



ANNUAL REPORT

2021-22



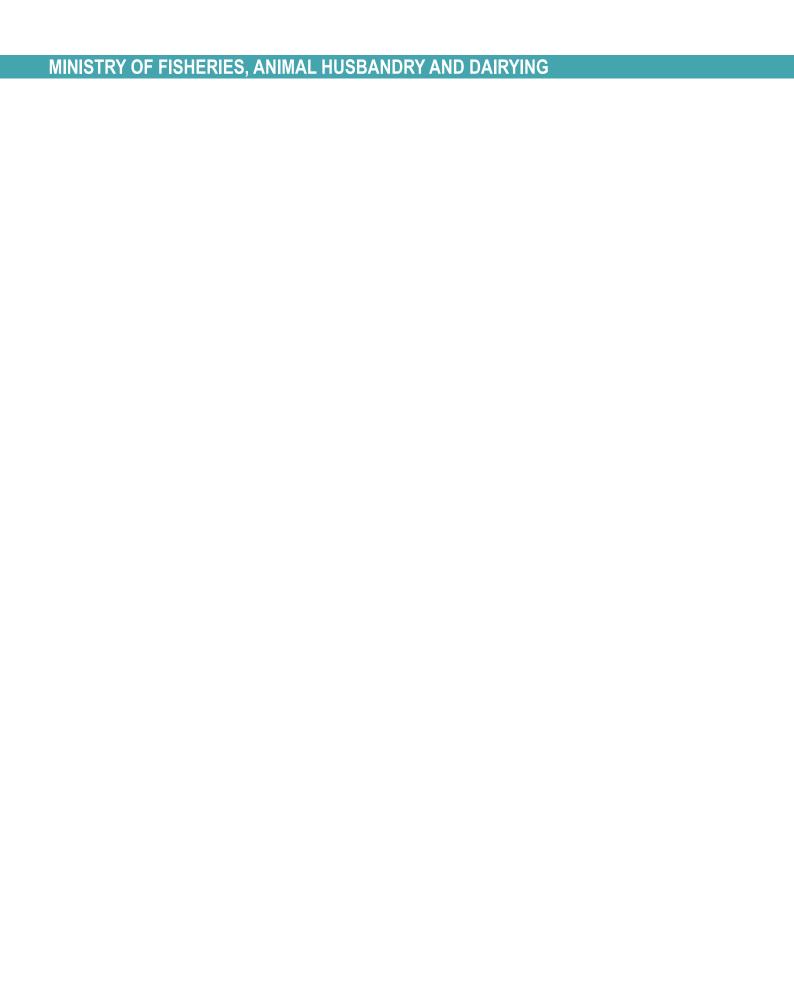




Annual Report

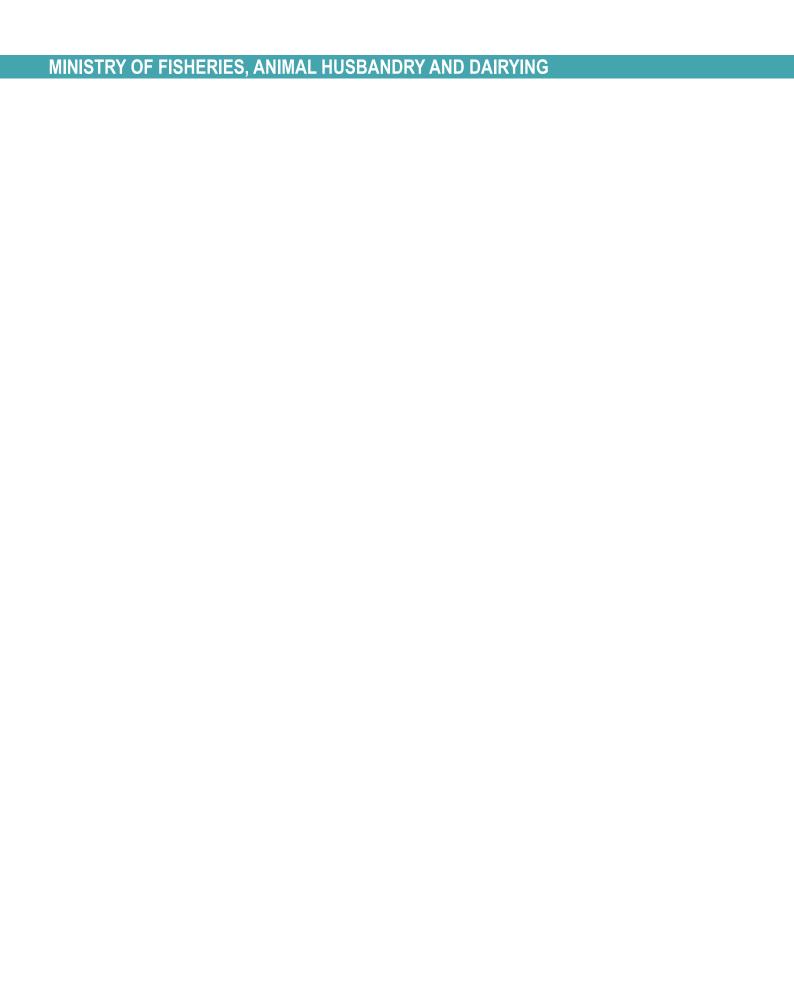
2021-22

Department of Fisheries Ministry of Fisheries, Animal Husbandry & Dairying Government of India



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Chapter 1

Department of Fisheries- An Overview

1.1 Organisational Structure

Ministry of Fisheries, Animal Husbandry & Dairying comprises of two Departments namely, Department of Fisheries and Department of Animal Husbandry & Dairying. Department of Fisheries was carved out of Fishery Division from the erstwhile Department of Animal Husbandry, Dairying & Fisheries vide Cabinet Secretariat's Notification No.1/21/21/2018-Cab dated 5th February, 2019.

The Department is under the charge of Shri Parshottam Rupala, Hon'ble Union Minister of Fisheries, Animal Husbandry & Dairying. He is assisted by two Ministers of State for Fisheries, Animal Husbandry & Dairying namely, Dr. L Murugan and Dr. Sanjeev Kumar Balyan. The administrative head of the Department is the Secretary, Fisheries.

Secretary Fisheries is assisted by two Joint Secretaries with divisions namely Inland and Marine Fisheries. The organizational structure of the Department and work allocations are given in Annexure I.

1.1.1 Functions

The Department is responsible for matters relating to formulation of policies and schemes pertaining to Development of Inland, Marine and Coastal Fisheries and Fishery Institutes including its four subordinate institutions, one autonomous body and one regulatory authority.

The Department advises the State Governments/ Union Territories (UTs) in formulation of policies and programmes in the field of fisheries. The main focus of the activities is on the following:

a. Expansion of Aquaculture in fresh and

Brackish water

- b. Conservation and sustainability of Marine Fisheries Resources
- c. Promotion of Mariculture, Seaweed Cultivation, Cage Culture, RAS, Ornamental Fisheries, Cold Water Fisheries and Fisheries Trade
- d. Social security and welfare of fishermen including fisher women
- e. Exploitation of Deep-Sea fishery resources
- f. Inland Fisheries Development
- g. Establishment of the network of Aquatic quarantine
- h. Mapping of water bodies through GIS etc.

The Department also undertakes the formulation of policies, strategies, programmes and plans on fisheries, to draft related laws, regulations and provisions and organize their supervision and implementation across the States/UTs.

1.1.2 List of Subjects allocated is as follows:

- a. Industries, the control of which by the Union is declared by Parliament by law to be expedient in Public interest as far as these relate to Development of fish feed and fish products with the limitation that in regard to the development of industries, the functions of the Department of Fisheries do not go further than the formulation of the demand and fixation of targets
- b. Promotion and development of Fishing and Fisheries (inland, marine and beyond territorial waters) and its associated activities, including infrastructure development, marketing, exports and

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institutional arrangements etc.

- c. Welfare of fishermen and other fisher-folk and strengthening of their livelihoods
- d. Liaison and co-operation with international organizations in matters relating to Fisheries development
- e. Fisheries Statistics
- f. Matters relating to loss of fish stock due to natural calamities
- g. Regulation of fish stock importation, Quarantine and Certification
- h. Fishery Survey of India, Mumbai
- Legislation with regards to the Prevention of the extension of infectious or contagious diseases or pests affecting fish from one State to another
- j. Legislation with regards to the Pattern of financial assistance to various State Undertakings, Fisheries Development Scheme through State agencies/Cooperative Unions
- k. Preservation, protection and improvement of fish stocks and prevention of diseases thereof, Veterinary training and practice
- I. Insurance of fish stock

1.2 Subordinate offices/ Fishery Institutions Functioning under the Department

The Department of Fisheries (DoF), Ministry of Fisheries, Animal Husbandry & Dairying has four institutions / sub-ordinate offices under its fold. These institutions are (i) Central Institute for Fisheries Nautical and Engineering Training (CIFNET), Kochi, (ii) National Institute for Fisheries Post-Harvest Technology & Training (NIFPHATT), Kochi, (iii) Fishery Survey of India (FSI), Mumbai and (iv) Central Institute of Coastal Engineering

for Fisheries (CICEF), Bengaluru. Besides these four Institutes, DoF also has autonomous/regulatory bodies two namely the National Fisheries Development Board (NFDB), Hyderabad and the Coastal Aquaculture Authority (CAA), Chennai that have autonomous/regularity authority status with respect to their functioning. A brief on the Institutes is as are follows:

1.2.1 Fishery Survey of India, Mumbai

The Fishery Survey of India (FSI) was established in the year 1946 by Government of India, as a pilot project known as Deep Sea Fishing Station (DSFS) with the objective of augmenting food supply through development of deep-sea fishing. As a humble beginning, the institute started its activities with one vessel named as 'S.T. Meena' -a mine sweeper converted into a trawler. The main objectives of DSFS were charting of fishing grounds and training of deep sea fishing personnel.

Realizing the gigantic task of DSFS, the Government of India established a number of such stations on both east and west coast of India. FSI has thus emerged as the nodal fishery institute in India with the primary responsibility of survey and assessment of fishery resources in the Indian Exclusive Economic Zone (EEZ) and adjoining areas for promoting sustainable exploitation and management of the Marine Fishery resources.

FSI currently undertakes survey of deep-sea demersal resources, coastal pelagic resources, oceanic tuna resources, habitat management and assessment of risk to habitats, investigations and research in coral reef ecosystems among other activities.

1.2.2 Central Institute of Fisheries, Nautical and Engineering Training (CIFNET), Kochi

Central Institute of Fisheries Nautical and Engineering Training (CIFNET) is the only national institute of its kind in the country to impart the training requirements of technical and certified personnel such as Skippers, Mates, Engineers, Engine Drivers of power fishing vessels as stipulated in the Merchant Shipping (Amendment) Act 1987.

CIFNET is also responsible for developing the required technical manpower for supporting the shore establishments and for effective operation of fishing vessels. The various short-term courses conducted by the Institute covering an integrated multidisciplinary area of Fishing Technology, Nautical Science and Marine Engineering have benefited personnel working in international institutions and various organizations under the Central/State Government departments, colleges and other Public/Private sector establishments. The Institute is currently focusing on the skill development trainings of fishermen in deep sea fishing for oceanic tuna, responsible fishing practices and teaches about the devastating effects of marine pollution through their course curriculum.

1.2.3 National Institute of Fisheries Post-Harvest Technology & Training, Kochi

The National Institute of Fisheries Post Harvest Technology and Training (NIFPHATT), erstwhile known as 'Integrated Fisheries Project', was established to oversee all-round development of Post-Harvest Technologies. NIFPHATT envisages delivery of the best quality fish and fish products through minimal post-harvest losses and maximised post harvest fish utilization. Post harvest technology upgradation is achieved through adaptive research to suit the ever increasing and fast changing consumer needs by developing new processes, products and packaging. Dissemination of the upgraded technology is achieved through consultancy, training, popularization of products and consumer response surveys etc.

1.2.4 Central Institute of Coastal Engineering for Fisheries, Bengaluru

Central Institute of Coastal Engineering for Fisheries (CICEF), Bengaluru was established in January, 1968 as Pre-investment Survey of Fishing Harbours (PISFH) by the Ministry of Agriculture, Government of India in collaboration with Food and Agriculture Organisation of the United Nations (FAO/UN). The primary objective of establishing the Institute was to carry out engineering and economic investigations and prepare techno-economic feasibility reports for the development of fishery harbours at suitable sites along the Indian coast and to provide fishery harbour facilities to Mechanized Fishing Vessels (MFVs). After the cessation of the FAO/UN assistance, the Institute received technical assistance in the form of equipment and expert consultancy services from Swedish International Development Agency (SIDA) for a period of 2 years from January 1974. In August 1983, it was renamed as Central Institute of Coastal Engineering for Fishery (CICEF). Technical expertise was further developed in the subsequent years since August 1983. The Institute is also catering to the requirements of Aquaculture Engineering for development of Coastal Aquaculture Farms along the Indian coast. The Institute received United Nations Development Plan (UNDP)/Food and Agriculture Organisation (FAO) assistance in the form of equipment and consultants from 1986 to 1991 for the development of coastal aquaculture farms. The Institute has thus been playing a pivotal role in assisting the maritime States/UTs in extending the necessary technical support in conducting engineering and economic investigations.

1.3 Autonomous and Regulatory Bodies

The details of the autonomous and regulatory bodies of the Department are given below:

1.3.1 National Fisheries Development Board, Hyderabad

National Fisheries Development Board (NFDB)

was set up in September 2006, with its Head Quarter at Hyderabad to realize the untapped potential of Fisheries sector in Inland and Marine fish capture, culture, processing & marketing of fish, and overall growth of Fisheries sector with the application of modern tools of Research Development. It has been instrumental in planning and imparting capacity building trainings amongst beneficiaries, establishing etrading platforms for market price regularisation, organising outreach activities such as fish festivals to boost consumption and also providing financial assistance.

