishermen-run and/or state-run harbour-based cooperatives in order to reduce the dependency of fishers on middlemen and private financiers.

17. ADMINISTRATIVE ARCHITECTURE

17.1. The sector has mandate to promote various segments of fisheries in holistic manner. The overall development of the sector could require concerted efforts covering all related aspects viz. development of supply-chain infrastructure, creation of processing capacity, improving access to provision of credit, promoting investment, research and development in product, innovation, quality improvement, food safety, testing, standardization, marketing support, skill training, up-gradation and focused attention for the promotion of unorganized segments of the sector. Currently policy issues concerning the aforesaid aspects are handled by different agencies. Comprehensive development of the sector would require cohesion at the level of policy formulation and implementation

across all segments having important bearing on the growth of the sector. Therefore, the central government will work with greater engagements in terms of policy formulation and implementation of programmes.

17.2. Department of Fisheries at State/UT Level: The key role of State Fisheries Department/ Agencies will be to create a conducive environment to facilitate investment and expansion of the sector. The department would be the nodal agency for implementing all schemes. It shall ensure coordination with different departments and agencies of the state government as well as central government.

17.3. Fisheries Institutions: The responsibility for implementation of the provision of the policy largely vests with the state governments. In order to provide support and guidance for the implementation of the National Fisheries Policy, fisheries institutions viz. National Fisheries Development Board (NFDB), Fishery Survey of India (FSI), National Institute of Fisheries Post Harvest Technology and Training (NIFPHATT), Central Institute Of Coastal Engineering For Fishery (CICEF), Central Institute of Fisheries Nautical and Engineering Training (CIFNET), National Federation of Fishers Cooperatives Ltd. (FISHCOPFED), ICAR- Fisheries Institutions and Universities will be engaged to avail expertise and resources.

17.4. Convergence of Services: Development of fisheries sector would require support and active participation of number of Ministries/Departments at the level of Union Government as well as STs/UTs. There is a need for convergence of services offered and schemes implemented by different agencies. Collaboration with international organization will be undertaken for promoting fisheries sector. Apart from government agencies, active support and participation of trade and industry association, NGOs, SHG, autonomous/ statutory organization relevant to fisheries sector could be needed. Therefore, government will ensure participation and support of all stakeholders.

17.5. National Fisheries Development Council: In order to provide overall guidance for the implementation of the Policy, review its objectives and progress, a 'National Fisheries Development Council' headed by Union Minister of Fisheries, Animal Husbandry and Dairying will be established. The Council will have Ministers of Fisheries of all States/UTs and other key stakeholders viz. concerned Ministries, state governments, Industry and Trade Bodies, Fishers and Fish farmers cooperatives/groups, Research and Development, Technical and Academic Institutions, etc. as its members.

17.6 **'National Marine Fisheries Authority'**: will be established having members from Central Government Ministries/Departments and all Coastal States/UTs, which will have powers and functions to ensure that (i) the fishing and fishing related practices carried out in sustainable manners and do not harm the marine environment or adversely impact livelihoods of traditional and small-scale fishers, (ii) implementation of the monitoring, control and surveillance (MCS) measures, (iii) implementation of fisheries management plan, (iv) undertake and assist the State Governments in establishment and management of fisheries infrastructure including fishing harbours, fish landing centres, boat building and other facilities for achieving sustainable fisheries, (v) capacity building for sustainable utilisation of the marine fisheries resources, (vi) specify by regulations the standards and norms for the construction of fishing boats, manufacture of fishing gear and procedure for registration of gear manufacturing units and their monitoring, and (vii) cooperation, coordination and networking with coastal States and their agencies to ensure that the integrated system of MCS is implemented.

18. International Agreements/Arrangements

18.1 Indian fisheries are 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 and agreements to meet its international obligations and make fisheries sustainable, which otherwise could impact the sector and in turn affect the livelihoods of millions of fishers. The Government will ensure compliance of the provisions of the International Agreements/Arrangements and also active participation in the activities of the regional/international bodies demonstrating India's leadership in management of its fisheries resources that are part of the 'Common heritage of the mankind.'

18.2. 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. This voluntary Code is global in scope and directed towards members and non-members of FAO and sets forth principles and standards applicable to 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.