1.3.2 Coastal Aquaculture Authority, Chennai

The Coastal Aquaculture Authority (CAA) was established under the Coastal Aquaculture Authority Act, 2005 vide Gazette Notification dated 22nd December, 2005. The aims and objectives of the Authority are to regulate 'Coastal Aquaculture' activities in the areas notified by the Central Government as 'coastal areas' and for matters connected therewith or incidental thereto. The Authority is empowered to make regulations for the construction and operation of aquaculture farms in coastal areas, to register aquaculture farms and hatcheries, inspect them to ascertain their environmental impact, remove or demolish coastal aquaculture farms which cause pollution, fixing standards for coastal aquaculture inputs. Through these controls and measures, CAA aims to facilitate environmentally responsible and socially acceptable coastal aquaculture.

In addition to the above, there is a National Level registered society, namely, National Federation of Fishers' Cooperatives Ltd. (FISHCOPFED), New Delhi.

1.3.3 National Federation of Fishers Cooperatives Ltd.

National Federation of Fishers Cooperatives Ltd. (FISHCOPFED) is a national level federation of fisheries cooperatives and the apex institution of

Indian Fisheries Cooperative Movement. It was established in 1980 as All India Federation of Fishermen Cooperatives and was rechristened as National Federation of Fishers Cooperatives Ltd. in 1982.

FISHCOPFED is governed by its own approved bye-laws and through the provisions of Multi-States Cooperative Society (MSCS) Act 2002.

FISHCOPFED aims to serve, develop and uplift the socio-economic condition of fishers in the country. It facilitates, coordinates and promotes fishing industry in India through cooperative efforts.

1.4 Major Initiatives taken towards Enhanced & Sustainable Fish production

Recognizing the potential of the fisheries sector, to consolidate the achievements of Blue Revolution and provide focused attention to the sector, the Department of Fisheries is implementing Pradhan Mantri Matsya Sampada Yojana (PMMSY).

The Government of India in May 2020 approved PMMSY with an estimated investment of Rs. 20,050 Crores comprising of Central share of Rs. 9,407 Crores, State share of Rs. 4,880 Crores and beneficiaries contribution of Rs. 5,763 Crores for a period of five years from FY 2020-21 to FY 2024-25. During the current financial year, proposals with a total cost of Rs. 3,036.41 Crores (CS and CSS) with central share of Rs. 1,119.32 Crores were approved and of which Rs. 720.86 Crores have already been released to the States/UTs (up to 31st December 2021). In the Budget Estimates (BE) FY 2021-22, the Department has been allocated total budgetary support of Rs. 1,220.84 Crores that was revised to a total budgetary support of Rs. 1,407.29 Crores including allocations for scheme and non-scheme components. The Component wise, Budget Estimates (BE), Revised Estimates (RE) and Expenditure for FY 2021-22 are indicated in Annexure-II.

The scheme intends to address critical gaps in fish production and productivity, infusion of innovation and modern technology, post-harvest infrastructure & management, modernisation and strengthening of value chain, traceability, establishing a robust fisheries management framework and fishers' welfare. Due focus is also being given to creating awareness for harnessing of fisheries potential in a sustainable, responsible, inclusive and equitable manner. Also in order to enhance competitiveness of the Fisheries sector, PMMSY will facilitate economies of scale, generate higher incomes, accelerate growth and expansion of the sector in an organized manner, 'Cluster or Area based approach' is being adopted while approving and implementing the beneficiary-oriented components/activities.

The PMMSY scheme intends to double the income of fishers, fish farmers and fish workers by FY 2024-25, enhance fish production to 22 Million Metric Tonnes (MMT) by 2024-25 (up from 13.75 MMT in 2018-19) at an average annual growth of about 9 percent (up from 7 percent during 2018-19). PMMSY further intends to increase aquaculture productivity to 5 tonnes per ha (up from national average of 3 tonnes per ha), create critical fisheries infrastructure, reduce postharvest losses, modernize and strengthen value chain, double export earnings to Rs. 1,00,000 Crores, enhance domestic fish consumption with corresponding health benefits, attract investments in Fisheries sector from other sources (State, private etc.) and generate direct and indirect employment opportunities of about 55 Lakhs in the Fisheries sector from other sources. Some of the 'thrust' areas addressed under the PMMSY scheme are as below:

- a. Mariculture including seaweed cultivation
- b. Ornamental and recreational fisheries
- c. Quality Seed
- d. Optimal harvesting of deep sea and oceanic resources

- e. Cold water fisheries
- f. Development of aquaculture by productive utilization of saline/ alkaline areas
- g. Integrated development of reservoirs
- h. Species Diversification through new candidate etc

With the aim to increase productivity and reduce post-harvest losses, number of subactivities/components are envisaged under the PMMSY scheme. To this effect, adoption of modern technologies in production and postharvest management including High-density aquaculture in ponds, Recirculatory Aquaculture System (RAS), biofloc, cage culture, nano-feed live feed technology, block chain, value addition, quality preservations and marketing etc. will aim for 'more crop per drop'. Provisions are made under the PMMSY Scheme for giving assistance for expansion of culture area, focus on diversification of species, catering demand and supply of quality brood and seed of cultivable species and specie - specific feeds.

These provisions are directed towards establishment of adequate number of brood banks, hatcheries, seed rearing units, specific pathogen free or resistant seed, genetically improved brood stock, and feed mills.

In order to address the infrastructural requirements for the Fisheries sector, a dedicated fund namely Fisheries and Aquaculture Infrastructure Development Fund (FIDF) was created in 2018-19 with a fund size of Rs 7,522.48 Crores. Concessional finance is provided for development of fisheries infrastructure through interest subvention to the Eligible Entities (EEs), including State Governments/UTs and State entities for development of identified fisheries infrastructure facilities.

In the year 2018-19, Government of India extended the facility of Kisan Credit Card (KCC) to

Fisheries and Animal Husbandry farmers to help them meet their working capital needs. It will help Fisheries and Animal Husbandry farmers to meet their short-term credit requirements of rearing of animals, poultry birds, fish, shrimp, other aquatic organisms and capture of fish. The fisheries related working capital components covered under KCC include recurring costs towards seed, feed, organic and inorganic fertilizers, lime/other soil conditioners, harvesting and marketing charges, fuel/electricity charges, labour, lease rent etc.

The Department has formulated the draft National Mariculture Policy (NMP) to ensure sustainable farmed seafood production. The overall strategy of NMP is to increase seafood production in sustainable and responsible manner so as to measure socio-economic development with focus on health and nutritional security and environment.

The Department has also drafted the National Fisheries Policy, 2020 by integrating the policies, namely, (i) National Policy on Marine Fisheries, 2017 (ii) Draft National Inland Fisheries and Aquaculture Policy (NIFAP) (iii) Draft National Mariculture Policy along with elements of post harvest. The National Fisheries Policy, 2020-Sixth draft for consideration has been uploaded on the Department website on 31st December, 2020 and has also been translated in 11 different Languages (Hindi, Gujarati, Marathi, Kannada, Malayalam, Tamil, Telugu, Odia, Bengali, Assamese and Urdu) and circulated to States/UTs.

The objective of the National Fisheries Policy is to secure the overall development of capture fisheries and aquaculture in the country. While the fishers and fish farmers are at the core of the Policy, the intent is to ensure sound management and sustainable development of the resources and associated habitats, alongwith maintaining the ecosystem integrity, meeting the food and nutritional security of the growing population,

protecting the rights of the fishing and farming communities, building farmers' resilience, making Indian fish and fish products globally competitive. All the above initiatives thus support India's commitment towards fulfillment of the global agenda on sustainable and wise-use of the fisheries resources in 'Atam Nirbhar Bharat' spirit.

1.5 Grievances Cell

A Grievances Cell has been set up in the Department to look into grievances of the public. The nodal officer of the PG is DS administration and appellate authority is Joint Secretary (Administration). The details of the grievance disposal of PG for 1st April to 31st December 2021 is as below:

Brought forward	Receipt during said period	Total receipt	Case disposed during said period	Closing balance
52	320	372	353	19

1.6 Liaison Officer for Scheduled Castes (SCs)/ Scheduled Tribes (STs)/ Persons with Disabilities (PWD)

The Department endeavors for strict implementation of the orders issued by the Government of India from time to time regarding reservation in services for SCs, STs, OBCs, minorities, Ex-Servicemen and differently-abled persons. Presently, there is no dedicated cell in the Department for implementation of Government policy on reservation. However, Liaison Officers for Scheduled Castes (SCs)/ Scheduled Tribes (STs) /Other Backward Castes (OBCs)/ Economically Weaker Section (EWS)/ Persons with Disabilities (PwD) and Ex-Servicemen respectively has already been appointed in the Department to look after the reservation matters related to recruitment as per reservation policy.

1.7 Vigilance Division

Vigilance Division processes vigilance cases pertaining to the Department and its subordinate offices. The Chief Vigilance Officer monitors the vigilance cases on a regular basis. 'Vigilance Awareness Week' was celebrated in the Department from 26th October to 1st November 2021.

1.8 Progressive use of Hindi

The Department has made concerted efforts during the year for promotion of Hindi in official work. The Hindi Section was actively involved in translating important documents like the briefs for Parliamentary Standing Committee, Annual Report, Output Outcome Framework, Parliament Questions, Cabinet Notes etc. as well as in implementing the Official Language policy of the Government.

Official Language Implementation Committee (OLIC) has been constituted in the Department under the Chairmanship of Joint Secretary (Administration). The progress in use of Hindi in the Department is being reviewed in meetings and suggestions received are being implemented to promote the use of Hindi in official work. As a result, the percentage of correspondence in Hindi has considerably increased.

Circulars have also been issued from time to time to all Officers/Sections emphasizing need for proper implementation of the Official language Policy of the Government.

'Hindi Pakhwada' was organized in the Department from 14th to 27th September 2021. During the fortnight, various events/ competitions like essay writing, noting and drafting in Hindi, typing/shorthand in Hindi etc were conducted and the officials of the Department participated enthusiastically. The winners were given cash prizes by Secretary of the Department. During the prize distribution ceremony, Secretary (Fisheries) emphasized on

the need to initiate original work in Hindi and to ensure compliance of Official Language Policy of the Union Government.

Proposal of the Department of Fisheries for creation of three posts in Official Language Division of the Department i.e. one Post of Assistant Director (OL) and two posts of Junior Translation Officer has been approved by the Department of Expenditure, Ministry of Finance. The posts have accordingly been created and the Department of Official Language has been requested to fill up the posts on priority.

1.9 Implementation of Right to Information (RTI) Act, 2005

For the purpose of providing information to public, Department has designated Central Public Information Officers (CPIOs) and Appellate Authorities under the relevant provisions of the Right to Information (RTI) Act, 2005. Similarly, separate CPIOs and Appellate Authorities under RTI Act have been designated for various subordinate offices and autonomous organizations under administrative control of the Department. RTI applications received through online RTI Portal or otherwise were forwarded online to the concerned CPIOs for speedy disposal. During the year 2021-22 (1st April to 31st December, 2021), 218 RTI applications and 19 RTI Appeals were received in the Department.

1.10 Prevention of Harassment of Women Employees

A committee for prevention of sexual harassment of women at workplace exists in the Department to look into the complaints of sexual harassment of women. No complaint has been received during the FY 2021-22.

1.11 Minimum Government, Maximum Governance

Various actions have been initiated with an aim to Minimum Government, Maximum governance

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that include reduction in channels of submission, delegation of powers at appropriate levels, use of Desk Officer System, digitization of Central Registry Units and leveraging technology to the extent possible

Initiatives taken by the Department for speedy disposal of public grievances have been reflected in the CPGRAM Portal. Nodal officer and Appellate Authority have been designated.

Pendency is being monitored and reviewed regularly. Monthly Report on significant development and monitoring of various issues namely, presentation made before Prime Minister, Central State Cooperation, and decisions of cabinet and cabinet Committee through e-Samiksha portal is being done regularly.

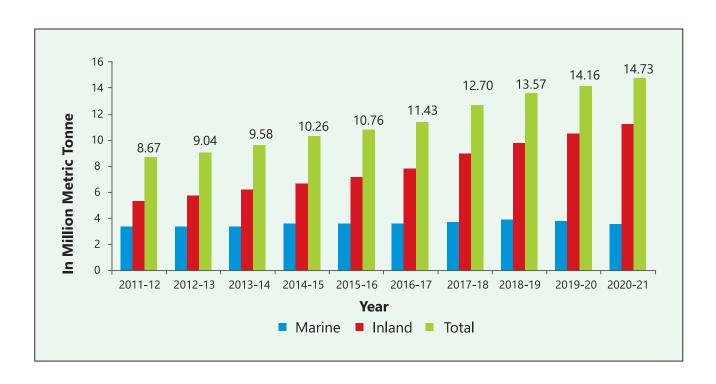
Chapter 2

Saga of the Fisheries Sector

2.1 Indian Fisheries Sector - Current Scenario

Currently, India is the third largest fish producing country in the world and accounts for 7.96 percent of the global production. The total fish production during FY 20-21 is estimated at 14.73 Million Metric Tonnes (MMT) with a contribution of 11.25 MMT from Inland sector and 3.48 MMT from Marine sector. The fisheries sector plays an important role in the national economy and 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. During FY2020-21, export of marine products stood at 1.15 MMT and valued at Rs. 43,717.26 Crores despite the market uncertainties raised by the Covid-19 pandemic outbreak. As for overseas markets, USA continued to be the major importer of Indian seafood with an import worth USD 24,047.15 Million, accounting to a share of 41.15 percent in terms of dollar value. In 2018, total fisheries potential of India was estimated at 22.31 MMT consisting of the Marine Fisheries potential at 5.31 MMT and the Inland Fisheries potential at 17 MMT. India is also a major producer of fish through Aquaculture and ranks second in the world after China. Inland fish production constitutes about 76 percent of the total fish production of the country and annual growth rate of production has also been high. The fish production in the country has shown continuous and sustained increment since independence. During FY 2020-21, 66 percent of Marine Fisheries potential and 51 percent of the Inland Fisheries potential have been harnessed.

The fish production has increased from 5.66 MMT in FY 2000-01 to 8.67 MMT in FY 2011-12 and further to 14.73 MMT in FY 2020-21. The graph below indicates the growth trend in fish production.



A shift from capture fisheries to aquaculture has been observed in Inland Fisheries during the last two and a half decades. Freshwater aquaculture with a share of 34 percent in Inland Fisheries in mid 1980 has increased to about 76 percent in recent years.

2.2 Fisheries Sector in India

The history of fisheries in India dates back to the days of the Harappan civilisation. Reference to fish, its trade and fisher community are found in the Songs of the Sangam Age (1st to 4th Century A.D.) The importance and the role of fisheries sector was officially recognized in India, through the enactment of the 'Indian Fisheries Act' in 1897. This Act laid the foundation of the development of the fisheries sector in India and delineated the responsibility of the provinces, towards the development and conservation of fisheries in the country. Through this Act, the provinces were empowered to formulate Rules/Laws for the conservation of the fish and fisheries resources.

The First Five Year Plan (1951–1956) of Government of India, with its telescopic outlook drew the canvas of the Fisheries Plan earmarking the priorities for the development of both the Marine Fisheries and the Inland Fisheries sectors through:

- a. Mechanisation of country craft or introduction of new mechanised boats
- b. Development of fishing harbour facilities
- c. Supply of requisites to fishermen
- d. Development of marketing activities
- e. Provision of ice and cold storage and transport facilities
- f. Introduction of mother ship operations
- g. Provision for off-shore fishing with larger powered vessels such as purse-seiners and trawlers
- h. Survey and stocking of new culturable waters

i. Collection of fry

Recognizing the importance of the sector, Department of Fisheries was created in February, 2019 to provide sustained and focused attention towards the development of the sector. This was followed by the creation of an independent Ministry of Fisheries, Animal Husbandry & Dairying in June, 2019.

The main objectives of the Department are to enhance fish production and productivity in an environmentally sustainable and socially equitable basis, harness the untapped potential of Indian fisheries, conservation of aquatic resources and genetic diversity, preservation of health of ecosystems, strengthening of infrastructure in harvest, post-harvest, value-addition & marketing and upliftment of fishers and aqua-farmers communities with gainful employment opportunities and capacity strengthening.

As Fisheries is a State Subject, so historically investments in the sector, particularly in the fishing villages/coastal fishing villages, fishing harbours and ports have been made by the states 'for the welfare and support of the fishermen community'. However, with the growing requirements for resources, technological transfer/ advice and policy orientation the efforts of State Governments/UT Administrations are supplemented by the Government of India towards the development of the fisheries sector.

Fisheries has emerged as a sunrise sector and has been an important sector that provides food, nutrition, employment, income and livelihood in India. Transformation of the fisheries sector from traditional to commercial scale has led to an increase in fish production from 0.75 MMT in 1950-51 to 14.73 MMT during 2020. The sector also provides livelihood to about 16 million fishers and fish farmers at the primary level and several lakhs along the value chain.

2.3 Fisheries Resources

India has rich and diverse fisheries resources ranging from deep seas to lakes, ponds, rivers and more than 10 percent of the global biodiversity in terms of fish and shellfish species. The Marine Fisheries resources are spread along the country's vast coastline and Exclusive Economic Zone (EEZ) and large continental shelf area. The Inland Fisheries resources are in the form of rivers and canals, floodplain lakes, ponds and tanks, reservoirs, brackish water, saline/alkaline affected areas etc.

The marine resources of the country comprise an EEZ of 2.02 million sq. km, a continental shelf area of 0.53 million sq. km and a coastline of 8,118 km. The Marine Fisheries potential in the Indian waters has been estimated at 5.31 M MT constituting about 43.3 percent demersal, 49.5 percent pelagic and 4.3 percent oceanic groups,

Area under Reservoirs - 3.15 million ha

Area under Flood plain Lakes -

Length of River

0.19

Ponds & Tanks

2.41

The trend analysis of Indian Fisheries sector reveals a paradigm shift from Marine dominated fisheries to a scenario where Inland Fisheries has emerged as a major contributor to the overall fish production in the country. As seen in the below chart, Inland Fisheries presently has a share of 74 percent in total fish production of the country.

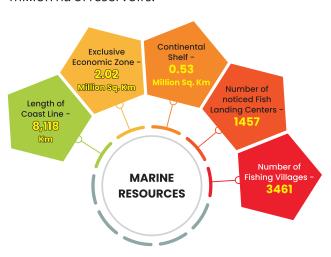
Area under Brackish water 1.24

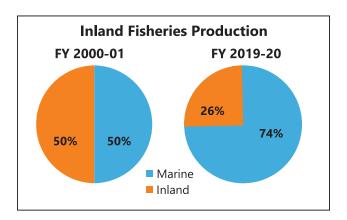
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1.1 percent island resources and 1.8 percent others.

Over the years, mariculture in the country has been confined largely to bivalve mollusks namely, mussels, edible oysters and pearl oysters, and to some extent to seaweeds. With a thrust on development of technologies pertaining to sea cage farming during the last decade, developmental plans with both forward and backward linkages have been envisaged to allow these activities to become significant contributors to production of seafood in the country.

Although, Inland Fisheries has grown in absolute terms, however the rate of growth in terms of its potential has not been realised yet. The vast inland resources comprise of 0.27 million km of rivers and canals, 1.2 million ha floodplain lakes, 2.45 million ha of ponds and tanks and 3.15 million ha of reservoirs.





Fisheries and Aquaculture are included in the State List; however, the Union Government supplements the efforts of the States/UTs for development of the sector. Inland sector is by and large, fully in the domain of State Governments while marine sector is a shared responsibility between the Central and Coastal State Governments. Coastal States/UTs are responsible for development, management and regulation of fisheries in the sea waters within the 12 nautical miles (22 km) from the base line. Government of India is responsible for the development and regulation of fisheries in the EEZ waters between 12 and 200 nautical miles (370 km). Fish Farming requires inputs such as quality seeds, feed, health management and marketing support. Programmes are being undertaken for production and distribution of quality seed and feed for Aquaculture, culture-based-capture fisheries, husbandry of farmed species and availability of quality water in order to optimize production and productivity in Inland Fisheries and Aquaculture across the country.

The cold water resources are distributed mainly in the form of upland streams, rivers, lakes and reservoirs that are located at medium to high altitudes of Himalayan corridor such as Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, West Bengal and all North-Eastern States. At present, the total fish production from upland areas constitutes about 3 percent of inland fish production of India which is a very small share of the overall production. Commercial farming of high value cold water species like exotic rainbow trout has been taken up successfully and estimable progress has been made. Brackish water estuaries or river mouth is another set of water body of fluctuating salinity because of tidal effects. Brackish water bodies have huge potential for both fin fish and shell fish culture.

Valuable fish like sea bass, pearl spot and shrimp could be cultured in large quantities. India has 1.24 million ha of brackish water area spread over all maritime States / UTs, but hardly 15 percent of brackish water areas have been developed for commercial farming. Shrimps, oysters, mussels, crabs, lobsters, sea bass, groupers, mullets, milk fish, cobia, silver pompano, pearl spot, ornamental fishes and sea weeds are being farmed to some extent. The Coastal Aquaculture Authority (CAA) is regulating these activities in brackish water systems within 2 kms of the High Tide Line for sustainable development of Coastal Aquaculture sector.

Soil salinization is an ecological threat adversely affecting agricultural output and farming community. Inland salinity is increasing at an alarming rate in North India and has abundant unutilized inland saline soil. About 40 percent of inland saline areas (92.33 lakh ha) lies within the states of Haryana, Punjab, Rajasthan and Uttar Pradesh and is not utilized for any agriculture activities. Thus, productive utilization of these soils through aquaculture has been initiated to convert waste land into wealth land. Fish and shrimp farming have already been introduced in saline-affected areas of the four states under Rashtriya Krishi Vikas Yojana (RKVY) and Blue Revolution Scheme. Potential utilization of these vast saline-affected resources through aquaculture is a new sphere for employment generation in the sector; it also increases fish production, provides protein rich nutrition, increases export earnings and conversion of waste land to wealth. Shrimp farmers of the four states have accepted and propagated shrimp culture showcasing good productivity. Efforts are also being made for diversification of traditional carp culture to high valued shrimp culture and by value addition to carp culture by introducing new species like L. vannamei, sea bass and other candidate fish species for saline soil/water etc. Hatchery and seed production techniques have so far been standardized for few commercial culture of shrimps, crabs and fin fishes.

Ornamental fisheries is the 2nd most popular hobby with approximately 100 million hobbyists in the world. India's share of global ornamental fish export is 0.53 percent with an import share of 0.42 percent. However, the sector has enormous potential to grow in the country due to conducive environment and high diversity of tropical fishes. Action Plan for development of ornamental Fisheries: 2020-2025 prepared by the Department focuses on development of Ornamental fisheries in potential states based on the resource potential and the existing value chain mechanism for fish production and marketing. The potential states identified for development of Ornamental fisheries are West Bengal, Tamil Nadu, Maharashtra, Kerala, Odisha, Gujarat, Karnataka, Assam and Manipur. The Department has been collaboratively working with ICAR-CIFA and other institutions for progress of the sector.

Seaweed cultivation is one of the potential areas to be explored which is expected to open new avenues especially for women in coastal areas, provide source of income for economically weaker sections of society among rural areas and promote entrepreneurship. With the long coastline and the Exclusive Economic Zone (EEZ), India has enormous scope for seaweed cultivation and promotion of seaweed-based industries. There are about 844 species of seaweeds reported out of which about 60 species are commercially important ones. The Department and NFDB have been focusing on bringing in policy and infrastructural changes to push the sector through joint interventions with states/UTs and research institutes. Focused interventions such as establishment of seaweed park in Tamil Nadu, conducting feasibility study for identifying conducive locations for cultivation, knowledge transfer on suitable cultivation technologies, establishment of easily accessible seaweed seedbanks etc are being prioritized by the Department.

For FY21-22, the Statistical Division has undertaken the following important studies:

- a. 'Study on Production and Productivity of Inland Fisheries' by National Productivity Council (NPC): The Department had accorded approval to NPC for the study at a total cost of Rs. 123.31 lakhs under PMMSY. The survey aims at evaluating production and productivity of inland fisheries collected from various types of the inland water resources such as ponds, tanks, water reservoirs, canals, rivers etc.
- b. 'Study on Demand of Fisheries Sector in India' by National Council of Applied Economic Research (NCAER): The Department had accorded approval to conduct study on 'Demand of Fisheries Sector in India' at a total cost of Rs.135.77 Lakhs under PMMSY for measuring demand and supply gap of fish, fish consumption trends and opportunity areas to enhance consumption.

The Statistical Division also engages in collation of Handbook on Fisheries Statistics, fish production data etc. Through its consistent efforts, the Data Governance Quality Index (DGQI) for the Department has increased from 1.07 to 3.34.

2.4 Thrust areas and way forward

In order to enhance fish production, there is a need for diversification into other fish production areas like integrated fish farming, cold water fisheries, riverine fisheries, capture fisheries, brackish water fisheries etc. The recent measures therefore have targeted intensive aquaculture in ponds and tanks through integrated fish farming, carp polyculture, freshwater prawn culture, running water fish culture and development of riverine fisheries.

Highlights of the Fisheries Sector

- Exclusive Economic Zone (EEZ) of India spreads over 2.02 million sq.km, comprising 0.86 million sq.km on the West coast, 0.56 million sq.km on the East coast and 0.60 million sq.km around the Andaman & Nicobar Islands
- Off late, culture of Pangassius and mono-sex Tilapia, native catfishes and freshwater prawns is picking up due to culture based production being adopted at a faster pace
- Three Indian Major Carp (IMC) species Catla, Rohu and Mrigal together contribute a lion's share in production
- Exotic carps form the next important group in the IMC segment
- In the shrimp segment, most of the production comes from L. vannamei
- Rainbow trout culture and rehabilitation of native Mahaseer in cold waters of the Himalayan corridor are promising ventures

Expansion of area under Aquaculture has to become an important option to boost fish production. In this context, derelict water bodies are expected be immensely useful and be an important resource to boost fish production for meeting the future fish demands of the country. There are about 1.3 million ha of beels and other derelict water bodies in the country. Bringing these water bodies into the ambit of fisheries will tremendously boost fish production and expand fisheries in these water bodies, therefore this is one of the focus areas of the Department for increasing fish production.

The Department recognizes the need for availability of quality seed and feed for sustained growth in inland fish production in the long run. As per an estimate, the total fish seed required for optimal stocking in the existing ponds, new ponds and reservoirs is about 60,000 million fry. As against this, the seed production in FY2019-20 is about 52,171 million fry. Thus keeping in view the gap resulting from Inland fish production and other sources of production, the total estimated gap is about 15,365.38 million fry. Setting up of brood banks and hatcheries across the country is, therefore, a priority area for the Department.

Responsible Aquaculture, prevention and management of aquatic diseases, organic farming, and induced breeding are some of the other challenges to be addressed in this sector for improving productivity.

Modernization of fishing harbour is another thrust area mainly to improve hygienic conditions of the harbour facilities with the objective of enhancing export earnings and also ease congestion. The modernization project envisages improvement of auction halls, construction of a fish packing hall-cum-truck parking area, improvement of the sanitation and water supply facilities, improvement of electrifications and drainage, resurfacing of wharf backup areas, modernization of the existing buildings, construction of a finger jetty, renovation of existing RCC jetties, re-flooring of wharf frontage area, renovation of tower lightening structures, construction of rainwater harvesting system, construction of chilled fish storage facilities and construction of ice plants & cold storage, processing plants, floating dock/sleep way /sleep lift /dry dock, agri- export management etc.

Chapter-3

Major Schemes and Pragrammes of Department of Fisheries

3.1 Pradhan Mantri Matasya Sampada Yojana

To consolidate the achievements of Blue Revolution and provide focused attention to the sector, the Government of India in its Union Budget FY 2019-20 announced a new scheme, the Pradhan Mantri Matsya Sampada Yojana (PMMSY). As the flagship scheme, PMMSY aims to address critical gaps in fish production and productivity, infuse innovation and modern technology, improve post-harvest infrastructure and management, modernise and strengthen value chain and traceability, establish framework for a robust fisheries management and fishers' welfare. Emphasis has been laid towards creating awareness for harnessing of fisheries potential in a sustainable, responsible, inclusive and equitable manner.