18.3. The global community has recognized the importance of small-scale fisheries as a principal contributor to poverty alleviation and food security and has agreed to the Voluntary Guidelines on Sustainable 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 in the context of food security and poverty eradication, by empowering small-scale fishing communities. The Government will make all efforts to implement the provisions of the VG-SSF keeping in view the complexities and divisions within the small-scale sector, particularly those involved in sustenance fishing.

18.4 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. The Government will encourage wider consultations with stakeholders and fisheries organisations to provide a more balanced understanding and better implementation of such instruments.

19. Regional Cooperation

19.1. 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 shared ecosystems, such as the Gulf of Manner and Palk Bay between India and Sri Lanka; Sunderbans between Bangladesh and India; and the Myeik (Mergui) Archipelago in the Andaman Sea. Both the Arabian Sea and the Bay of Bengal harbour migratory as well as straddling fish stocks, such as tuna and tuna-like species, sharks and Spanish mackerels. As situations necessitate, the Government will foster a strong regional co-operation in management and sustainable utilization of the resources, including conservation of species/stocks, wherever necessary.

19.2 Cooperation in safety and security of fishermen is also necessary as the upper Indian Ocean, especially the Bay of Bengal, witness' high number of adverse weather events and every year many fishers lose their lives or suffer extreme hardships. Further, cooperation in the field of marine fisheries through bilateral arrangements as also by participating in the regional fisheries and environment bodies will be enhanced. Such co-operation will

facilitate managing shared resources and shared eco-systems; harmonization of policies and programmes aimed at optimized harvesting of trans-boundary resources; safeguard of human rights, in particular for fishermen straying in waters of other countries.

19.3 Indian fishers are widely recognized in other countries in the region for their skills, industrious nature and the ability to work under challenging conditions. As a result, more and more fishers from India are now finding employment in fishing fleets of other countries. On many occasions, Indian fishers have been apprehended in neighboring countries, as while fishing they unknowingly stray into the EEZ of other countries, making it difficult for the Government to secure their release through normal channels. The Government will ensure that fishers who are willing to take employment in fisheries sector in other countries have adequate skills and knowledge of working in alien seas and go through formal Government approvals.

20. POLICY OUTCOME

20.1 With interventions envisaged under the policy, the following outcome is expected by the year 2030.

- (i) Support through a National Policy for management, regulation and development of resources through standards; research, extension, and training. Making easier for technology infusion for improvement of environment and disease control, breeding, seed rearing, feed production and culture systems.
- (ii) Enhanced cooperation among various stakeholders as well as States and Center for unified planning to achieve common goals. Availability of Network of facility from field to central level for monitoring, regulation of operations and data mining to ascertain the status of various resources and activities
- (iii) Technology Infusion for improvement of environment and disease control, breeding, seed rearing, feed production and culture systems.
- (iv) Strengthened production infrastructure, especially hatcheries, nurseries, feed mills, breeding & multiplication centers and quarantine facilities. To sustain and serve to farmers.
- (v) Creation of additional post-harvest capacities through cold-chain

facilities, processing & value addition will lead to reduction in wastage to <10% level subsequent increase farmers income..

- (vi) Market lead interventions to address resource scarcity and price signals both in national and international markets.
- (vii) New initiatives in the form of clusters, zoning, certification, labelling and branding, etc. will improve product acceptability for export up to 1 lakh crores.
- (viii) Empowerment of fishers, farmers and fish workers to choose, about farming species, practice and sale of produce to get better income and amenities.
- (ix) Six fold increase in inflow of investment in fisheries sector over the next 10 years.

21. MEASUREMENT OF IMPACT

21.1. A robust and detailed data base of fisheries sector will be created and regularly updated for effective monitoring of the targets stipulated under the policy.

21.2. The implementation and impact assessment of the policy will be reviewed periodically on following parameters.

- (i) Extent of interventions in terms of incentives and support measures envisaged in the in the policy.
- (ii) Increase in the investment in different segments of supply chain and farming infrastructure.
- (iii) Employment generated, direct and indirect in different activities of the sector.
- (iv) Increase in output and contribution of fisheries sector in GVA.
- (v) Extent of reduction in post -harvest losses and spoilage.
- (vi) Better farm gate price to farmers enabling increase in farm incomes.
- (vii) Increase in export of sea food products.

21.3 The union government in association with States/UTs is committed to provide conducive environment for the holistic development of fisheries sector to realize its potential, achieve excellence, and to fulfill its obligations to farmers and consumers. The

government will enlist the cooperation and involvement of all stakeholders in achieving the objectives set out in policy.