PMMSY is being implemented with active cooperation of State Governments/UT Administrations. To make it an implementable plan and a measure of building confidence among the implementing agencies, State Governments/UT Administrations have been involved from the initial stage. The plan has been formulated with the assessment of current status of fisheries activities in all States/UTs. In-depth discussions have been held to arrive at workable mechanisms and streamline the quantum of targets to ensure smooth operations at the time of execution.

3.1.1 Objectives of PMMSY

a. Harnessing of fisheries potential in a sustainable, responsible, inclusive and equitable manner



"Ecologically healthy, economically viable and socially inclusive fisheries sector that contributes towards economic

prosperity and well-being of fishers, and fish farmers and other stakeholders, food and nutritional security of the country in a sustainable and responsible manner".

To induct and promote adoption of technologies in production and post-harvest management including High-density



aquaculture in ponds, Re-circulatory Aquaculture System (RAS), Bio-floc, cage culture, live feed technology, Block chain, value addition, quality preservations and marketing etc.

- b. Enhancing of fish production and productivity through expansion, intensification, diversification and productive utilization of land and water
- c. Modernizing and strengthening of value chain, post harvest management and quality improvement

MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING

- d. Doubling fisher's and fish farmer's incomes and generation of employment
- e. Enhancing contribution to Agriculture Gross Value Added (GVA) and exports
- f. Social, physical and economic security for fishers and fish farmers
- g. Robust fisheries management and regulatory framework

3.1.2 Component of PMMSY

PMMSY is an umbrella scheme with two separate Components namely (a) Central Sector Scheme (CS) and (b) Centrally Sponsored Scheme (CSS). The CSS component is further segregated into non-beneficiary oriented and beneficiary orientated sub-components/ activities under the following three broad heads:

- a. Enhancement of production and productivity
- b. Infrastructure and post harvest management
- c. Fisheries management and regulatory framework

PMMSY has been approved at a total estimated investment of Rs. 20,050 Crores comprising of Central share of Rs. 9,407 Crores, State share of Rs 4,880 Crores and Beneficiaries contribution of Rs. 5,763 Crores.

3.1.2.1 Central Sector Scheme

The entire project/unit cost under Central Sector Scheme of PMMSY will be borne by the Central Government (i.e. 100 percent central funding) and wherever direct beneficiary oriented i.e. individual/group activities are undertaken by the entities of Central Government including National Fisheries Development Board (NFDB), the Central assistance will be up to 40 percent of the unit/project cost for General category and 60 percent for SC/ST/ Women category. It envisages investment of Rs. 1,720 Crores for a period of 5(five) years from FY 2020-21 to FY 2024-25.

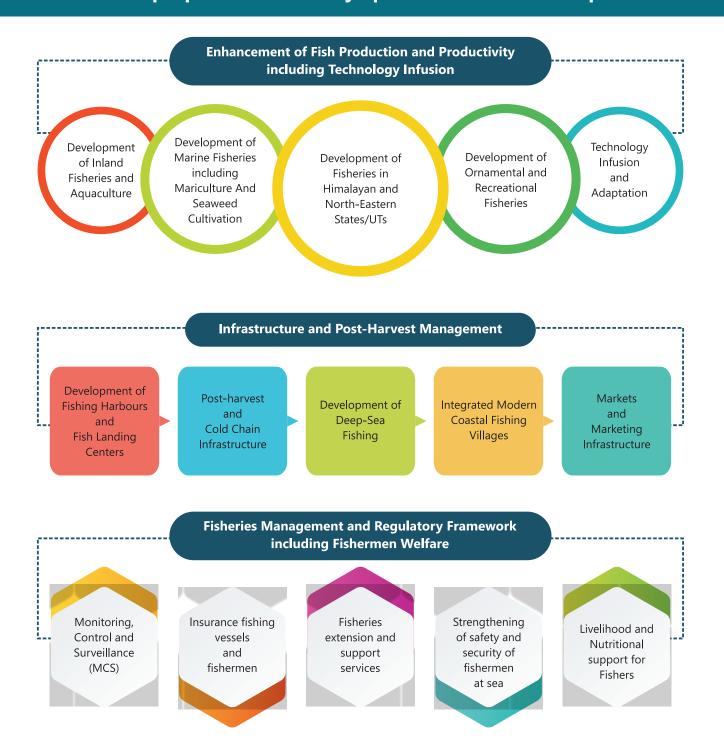
The different components/activities included under Central Sector Scheme are:

- a. Genetic improvement programmes and Nucleus Breeding Centers (NBCs)
- Innovations and innovative projects/ activities, technology demonstration including startups, incubators and pilot projects
- c. Training, awareness, exposure and capacity building
- d. Aquatic quarantine facilities
- e. Modernization of fishing harbours of central government and its entities
- f. Support to NFDB, Fisheries Institutions and Regulatory Authorities of Department of Fisheries, Government of India and need based assistance to State Fisheries Development Boards
- g. Support for survey and training vessels for
 Fisheries institutes including dredger TSD
 Sindhuraj owned by the Government
- h. Disease monitoring and surveillance network
- i. Fish data collection, fishers' survey and strengthening of fisheries database
- j. Support to security agencies to ensure safety and security of marine fishermen at sea
- k. Fish Farmers Producer Organizations/ Companies (FFPOs/Cs)
- I. Certification, accreditation, traceability and labeling
- m. Administrative expenses for implementation of PMMSY (to meet expenses of both CSS and components

3.1.2.2 Centrally Sponsored Scheme

The Centrally Sponsored Scheme (CSS) Component of PMMSY is further segregated into non-beneficiary oriented and beneficiary orientated sub-components. It envisages investment of Rs. 18,330 Crores for a period of 5(five) years from FY 2020-21 to FY 2024-25. The different broad components/ activities included under Centrally Sponsored Scheme are as below:

Activities proposed as Centrally Sponsored Scheme Components



3.1.3 Funding Patterns of Centrally Sponsored Component

For the beneficiary orientated i.e. individual/ group activities sub-components/activities under CSS component to be implemented by the States/UTs, the Government financial assistance for both Centre and States/UTs together will be limited to 40 percent of the project/unit cost for General category and 60 percent of the project/unit cost for SC/ST/Women. The Government financial assistance will in turn be shared between Centre and States/UTs in the following ratio:

- a. North Eastern & the Himalayan States: 90 percent Central share and 10 percent State share
- b. Other States: 60 percent Central share and 40 percent State share
- c. Union Territories (with legislature and without legislature): 100 percent Central share (No UT Share)

For the Non-beneficiary orientated subcomponents/activities under CSS component to be implemented by the States/UTs, the entire project/unit cost will be shared between Centre and State/UTs as detailed below:

- a. North Eastern & Himalayan States: 90 percent Central share and 10 percent State share
- b. Other States: 60 percent Central share and 40 percent State share
- c. Union Territories (with legislature and without legislature): 100 percent Central share

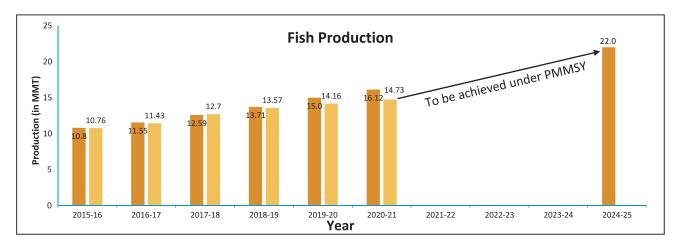
The sharing funding pattern regarding "Livelihood and nutritional support for socio economically backward, active traditional fishers families for conservation of fisheries resources during fish ban/lean period" under PMMSY is summarized as below:

States/UTs	Funding pattern	Contribution
(i)	(ii)	(iii)
General States	50:50 Centre and General States	Centre share Rs. 1500 + State share Rs. 1500 + Beneficiary share Rs. 1500 = Rs. 4500/-year
North East and Himalayan States	80:20 Centre and NE & Himalayan States	Centre share Rs. 2400 + State share Rs. 600 + Beneficiary share Rs. 1500 = Rs. 4500/- year
Union Territories	100% as Centre share for UTs (with legislature and without legislature)	Centre share Rs. 3000 + Beneficiary share Rs.1500 = Rs. 4500/- year

3.1.4 Outcomes of PMMSY

PMMSY targeted a growth rate of about 9 percent annually on a sustainable basis over a period of five years (2020-25). It is possible to achieve the target if production is targeted at 22 MMT by end of 2024-25. The ambitious scheme will result in doubling export earnings to Rs. 1,00,000 Crores

and generate direct and indirect employment opportunities of about 55 Lakhs in the Fisheries sector over a period of five years. PMMSY further intends to increase aquaculture productivity to 5 tonnes per ha, enhance domestic fish consumption and attract investments in fisheries sector from other sources. Insurance coverage for fishing vessels is being introduced for the first



b.

time under PMMSY. The fish production (actual and target) from 2015-2019 and as per PMMSY target are given in the graph above.

3.1.5 Strategies to unlock prospects

The programs and strategies for fisheries and aquaculture development in the country under PMMSY have been developed keeping in view the objectives identified for the sector. Greater emphasis is on 'Cluster Based Approach' wherever feasible, with suitable backward and forward linkages with an equally strong focus on management and conservation of the resources as envisaged under the scheme.

3.1.6 Integrated approach for fisheries development

Integration of various production-oriented activities such as (i) Production of quality fish seeds by establishing hatchery (ii) Production of cost effective feed from locally available ingredients (iii) Availability of feasible aquaculture technology (iv) Creation of post-harvest facilities (v) Marketing facilities in close vicinity where commercial aquaculture is undertaken would enhance fish production and cluster based approach by forming groups among entrepreneurs and progressive fish farmers will be encouraged to adopt Good Aquaculture Practice (GAP).

- common method of aquaculture and major source of fish production in the country. Effective utilisation of the existing ponds and tanks resources through semi-intensive to intensive aquaculture is one of the priority activities of the Department.
 - Culture based fisheries in wetlands and reservoirs: When the fish harvest in an open water system depends solely or mainly on artificial recruitment (stocking) it is referred to as a culture-based fisheries. Reservoir fisheries management through different approaches such as Culture-Based Fisheries (CBF) and enclosure culture techniques like cage farming in reservoirs are gaining momentum these days as they have proven to create employment for the growing human resource of the country. Wetlands are among the most productive aquatic ecosystems support rich biodiversity and are important feeding and breeding grounds of freshwater fishes. Besides, floodplain wetlands are an important resource for fish production and livelihood. Supplementary stocking of fingerlings of native species in wetland and reservoir, developing adequate

rearing space for ex-situ fingerling production and in-situ seed production in floating cages and pens will be instrumental in enhancing fish production from reservoir and wetland.

- **Fish seed production:** Quality fish seed is C. a prime requirement for aquaculture and culture-based fisheries. A national freshwater fish brood bank is established by National Fisheries Development Board (NFDB) for production of good quality brooders of commercially important species with the technical support of ICAR-Central Institute for Freshwater Aquaculture (CIFA) and ICAR-National Bureau of Fish Genetic Resources (NBFGR). Other issues to be considered for strengthening seed production sector are establishment of brood banks in each state and up-gradation of hatcheries for maintaining and holding the quality brood as well as nursery rearing. Transfer of breeding and seed production technology from laboratory to farmers field needs to be addressed.
- d. Promotion of feed-based aquaculture:

 Development of fish feed mills and scaling up of feed production from the existing feed mills is envisaged besides popularization of extruded feed-based aquaculture to achieve targeted production and productivity.
- e. Diversification of culture species:

 Freshwater aquaculture in India is carpcentric hence introduction of exotic and other diversified species that can contribute to increase in fish production, without any adverse impact on the native species and the ecosystem shall be promoted.

f. Additional infrastructure for Specific Pathogen Free (SPF) shrimp seed:
Shrimp Brood Multiplication Centres (BMCs) are the facilities which receive the Specific Pathogen Free (SPF) Post Larvae (PL) from Nucleus Breeding Centre (NBC) and rear PL up to adult brood stock for supply to hatcheries under strict bio security and close disease surveillance. It is proposed to establish more BMCs and hatcheries to fill the gap of shrimp seed requirements.

Areas which require policy level interventions for enhancing fish production and productivity for convergence with related schemes such as Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), Rashtriya Krishi Vikas Yojana (RKVY) and Sagarmala etc.

3.1.7 National Surveillance Programme for Aquatic Animal Diseases (NSPAAD)

The National Surveillance Programme for Aquatic Animal Diseases (NSPAAD) was initiated in April, 2013 for the purpose of monitoring of aquatic animal diseases of national and international concern and control of their spread. It has become a primary requirement for effective health management and ultimately for sustainable aquaculture. This programme is also aimed at providing scientifically accurate and cost-effective information for assessing and managing risks of pathogen transfer associated with trade in aquatic animals and improve production efficiency. The other objective of the programme is rapid detection of new and exotic infectious diseases through advanced diagnostic techniques. It also helps in certifying freedom from diseases of concern within a defined geographical area or a specific population and gives boost to our aquatic animal exports. The programme is being implemented to cover 19 selected States and 2 Union Territories of aquaculture importance through the involvement of 31 identified collaborating centres in the country in a network mode involving ICAR Fishery Institutes, Colleges of Fisheries, State Fisheries Departments and other relevant collaborating partners.

NSPAAD is being supported under PMMSY with active involvement of stakeholders especially State/UT governments and research institutions. The programme has been extended for implementation till March, 2022. Quarterly Aquatic Animal Disease Reports for all the four quarters during the year under report were compiled based on the inputs generated from NSPAAD and submitted to OIE Regional Representative for Asia and the Pacific and Network of Aquaculture Centre in Asia Pacific.

Road map for institutionalization of the programme in consultation with the States/UTs/ICAR institutes/State Agriculture Universities and other concerned institutes/ organizations is being prepared.

3.1.8 Directorate of Aquatic Animal Health and Quarantine (DAAHQ)

The Directorate of Aquatic Animal Health & Quarantine (DAAHQ) was set up in the Department of Fisheries for establishing Aquatic Animal Quarantine Unit (AAQU) and Disease Diagnostic Laboratory (DDL) one each on East Coast in Chennai and West Coast near Mumbai with a coordinating unit at Head Quarter in New Delhi. For the AAQU and DDL in Chennai, the land was acquired at Padappai, Kanchipuram District of Chennai, Tamil Nadu and the design and layout of the building have also been finalized. The Department has issued necessary approvals for the construction of the building for AAQU and DDL facilities at Padappai, Chennai through Central Public Works Department (CPWD) at a cost of Rs. 19.27 Crores. The foundation stone for

these facilities has been laid by Hon'ble Minister of Fisheries, Animal Husbandry & Dairying on 21st January, 2021. The construction of the aquatic animal quarantine unit and disease diagnostic laboratory is undergoing by the CPWD. For setting up of the AAQU and DDL around Mumbai for the West Coast, the Department has undertaken preliminary inspection of the alternative sites offered by Government of Maharashtra. Based on the recommendation of the inspection team, the Department has considered 10 acre land at Aarey Fish Seed Center, Goregaon, Mumbai, which will be acquired from Government of Maharashtra through transfer after appropriate clearance from the concerned authorities and completion of formalities of transfer of the land.

Besides, special focus is being given for establishment of aquatic quarantine facilities in the country for aquatic animals and their products under PMMSY. Approximately 5 Aquatic Quarantine Facilities will be established in the country based on the requirement under PMMSY. The unit cost for each AQF will be as per DPR with an upper ceiling of Rs. 20 Crores for project.

3.1.9 Achievements of Pradhan Mantri Matsya Sampada Yojana (PMMSY)

PMMSY with diverse interventions and activities along the fisheries value chain in terms of production and productivity, quality, technology, infrastructure and management has aimed to transform the fisheries sector and usher economic prosperity for fishermen and fish farmers.

The inland fish production dominates the total fish production in India contributing around 76% of the total production in the country. To harness it full potential PMMSY is expanding, intensifying and diversifying inland fisheries through technology infusion, establishing new freshwater hatcheries and brood banks, constructing new

rearing and grow-out ponds, constructing cages and pens in reservoirs, developing cold-water fisheries. The projects sanctioned are being implemented across 34 States/UTs in the country under centrally supported and centrally sponsored components of PMMSY.

PMMSY is driving in technology-based fish farming for increasing the production and productivity of the land and water. The Department is fostering advanced modern fish farming technologies like BioFloc Technology and Recirculatory Aquaculture system (RAS) by investing Rs 1,236 Crores over the next 4 years. Installation of sea cages and pen culture in the reservoirs are being planned through an investment of Rs 636.00 Crores.

There are about 5,701 large dams in the country and many medium and small reservoirs with coverage of over 32 lakh ha. These reservoirs are the 'sleeping giants' and PMMSY is targeting to harness their potential by development of integrated reservoirs. The Department is committed for installing 20,000 cages in the reservoirs and water bodies which in turn would produce additional 60,000 MT of fishes by 2025.

India's aquaculture export growth is predominantly due to the success of brackish water aquaculture of shrimp. India has 11.86 lakh ha of land area suitable for brackish water aquaculture. However only 1.84 lakh ha (15.5 percent) area is used for brackish water aquaculture. Additionally, India has 2.73 lakh ha of Saline/ Alkaline soil of which only 726 ha (0.27 percent) is put to use. The Department is thus promoting technologies to harness the potential of unutilized saline-alkaline culture and brackish waterbody for commercial fish farming.

Under PMMSY, area expansion under PMMSY is being focused on inland regions having alkaline and saline soils in a cluster-based approach by converting these waste lands into wealth land. Accordingly, Rs. 1,772 Crores has been earmarked under PMMSY for bringing in additional 4,000 Ha of saline area under shrimp aquaculture in the states of Haryana, Punjab, Rajasthan, and Uttar Pradesh.

The Himalayan region of India is bestowed with extensive hill ranges and forests with diverse aquatic resources in the form of large rivers, tributaries, hill streams, lakes, and reservoirs. With such immense and varied cold-water resources, the Himalavan States/UTs have treasured indigenous fish germplasm and species endemic to the region. At the higher altitudes there is a tremendous scope for the development of 'lowvolume, high-value species' such as Trout, especially Rainbow species, Snow Trout, Brown Trout as well as Mahseer, and Exotic Carps. With the aim of development of cold-water fishery, we are investing Rs 330 Crores for the cold-water fishery. We are constantly exploring ways to further strengthen the entire cold water fishery value chain to unleash its true potential.

Ornamental fish keeping is the second most common hobby in the world, second to photography. It forms an important commercial component of aquaculture, providing for aesthetic requirements and upkeep of the environment. To provide stimulus to ornamental and recreational fishery PMMSY envisages Rs 576 Crores for creating employment and lively opportunity for 1 lakh rural youth. PMMSY is supporting ornamental fish cultivation by establishing production units, introducing commercially important exotic species, importing breeding technology, and extending technological marketing and logistical support to the entrepreneurs.

Seaweed farming has emerged as a sector with the potential to transform the lives of coastal communities, providing large scale employment and diversifying incomes. Under PMMSY, it is envisaged to revolutionize the Seaweed farming sector with an increase in the seaweed production in the country from the current levels to 11.2 lakh tonne wet weight in 5 years. An investment of Rs. 640 Crores has been earmarked for development of seaweed farming, wherein Seaweed seed banks, nurseries, tissue culture units, processing, and marketing units, etc. will be established in all coastal States and UTs. In this endeavour, the Department has already accredited 54,000 rafts and 63,531 monoline tubenet for seaweed cultivation.

For the purpose of minimizing the post-harvest losses, the Department is strengthening the supply chain gaps by providing efficient logistic solutions, modernisation of fishing harbour, fish landing centre with state-of-the-art infrastructure and amenities for fish transportation facility with ancillary units, ice plants and cold storages. PMMSY have earmarked Rs 3,340 Crores for modernisation and development of Fishing harbours and fish landing centres. Entrepreneurship model for value addition and better price realisation to the farmers is being promoted.

The Department has adopted a holistic approach for the overall development of the sector with focus on raising overall fish production as well as consumption. For creating a retail network of organized fish sales, PMMSY has earmarked Rs 1000 Crores for establishing a retail network by setting up ultra-modern fish kiosks and other market infrastructure in the urban, peri-urban, and semi urban locations.

To harness the power of collectivism, the Department has tailored a guideline for promoting Fish Farmer Producer Organizations (FFPO) for creation of 500 FFPOs across the nation. The Department has conferred approval to National Co-operative for Disease Control (NCDC) for setting up of 50 FFPOs at a total cost of Rs. 24.50 Crores and Rs. 10 Crores to National Fisheries Development Board (NFDB) for setting up of 22 FFPOs under PMMSY.

The marine fishery potential in the Indian waters have has been estimated at 5.31 MMT and PMMSY is promoting sustainable fishing by modernizing and upgrading the fishing vessels, purchase of deep-sea fishing vessels, replacement of boat, open sea cage culture and creation of infrastructure such as fishing harbour, fish landing centre, development of integrated modern coastal villages. The scheme also extends livelihood support to the fishermen fisherfolk during lean and ban period and provides social safety and security net to the fishermen and fisherfolk.

For ensuring socio-economic-safety net of the fishers for the overall safety, security, and welfare we have launched 'saving cum relief fund' under PMMSY with a financial assistance of Rs 4,500 per family to support our fishers during the fish ban and fish lean period. A fund of Rs 60.27 Lakhs is already sanctioned in this regard. A Group Accidental Insurance Scheme (GAIS) has also been launched for fishermen with a total cover of Rs. 5 Lakhs against and permanent disability, Rs 2.5 Lakhs against partial disability, Rs 25,000 against accidental hospitalization.

With the outset adoption of the proposed interventions, the PMMSY scheme is poised to realize 9 percent of average annual growth rate and accomplish its production target of 220 lakh MT by year 2025, from its current production of 141.54 lakh MT. This will be realized by gradually stepping up from subsistence to scientific

methods of fish farming by skilling and capacity building of the fishermen and fisherfolk.

Major achievements in FY 2021-22 (as on 31st December 2021) are as follows:

- a. Central assistance of Rs. 720.86 Crores released for fisheries sector
- b. Assistance provided for bringing 3,363 ha area under inland aquaculture
- c. 1223 Recirculatory Aquaculture Systems (RAS) and 1,073 Biofloc approved
- d. Approved installation of 10,990 cages and 126 ha pens in reservoirs and other open water bodies
- e. Approved establishment of 120 fish/ prawn hatcheries
- f. Approved 479 ha of pond area approved under saline-alkaline culture
- g. Approved 725 Ornamental Fish rearing units
- h. Approved 101 Deep Sea Fishing Vessels and 260 up gradation of existing fishing vessels
- i. Constructed 1,353 Bio-toilets in mechanized fishing vessels
- j. 1,074 replacement boats and nets for fishermen
- k. Approved 131 cold storages and 152 feed mill units
- I. 81 fish retail markets and 918 fish kiosks including ornamental kiosks approved
- m. Livelihood and nutritional support for 6,48,462, fishers' families for conservation of fisheries resources during fishing ban/lean period
- n. 29 Matsya Seva Kendra for extension and support services

With the immense support from all States governments, UT administrations, apex research

and government organisations and other stakeholders, the Department is determined to take the fisheries sector to newer heights and contribute towards making a 'Aatm Nirbhar Bharat'.

3.2 Fisheries and Aquaculture Infrastructure Development Fund

To address the gaps in fisheries infrastructure, the government has created the Fisheries and Aquaculture Infrastructure Development Fund (FIDF) during FY 2018-19 with a total fund size of Rs. 7,522.48 Crores. FIDF provides concessional finance / loan to the Eligible Entities (EEs), including State Governments/UT Administrations and State entities for development of identified fisheries infrastructure facilities. The concessional finance under FIDF is provided by the Nodal Loaning Entities (NLEs) namely,

- a. National Bank for Agriculture and Rural Development (NABARD)
- b. National Cooperatives Development Corporation (NCDC)
- c. All scheduled Banks

Under FIDF, the Department provides interest subvention up to 3 percent per annum for providing the concessional finance by the NLEs at the interest rate not lower than 5 percent per annum. Loan lending period under FIDF is five years from FY2018-19 to FY2022-23 and maximum repayment period of 12 years inclusive of moratorium of 2 years on repayment of principal.

Under FIDF, so far, proposals to the tune of Rs. 6069.89 Crores have been received from various eligible Entities (EEs) including State Governments and Union Territories. These proposals have been received from a total of 21 States/UTs namely Andhra Pradesh, Tamil Nadu,

Maharashtra, J&K, Telangana, Mizoram, West Bengal, Assam, Lakshadweep, Gujarat, Uttar Pradesh, Odisha and Haryana, Himachal Pradesh, Manipur, Andaman and Nicobar, Kerala, Tripura, Goa and Bihar. The Department has approved proposals to the tune of Rs. 3,783.46 Crores from various States/UTs including the proposals with an investment of Rs. 117.61 Crores to private beneficiaries. A total of 14 harbours have been approved under FIDF at a total cost of Rs. 3,451.32 Crores for Tamil Nadu (5 harbours), Andhra Pradesh (4 harbours) and Gujarat (5 harbours).

An amount of Rs. 865.39 Crores has been sanctioned by Nodal Loaning Entities (NLEs). NABARD has sanctioned an amount of Rs. 700.78 Crores to Government of Tamil Nadu for fishing harbour projects and released an amount of Rs. 229.42 Crores to Government of Tamil Nadu in 5 disbursements. Amounts of Rs. 5 Crores and Rs. 150 Crores have been sanctioned to Government of Goa and Government of Gujarat respectively.

The Tripartite MoA is executed between the (i) concerned (loan availing) State Government (ii) NABARD and (iii) Department of Fisheries (DoF) Ministry of Fisheries, Animal Husbandry and Dairying funding the State/UTs projects under FIDF by NABARD. However, so far, only 9 States Governments namely Tamil Nadu, Gujarat, West Bengal, Andhra Pradesh, Karnataka, Kerala, Maharashtra, Haryana, Goa and UT of Jammu and Kashmir have signed the Tripartite Memorandum of Agreement (MoA) for availing the initial concessional finance.

3.3 Kisan Credit Card (KCC) to Animal Husbandry farmers and Fisheries

In the Budget Announcement FY 2018-19, the Government announced extension of facilities of Kisan Credit Card (KCC) to the Animal Husbandry and fisheries farmers with a purpose to help them

for meeting their working capital requirements.

The guidelines for extension of KCC facility to the Animal Husbandry farmers and fisheries has been issued by the Reserve Bank of India (RBI) vide their letter dated 4th February, 2019. Fishers, fish farmers (individual & groups/ partners / share croppers / tenant farmers), Self Help Groups, Joint Liability Groups and Women groups are eligible for availing the KCC facilities.

The fisheries related working capital components covered under KCC include recurring costs towards seed, feed, organic and inorganic fertilizers, lime/other soil conditioners, harvesting and marketing charges, fuel / electricity charges, labour, lease rent (if leased water area) etc. For capture fisheries, the working capital may include cost of fuel, ice, labouring charges, mooring/landing charges etc.

Credit limit of Rs. 3 Lakhs for the farmers already possessing KCC and involved in activities related to Animal Husbandry and Fisheries has been fixed. For the new KCC holders (farmers) of Animal Husbandry and Fisheries credit limit of Rs. 2 Lakhs per annum has been fixed.

The Department of Fisheries, Government of India had been pursuing with all the States /UTs and State Level Bankers Committee (SLBC) to sensitise and disseminate information amongst the fishers and fish farmers about on KCC through special camps and other modes of communications. To further streamline the process of credit delivery through KCC to the animal husbandry and fisheries farmers, a Standard Operating Procedure (SOP)/Guidelines for issue of separate KCC for Animal Husbandry, Dairy and Fisheries farmers was issued by Department of Financial Services (DFS) on 24th September 2021.

MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING

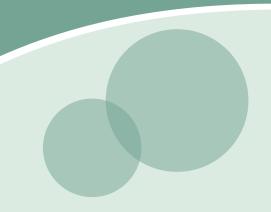
To expand the benefit of KCC to all the eligible fishers and fish farmers in the country, the Department in association with the Department of Financial Services (DFS), has organized a 'Nationwide Fishery KCC Campaign' from 15th November, 2021 to 15th February 2022. In this campaign, the Department has given a target to each State/UT for saturating all eligible fishers and fish farmers who have not yet been covered

in the earlier campaign and are involved in various fisheries activities like fish vending, fish drying, marketing, fish workers, fish vendors and other categories of persons directly involved in fishing and fishery related activities.

As of now, a total of 77,589 KCCs have been issued and additional 4.5 lakhs applications from fishers and fish farmers are with bank at various stages of issuance.



JOF Jallery 2021-22



Fish harbour located at Chennai port



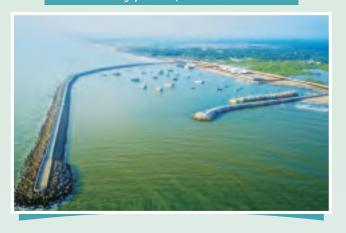
Fish cage culture with high stocking density in the reservoirs of Jharkhand



Fish mobile van, Jharkhand



Modern fishing harbour at Poompuhar in Nagapattinam, Tamil Nadu



Fish cage culture in Chandil dam, Seraikela Kharsawan district, Jharkhand



Fish mobile van, Uttar Pradesh



Tallery 2021-22

Fisherwomen SHG in Kochi, Kerala-Processing fish with fish drier



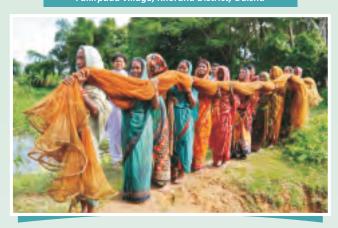
Fisherwomen working in Shrimp processing plant, Kochi, Kerala



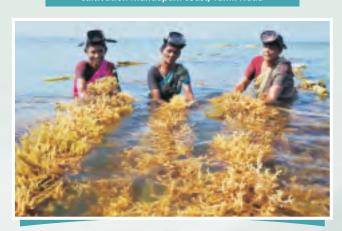
Farm pond aquaculture in Bhalaguri village, Baska District, Assam



Shelf Help Group (SHG) of fisherwomen, Fakirpada village, Khordha District, Odisha



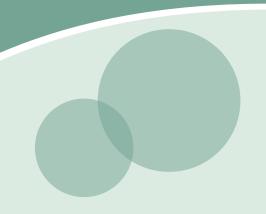
Fisherwomen engaged in seaweed cultivation Mandapam coast, Tamil Nadu



Biofloc tanks, Arnia District, J&K



JUF Jallery 2021-22



Fish farmer getting KCC facility at PNB bank in Uttarakhand



Sea cage culture in Kochi, Kerala



Motorised fishing vessels, Kochi Harbour



Support to fishermen for nets and boats



Mechanised fishing vessels, Kochi Harbour



Prashikshani- Modern Deep Sea fishing Vessel, Kochi Harbour



JOF Jallery 2021-22

Boat and net replacement



Srinibas Batula, Large Bio Floc Unit, Ganjam



Fish production using Biofloc, Bhagabanpur



Fish hatchery at Baleshwar, Odisha



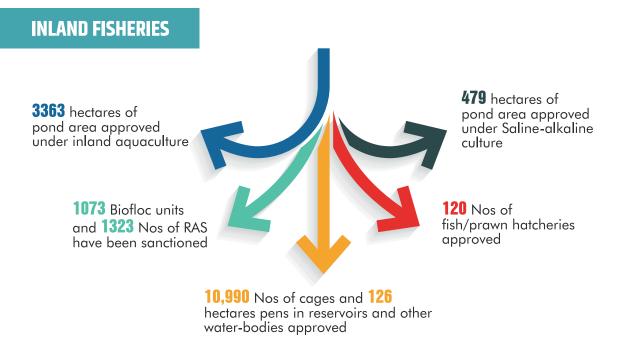
Distribution of three-wheelers and motor cycles, Nayagarh District, Odisha



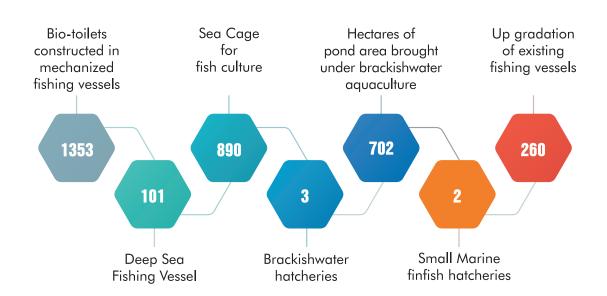


PMMSY Physical Achievements

Details of sector-wise Achievements under PMMSY during the year 2021-22 till 31st December 2021



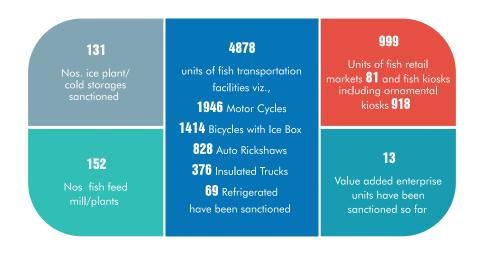
MARINE FISHERIES



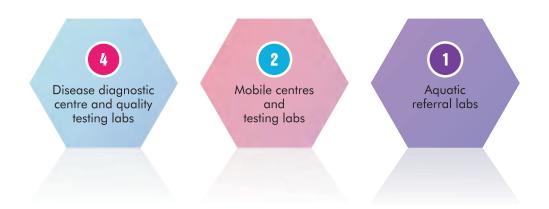
FISHERMEN WELFARE



FISHERIES INFRASTRUCTURE



AQUATIC HEALTH MANAGEMENT



MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING

ORNAMENTAL FISHERIES



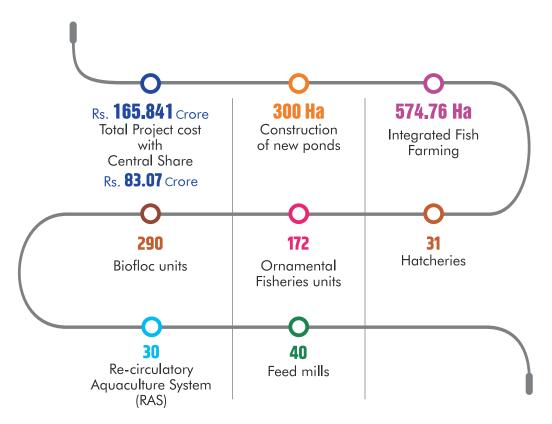
SEAWEED CULTIVATION



COLDWATER FISHERIES



DEVELOPMENT IN NORTH EAST REGIONS



State/UT-wise details of the aforesaid achievements under the North East Region Activities are included under all the relevant Annexures of the each component.

OTHER IMPORTANT ACTIVITIES



3.6 Important Programmes Organised

3.6.1 Celebration of Azadi Ka Amrit Mahotsava (AKAM)

Independence Day, 15th August, is celebrated with great fervor throughout the country to pay tribute to the freedom fighters and remember their sacrifice. It is also a time to celebrate the feeling of nationalism and pride and foster the same amongst the youth and younger generations. Government of India thus decided to celebrate "*Aazadi ka Amrit Mahotsav*" to commemorate the 75th glorious years of India's Independence. In view of the same, a meeting of Sectoral Group of Secretaries (SGOs) on Rural and Agriculture was held under the Chairmanship of Secretary, Department of Agriculture Cooperation & Farmers welfare on 8th March, 2021 to finalize the plan of celebration for India @75.

The Mahotsav, titled 'India @75', was launched on 12th March, 2021 by Hon'ble Prime Minister and thereafter, the series of events and programmes are to continue for 75 weeks. Department of Fisheries has proposed events along with the tentative schedule for the Mahotsav. The objective of the campaign, as undertaken by this Department, is to showcase the development in the fisheries Sector and highlights its contribution towards the *Aatm Nirbhar Bharat* vision.

Following the COVID-19 protocol, the following webinars were orgnisaed:

a. Webinar 1 on "Pradhan Mantri Matsya Sampada Yojana" (PMMSY) was organized on 12th April, 2021, under the chairmanship of Joint Secretary (IF) & Joint Secretary (MF). The webinar was attended by more than 570 participants from various fields such as farmers, entrepreneurs, fisheries graduates, officials from State and Central Government Departments and various institutes.

- b. Webinar 2 on "Standard, Certification and Traceability in Fisheries Sector" was organized on 29th June 2021, under the chairmanship of Secretary, Department of Fisheries. The event was a great success with about 75 participants including the experts and other stakeholder along the aquatic product value chain attained the webinar.
- c. Webinar 3 on "Quality Seed Production" was organized on 29th July, 2021, under the chairmanship of Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Gol. The event was a grand success with about 90 participants including the farmers, experts and other stake holders in aquaculture sector of the country.
- d. Webinar 4 on "Quality Seed Production For Brackishwater Aquaculture" was organized on 14th August, 2021, under the Chairmanship of Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying. The event was a grand success with about 100 participants including the farmers, experts and other stake holders in Aquaculture sector of the country.
- f. Webinar 5 on "Major Disease Problems in Freshwater Aquaculture and its Management" was held on 28th August, 2021 under the Chairmanship of Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Govt. of India. The event was a grand success with about 100 participants including the farmers, experts and other stake holders in Aquaculture sector of the country.
- g. Webinar 6 on "Fisheries and Aquaculture Extension for Sustainable Technoorganizational Transformation of Fishers and Fish Farmers" was organized on 30th

September, 2021 under the chairmanship of Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Gol. The event was a grand success with about 110 participants including the farmers, experts and other stake holders in aquaculture sector of the country.

- h. Webinar 7 on "Fish for Health and Fish for Wealth Campaign" was organized on 21st October, 2021 under the chairmanship of Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Gol. The event was a grand success with about 100 participants including the farmers, experts and other stake holders in Aquaculture sector of the country.
- ii. Webinar 8 on "Promotion of Inland Saline Water Aquaculture" was organized on 5th November, 2021, under the chairmanship of Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, GoI and well-attended by more than 100 participants.

Ministry of Culture assigned the week, 20th to 26th December 2021, to Department of Fisheries Ministry of Fisheries, Animal Husbandry & Dairying. The following activities / events were organized during the above period.

j. Webinar 9 on "Coldwater Fisheries: Untapped Resource" was organized on 22nd December, 2021, under the chairmanship of Secretary, Department of Fisheries and well-attended by more than 100 participants including officials of Department of Fisheries (DoF) and fisheries officials of different States/UTs, faculties from State Agriculture, Veterinary and Fisheries universities, entrepreneurs, scientists, farmers, hatchery owners, students and stakeholders from aquaculture industry across the country.

- Webinar 10 on "Nation- Wide Campaign k. on Kisan Credit Card (KCC) for Fisheries Sector" was organized on 23rd December, 2021, under the chairmanship of Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, GoI and attended by more than 400 participants including officials of Department of Fisheries, GoI and fisheries officials of different States/UTs, faculties from state agriculture, veterinary and fisheries universities, various national and co-operative banks, entrepreneurs, scientists, farmers, hatchery owners, students and stakeholders from aquaculture industry across the country.
 - Webinar 11 on "Cage aquaculture in Reservoir: Sleeping Giants" was organized on 28th January, 2022, under the chairmanship of Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, GoI and attended by more than 100 participants including officials of Department of Fisheries, GoI and fisheries officials of different States/UTs, faculties from State agriculture, veterinary and fisheries universities, entrepreneurs, scientists, farmers, hatchery owners, students and stakeholders from aquaculture industry across the country.

3.6.2 Swachh Bharat Mission

I.

The Department carried out a cleanliness drive on 2nd October, 2021 and conducted a *Swachhta Pakhwada* from 16th to 31st December, 2021 as per the schedule of the Department of Drinking Water and Sanitation. The *Pakhwada* began on 16th December, 2021 with *swachhta* pledge administered by Hon'ble Secretary. During the event, various activities like weeding out records, disposal of scrap material, cleaning of offices and premises, creating awareness of *Swachhta* by conducting webinars, essay competition, quiz,

MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING

distribution of *Swachhta* kits etc. were organised by the Department. The Department emphasised on *Shramdaan* by every individual. The *Pakhwada* concluded on 31st December 2021 with encouraging words from Hon'ble Secretary for employees of the Department to make *Swachhta* a 'habit for life'.

3.6.3 Rashtriya Ekta Diwas/National Unity Day

Rashtriya Ekta Diwas was observed on 31st October, 2021 in the Department. All officers and staff participated in the pledge administered by Secretary for re-affirming the inherent strength and resilience of the people to withstand threats to the security, unity and integrity of the country.

3.6.4 Constitution Day

The Department observed Constitution Day on 26th November, 2021 and all officials read the preamble along with the President of India. Thereafter, officials gathered to take part in a quiz competition based on our Constitution and discussed the Preamble and Constitution in current scenario.

3.6.5 Vigilance Awareness Week

Vigilance awareness week was organized in the Department from 26th October to 1st November, 2021 with the theme 'Independent India @75: Self Reliance with Integrity'. The Department organized essay and quiz competitions to spread

awareness. Public Interest Disclosure and Protection of Informer (PIDPI) posters were also put up in the office complex to make spread awareness. The staff participated with great enthusiasm and zeal. The winners of the competitions were awarded with cash prize.

3.6.6 Special Campaign for disposal of pending matters:-

During 2nd to 31st October 2021, a special campaign was conducted covering all Ministries/Departments of Government of India and attachment/subordinate offices, autonomous bodies and PSUs to dispose the pending matters. The objective of the campaign was to dispose off the pending references from Members of Parliament, State Governments references, Inter-Ministerial Consultation, Parliamentary Assurances and Public Grievances. In addition, this special campaign was utilized to improve records management including weeding out of files and overall cleanliness of Government offices, redundant scrap material and obsolete and disposable items lying in the offices, with the aim to improve the office working environment.

The Department as well its sub-ordinate offices participated in the campaign. During the campaign period, 20 VIP references, 6 Parliamentary Assurances, 23 Public Grievances, 25 State Government references were disposed off. Additionally, 1500 records were reviewed out of which 1476 files were weeded out.



New Year 2022 Review Meeting





Constitution Day Celebration





Swachhta Pakhwada







Winners of Hindi Pakhwada





Fisheries Startup Grand Challenge





Nationwide launch of Kisan Credit Card (KCC) Campaign





Joji Jallery 2021-22

River Ranching Programme at Brijghat, Garh Mukteshwar, Uttar Pradesh





Review meeting with Hon'ble MoS, Dr. L. Murugan, Secretary Fisheries Shri J. N. Swain (IAS)





Vigilance awareness week





Chapter 4

Subordinate and autonomous organisations of Department of Fisheries

4.1 Introduction

The Department of Fisheries (DoF), Ministry of Fisheries, Animal Husbandry & Dairying has two autonomous/regulatory body namely the National Fisheries Development Board (NFDB), Hyderabad and Coastal Aquaculture Authority (CAA), Chennai. Along with these, DoF has four sub-ordinate institutions namely (i) Central Institute of Coastal Engineering for Fisheries (CICEF), Bengaluru (ii) Central Institute for Fisheries Nautical and Engineering Training (CIFNET), Kochi (iii) Fishery Survey of India (FSI), Mumbai and (iv) National Institute for Fisheries Post-Harvest Technology & Training (NIFPHATT), Kochi. A brief on the six organizations is are follows:

4.2 National Fisheries Development Board (NFDB)

4.2.1 History of the Institution:

National Fisheries Development Board (NFDB) was established in 2006 as an autonomous organization under the administrative control of Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India to realize the untapped potential of fisheries sector. NFDB has taken up numerous developmental activities that have improved the sector's fish production, productivity, and postharvest & marketing facilities. After the launch of Pradhan Mantri Matsya Sampada Yojana (PMMSY), NFDB has been entrusted with the work of appraisal of proposals received from the States/UTs under the component of Centrally Sponsored Scheme (CSS) of PMMSY. As per the provisions of PMMSY, a Project Appraisal Committee (PAC) headed by Chief Executive has been constituted in NFDB for appraisal of the project proposals received under the CSS component. A Project Monitoring Unit (PMU) has been constituted for monitoring the implementation of the projects sanctioned under PMMSY. NFDB has been designated as nodal agency for implementation of Insurance schemes, Entrepreneur Development Model, River Ranching, Training & Capacity Building, Certification & Traceability, Awareness & publicity campaign on PMMSY.

4.2.2 Mandate:

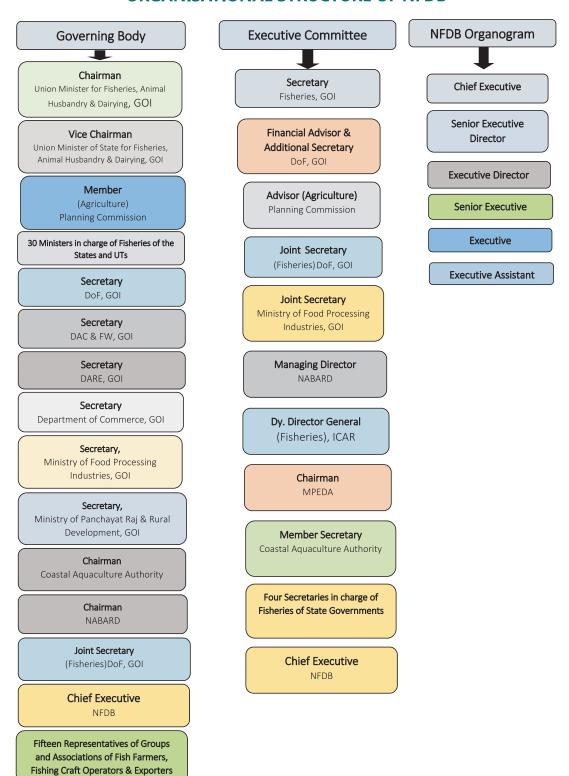
- a) To bring major activities relating to fisheries and aquaculture for focused attention and professional management
- b) To coordinate fisheries activities undertaken by Central Government and also coordinate with the State/UTs.
- c) To improve production, processing, storage, transport and marketing of the products.
- d) To achieve sustainable management and conservation of natural aquatic resources
- e) To apply modern research tools for optimizing production and productivity.
- f) To generate substantial employment
- g) To enhance contribution of fish towards food and nutritional security.

4.2.3 Organisational Structure

NFDB is headed by the Chief Executive. A Governing Body oversees the activities of NFDB under the Chairmanship of the Cabinet-Minister. The Governing Body and the Executive Committee consider and decide the activities of the Board and provide guidance. The Executive

Committee, with the Secretary of Department of Fisheries as its Chairman, provides the general superintendence, direction and the control of the affairs and functions of the Board. The NFDB organisation chart is as follows:

ORGANISATIONAL STRUCTURE OF NFDB



4.2.4 Major Initiatives & Achievements of NFDB

NFDB has received proposals from various States/UTs under Centrally Sponsored Scheme of PMMSY. NFDB has provided necessary handholding and advisory to States/UTs wherever required to prepare and submit proposals. NFDB as per Annual Action Plan 2021-22 is undertaking various need-based activities under Central Sector component of PMMSY and also activities entrusted by Department of Fisheries from time to time. The details of projects/activities undertaken by NFDB during 2021-2022 are given below:

A. PMMSY-Project Appraisal Committee (PAC) at NFDB

NFDB has requested all the States to submit proposals as per the State-wise allocations made by the Department of Fisheries. 827 Self Contained Proposals (SCPs)/DPRs under PMMSY were received from 34 States/UTs and scrutinised by NFDB. Eight meetings of PAC under the Chairmanship of CE, NFDB were held up to December, 2021 and recommended 648 projects under CSS component to Department of Fisheries for a total outlay of Rs. 3,631.94 Crores with Central share of Rs. 1,221.06 Crores.

B. NFDB – PMMSY–PMU Cell at NFDB

'Project Monitoring Unit' (PMU) has been constituted at NFDB with the CE, NFDB as the Chair person. PMU- State monitoring teams were formed and each team is assigned with monitoring the progress of projects in 6-8 States/UTs. The PMU Cell has developed the monitoring formats for data collection and checklists for field visits. PMU State teams have conducted virtual meetings with respective State Nodal officers and ascertained the progress of PMMSY projects. Financial and physical progress obtained from States/UTs and the data were analyzed by the PMU periodically. The PMU-State teams are also conducting field visits to assess the progress of PMMSY activities.

C. New Projects/Activities undertaken by NFDB

1. Entrepreneur Models in Fisheries and Aquaculture

NFDB is implementing Entrepreneur Models in Fisheries and Aquaculture under Central Sector component of PMMSY to attract enhanced private investment in fisheries and aquaculture sector. NFDB has invited applications for entrepreneur models through notification on 8th February, 2021. The proposals received were examined and 19 projects were sanctioned with a total outlay of Rs. 37.42 Crores and eligible subsidy of Rs. 10.19 Crores.

2. Group Accident Insurance Scheme (GAIS)

Insurance of fishers is one of the sub components of PMMSY scheme, under beneficiary-oriented activities. Under the scheme, fishers and any other category of persons directly involved in fishing and fisheries related activities in the age group of 18 to 70 years are eligible for insurance coverage of (i) Rs. 5.00 Lakhs against death or permanent total disability, (ii) Rs. 2.50 Lakhs against permanent partial disability and Rs. 25,000 is provided against accidental hospitalization. The scheme is implemented through M/s Oriental Insurance Company Limited with an insurance premium of Rs.72.44 per fisher. Presently, 22,14,839 fishers (as on 19th January 2022) are insured from 13 States and 7 UTs.

3. Training and Capacity Building activities

NFDB in collaboration with States/UTs fisheries departments, various Central and State academic, training and research Institutions, Universities and Colleges, Fisheries Research Stations, KVKs Aqua One Centres (AOCs) conducted awareness and training programmes on different topics of fisheries sector and PMMSY scheme activities for the benefit of fishers/fish farmers/students/

youth etc. across the country. NFDB has sanctioned for Rs. 181.65 Lakhs awareness/ training programmes to 48 no. of Institutes/ States/UTs/Fishery Universities/Colleges/AOCs/ AAHLs/ KVKs with a total 435 webinars/training programmes for the benefit of 33,193 participants. Further, out of this sanctioned amount NFDB released an amount of Rs. 99.38 Lakhs for the same. A total of 348 programmes were conducted on PMMSY benefiting 21776 participants including exclusive SCSP programmes. In addition, programmes conducted by ICAR and other institutes have covered 3,126 beneficiaries. Overall, a total of 24,902 were covered under training and capacity building programmes

4. Fish Festivals

NFDB has sponsored 3 numbers of fish festivals with an amount of Rs. 5 Lakhs each in Andhra Pradesh, Himachal Pradesh and Sikkim States to create awareness and enhance the fish consumption. Out of the above, fish mela has been organized on 20th to 21st April 2021 at Gangtok, Sikkim. The 2-day fish mela was inaugurated by Shri Prem Singh Tamang, Hon'ble Chief Minister, Sikkim.

5. Outreach and Publicity of PMMSY & Promotion of Domestic Fish Consumption

For outreach and publicity of PMMSY among the fishers, fish farmers and other stakeholders, hoardings on PMMSY were erected in various states through BOC (DAVP) at various prominent locations. NFDB posted advertisement on PMMSY scheme and Domestic Fish Consumption in Way2News short news app in various regional languages. On the occasion of Poshan Maah during September, 2021, NFDB organized a series of webinars promoting consumption of fish and other aquatic foods to improve food and nutrition security. NFDB has also broadcasted jingles on fish food consumption and its nutritive value in radio channels in various States through

Radio city 91.1 FM and Red FM 23.5. NFDB has reached through outreach activities 39.70 lakh people.

D. Ongoing Projects

(i) Demonstration and Feasibility Study of Lobster Fattening in Integration with Pompano and Seaweed in the Lagoons of Lakshadweep

NFDB has sanctioned project 'Demonstration and Feasibility Study of Lobster Fattening in Integration with Pompano and Seaweed in the Lagoons of Lakshadweep' to ICAR-CMFRI at a cost of Rs. 10 Lakhs for a period of 1 year (FY 2020-21) with 100% central assistance and entire amount has been released. The project has deployed 4 cages in the lagoons of Agatti for culturing of lobster in combination with compatible finfishes and in integration with the indigenous seaweed.

(ii) RAS for nursery rearing of marine finfish: Development and Demonstration

NFDB has sanctioned the project 'Re-circulatory Aquaculture System for nursery rearing of marine finfish: Development and Demonstration' at a total cost of Rs. 49.94 Lakhs for a period of 2 years (FY 2020-21 to FY 2021-22) with 100% Central financial assistance to ICAR-CMFRI. An amount of Rs. 25.12 Lakhs was released as first instalment during FY 2020-21. The project aims to evaluate the economic performance of nursery rearing with detailed financial indicators and develop the best possible production strategy. The technology developed on nursery rearing of Indian pompano and Orange spotted grouper in RAS will be transferred to entrepreneurs. Salinity standardization is being carried out to find out the best suitable range of salinity for a better growth rate from fry to the fingerling stage of Indian Pompano.

(iii) Cage Culture Demonstration of Indian pompano in Chandipur coast, Bahabalpur, Odisha by CMFRI

NFDB during FY 2020-21 had sanctioned the project "Cage Culture Demonstration of Indian pompano in Chandipur coast" at a cost of Rs. 257.32 Lakhs for a period of 3 years with 100% central financial assistance to ICAR-CMFRI. An amount of Rs. 200.48 Lakhs was released towards setup of 30 marine cages along Chandipur coast, Odisha. Shri Pratap Chandra Sarangi, Hon'ble Minister of State for Fisheries launched the project, in the presence of Dr. C. Suvarna, Chief Executive, NFDB on 10th January, 2021 at Bahabalpur, Balasore, Odisha. Partial harvest was made in the month of September, 2021 with a total quantity of 1.7 MT from seven cages. Total of 75,000 fingerlings of Indian Pompano have been re-stocked in all 30 cages with a stocking density of 2500/cage.

(iv) Setting Up of Aquatic Animal Health Laboratory at College of Fisheries, Dholi

NFDB has funded the project for setting up of Aquatic Animal Health Laboratory at College of Fisheries, Dholi at total cost of Rs. 120 Lakhs and released the total amount. The project's objective is to provide facilities such as water quality test, seed quality test, disease diagnosis, etc., to the fishers/ aquaprenuers/hatchery owners/fish farmers/other stakeholders. All the equipment except PCR have been procured and installed in the Aquatic Animal Health Laboratory at College of Fisheries, Dholi

(v) River Ranching

To address the depleted fish stock in rivers and improve the livelihood of fishers, River Ranching scheme has been incorporated under PMMSY on a pilot basis. During FY 2020-21, the scheme has been implemented in three river basins namely (i) Ganges and its tributaries of Ganges river system, (ii) Brahmaputra and Barak river distributaries and other rivers and (iii) Mahanadi and tributaries of Mahanadi river system, covering 8 states. NFDB has sanctioned projects to a tune of Rs.281.50 lakh and released a sum of Rs.140.75 lakh, targeted to ranch 82.13 lakh fingerlings in 6 states

namely Bihar, Uttar Pradesh, Odisha, Chattisgarh, Tripura and Uttarakhand. The hon'ble Union minister for Fisheries, Animal Husbandry & Dairying, Shri Parshottam Rupala launched the River Ranching Programme at Brijghat, Garh Mukteshwar, Uttar Pradesh on 8th October, 2021. Under the scheme, a total of 76.91 lakh fingerlings have been released in three riverine systems.





National level launch of River Ranching programme by Hon'ble Union Minister for Fisheries and Animal Husbandry & Dairying

(vi) Establishment of Breeding Units of indigenous fish species in North Eastern States

In the NER States, fish species like Magur, Singhi, Pabda and Koi have special consumer preferences and fetch high market prices. However, the commercial breeding and propagation, culture expansion of these species still remained low due to lack of adequate number of hatcheries for local fish seed production, lack of dissemination of breeding technique among the farmers and other

necessary support. To units of support the establishment of the breeding locally important indigenous fish species, NFDB has invited proposals from NER States. NFDB sanctioned and released Rs.49.80 lakh for establishment of 18 breeding units.

(vii) Seaweed Cultivation:

NFDB during FY 2019-20 sanctioned the project 'Mass seedling production of Kappaphycus alvarezii through tissue culture technique and supply of tissue cultured seedlings to the farmers of Tamil Nadu coast' to CSMCRI, Mandapam to meet the seed requirement at Total Project Cost of Rs. 96.40 Lakhs with 100% funding. Tissue culture laboratory is established at CSMCRI, Mandapam and was virtually inaugurated by Dr. C. Suvarna, CE, NFDB on 29th April 2021. Seed production of Kappaphycus alvarezii through tissue culture technique was developed for the first time in the country. The seedlings were distributed to farmers of Ramanathapuram district leading to production of 15 tonnes seaweed.

(viii) Fish Market and Price Information System (FMPIS)

NFDB is implementing Fish Market Price Information System (FMPIS) as a flagship project for analysing fish price information at fish markets from major cities and towns through a web/mobile based application by collecting and disseminating prices of commercially important inland and marine fish species. The market prices of commercially important fishes are available on a single web platform. The fish price data captured through FMPIS would facilitate better marketability (fisher/seller) and accessibility (consumer/buyer) of fish. Currently 41 wholesale fish markets, 44 retail fish markets, 17 Fish Landing Centers and 18 Fishing Harbours from 24 States and 4 UTs are under the ambit of FMPIS.

(ix) Establishment of Marine Finfish Seed Rearing Units

This project is supported by NFDB to CMFRI for the Establishment of Marine Finfish Seed Rearing Units by M/s MSR hatchery, Kakinada at a total cost of Rs. 258.45 Lakhs with NFDB assistance of Rs. 103.45 Lakhs. The hatchery produced about 1.5 million silver pompano fingerlings and 2.5 million Asian Seabass fingerlings and supplied for farming.

(x) Aquatic Animal Health & Quality Testing Laboratory

The National level laboratory established at NFDB, Hyderabad is an ISO 9001-2015 certified lab offering testing services to the fishers, farmers and other stakeholders involved in fisheries. The lab is operational with the Molecular diagnostics, Microbiology, Feed, Water and Soil, Residual testing divisions and it is well equipped with the sophisticated instruments for gene sequencing, quantification of heavy metals, profiling the amino acids and vitamins. AAHQTL has developed a training Calendar 2021-2022 and the lab is offering training to enhance the skill development by the hands-on approach. A total of 18 programmes were proposed, of which the AAHQTL conducted 10 programmes to 61 trainees (40 students and 21 private employees).

(xi) Aquatic Quarantine Facility (AQF) at Chennai

The AQF at Chennai established in 2009, plays a key role in ensuring the SPF status of imported brood stock of Litopenaeus vannamei. AQF facility is essential to mitigate the risks involved in continuous import of L. vannamei broodstock. The AQF gradually expanded phase wise over a period of 9 years with financial assistance of Rs. 20.40 Crores from NFDB. The facility has an annual capacity to accommodate 7,33,400 nos. of imported L. vannamei brood stock to support the growing demand of L. vannamei seed. In the 4th phase of expansion, the construction of 6 additional cubicles was completed with financial assistance of Rs. 7.30 Crores. The facility is commissioned by the Secretary (Fisheries), on 10th January, 2022.

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Commissioning of the 6 additional cubicles by the Secretary (Fisheries), GoI on 10th January 2022

(xii) Development and operation of Coastal Aquaculture at Mulapolam, Srikakulam District, Andhra Pradesh

As per NFDB Action Plan FY 2020-21 and FY 2021-22, NFDB was accorded approval for 'Development and operation of Coastal Aquaculture at Mulapolam in A.P (Phase-I)' with Rs. 16 Crores. NFDB has taken up infrastructure development for nursery and grow out ponds for rearing fingerlings and farming of marketable size marine fin fish (Cobia, Pompano and Sea bass) and mud crabs, with required site levelling, engineering drawings, cost estimations along with common minimum facilities such as seawater and fresh water intake, filtration, storage and supply arrangements, internal roads, electricity, generator, drainage, office building etc. Development of aquaculture infrastructure facilities for phase -I was entrusted to CPWD,

Vijayawada and the construction work is under progress. CAA permission for taking up aquaculture was obtained, EIA studies and reports were completed and other statutory clearances such as NOC from APPCB is nearing completion and CRZ clearance from APCZMA and permission for laying of seawater intake and outlet pipelines through forest land is under process. As per the direction of 40th Executive Committee, NFDB is exploring the possibilities of PPP based models for the operation of the first phase activities and development of the balance site. Expert consultants were engaged and EOI along with scope of work is under progress.



Civil construction work under progress

(xiii) Fisheries and Aquaculture Infrastructure Development Fund

To address the gaps in fisheries infrastructure, Government of India has created the Fisheries and Aquaculture Infrastructure Development Fund (FIDF) during FY 2018-19 with a fund size of Rs. 7,522.48 Crores. FIDF provides concessional finance/loan to the Eligible Entities (EEs) including State Governments/UT Administrations and State entities for development of identified fisheries infrastructure facilities. As on date, under FIDF,

project proposals with total outlay of more than Rs. 3811.716 Crores have been approved for 13 States/UTs.

E. EVENTS/CAMPAIGNS ORGANISED BY NFDB

(i) Launch of Matsya Setu App

Union Minister for Fisheries, Animal Husbandry and Dairying, Shri Giriraj Singh, had launched the Online Course Mobile App "Matsya Setu" on 6th July, 2021, developed by ICAR-CIFA with financial support of NFDB. The app aims to disseminate the latest freshwater aquaculture technologies to the fish farmers. The app has been installed by 29,815 users.





Virtual launch of Matsya Setu App by the Hon'ble Union Minister for FAHD on 6th July, 2021

(ii) National Fish Farmers Day 2021

NFDB has organized the National Fish Farmers Day celebrations through virtual mode on 10th July, 2021. Shri Parshottam Rupala, Hon'ble Union Minister for Fisheries, Animal Husbandry and Dairying; Shri L. Murugan, Hon'ble Minister of State for Fisheries, Animal Husbandry and Dairying graced the occasion as Chief guests and launched the jingles on Domestic Fish Consumption and announced the winners of taglines contest on Domestic Fish Consumption and interacted with the participants





National Fish Farmers Day celebrations through virtual mode on 10th July 2021

(iii) World Fisheries Day 2021

Department of Fisheries, in coordination with NFDB celebrated World Fisheries Day at Bhubaneswar on 21st November, 2021. The Hon'ble Union minister for Fisheries, Animal Husbandry and Dairying, Shri Parshottam Rupala, and the Hon'ble Minister of State for Fisheries, Animal Husbandry and Dairying Dr. L. Murugan inaugurated the World Fisheries Day as Chief

guests 2021. Government of India awarded the best performing States: Inland, Marine, Hilly and North-eastern region; best District: Inland, Marine, Hilly & North-eastern region; best Quasi Government Organization/Federation/Corporation/Board: Inland, Marine, Hilly& Northeastern region. Besides these, awards were also presented to best Fish Farmer: Inland, Marine and Hilly & NE Region; best Hatchery: Fish, shrimp and Trout Hatchery; best Fisheries Enterprises, best Fisheries Co-operative societies/FPOs/SHGs, best Individual Entrepreneurs, best Innovation idea/Technology Infusion.



World Fisheries Day: Lightening of the lamp



Release of Publications

F. NFDB- Regional Centres

(i) NFDB-Eastern Regional Centre, Bhubaneswar

NFDB-ERC was established at Bhubaneswar. The Centre is coordinating with the States of Odisha,

Chhattisgarh and West Bengal in obtaining the proposals under PMMSY and their scrutiny. The Centre is operating the National Freshwater Fish Brood Bank (NFFBB) set up in 2013 with the objectives to maintain genetically improved fish brood-stock and to produce breeder seed along with its distribution to accredited hatcheries. NFFBB as on 31st December 2021 supplied 27.17 Crore fish seed to 14 States. Around 6155.3 Kg of brooders of improved Catla, Jayanti Rohu, Amur carp, Grass carp, puntius spp. and scampi were also supplied. NFDB-ERC conducted awareness and training programmes on brood stock management, quality seed production, Poshan Maah (till 31st December 2021) to hatchery operators, seed growers, grow out farmers, students, SHG women and youth belonging to Scheduled Caste, after withdrawal of COVID-19 restrictions.

ii. NFDB-North Eastern Regional Centre, Guwahati

NFDB established the North East Regional Centre in 2014 at Guwahati. The main objective of NFDB-NERC is to Co-ordinate with the 8 North Eastern States of India for development of fisheries and aquaculture in the region. The Centre has been playing a pivotal role in development of fisheries in the region through technical guidance, awareness programs, training, workshops, financial support etc. NFDB-NERC has conducted webinar on 'Domestic Fish Consumption: Supporting food and nutritional security in NE State' during Poshan Maah, 2021. The Centre has also conducted one day physical awareness programs on PMMSY and FIDF schemes to fish farmers, fishers, unemployed youth, fisheries professionals etc. On the occasion of 'Azadi Ka Amrit Mahotsav', awareness programme on fisheries was conducted for School/College students in collaboration with College of Fisheries, AAU, Raha, Assam.

4.3 Coastal Aquaculture Authority (CAA)

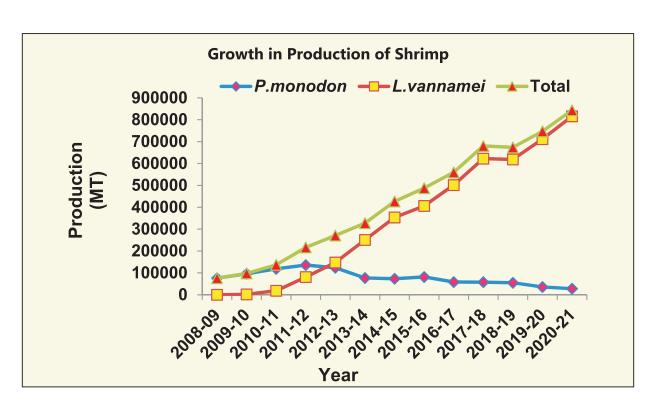
Coastal Aquaculture Authority was established under the Coastal Aquaculture Authority Act, 2005. The main objective of the Authority is to promote sustainable development without causing damage to the coastal environment following responsible coastal aquaculture practices and to protect the livelihood of various stakeholders living in the coastal area. Under CAA Act, 2005, it is mandatory for all persons carrying out coastal aquaculture to register their farms with the CAA as per the procedures laid down in the Coastal Aquaculture Authority Rules/ Guidelines. Registration is valid for a period of five years, which can be renewed from time to time for a like period. A number of measures such as organizing awareness camps, publicity through newspapers etc. have been initiated by the Authority to ensure registration of all eligible coastal aquaculture farms as also complying with the guidelines laid down.

CAA is assisted by the State Level Committees (SLC) and the District Level Committees (DLC) set

up under Chapter V, Rule 10 (sub Rule 9) of CAA Rules, 2005. In the case of farms up to 2 ha water spread area, the DLC, upon satisfaction, recommends the applications directly to CAA for consideration of registration. In case of farms above 2 ha water spread area, the DLC shall inspect the farm to verify compliance of norms and recommend the applications to SLC, which upon satisfaction, recommend them to CAA for considering registration.

CAA was assigned the task of regulating the commercial introduction of the exotic shrimp namely SPF *Litopenaeus vannamei vide* Notification dated 15th October 2008, issued by the Department of Animal Husbandry, Dairying & Fisheries, under the Livestock Importation Act, 1898.

The shrimp production from the coastal aquaculture has increased from the level of 84,000 MT during the year 2008-09 to the level of 8.43 lakh MT during the year 2020-21. Given the available potential for coastal aquaculture it is expected to grow further.



It is significant to point out that no other food production sector in the country has achieved such high growth rates in the past 10 years as achieved by aquaculture.

4.3.1 Appointment of Chairperson of CAA

Government of India vide its order no 9-6/2017-Admin-V dated 25th October 2021 appointed Hon'ble Justice Amar Singh Chauhan, Retd. Judge of High Court of Allahabad as the Chairperson of Coastal Aquaculture Authority, Chennai.

4.3.2 Achievements of Coastal Aquaculture Authority (January to December 2021)

Registration/Renewal of Registration of farms:

- a. Total of 42,228 farms with total farm area 64403.07 ha (WSA-43,475.51 ha) received from SLCs/DLCs of states were registered since inception till December 2021. Out of this, a total of 1970 farms with total farm area of 2676.02 ha (WSA-1783.80 ha) were registered from January to December 2021.
- b. Renewal of registration of 9903 farms with total farm area of 18,917.87 ha (WSA 13,229.66 ha) was done from 2013 to December, 2021. During the period from January to December, 2021, 1298 farms with total farm area of 2901.65 ha (WSA-2038.22 ha) were renewed for registration.
- c. A total of 2634 Letter of Permissions (LoPs) with total farm area of 12,866.18 ha (WSA-8,628.38 ha) were issued during the period August, 2009 to December, 2021. During the period from January to December, 2021, 34 requests for Letter of Permissions with total farm area of 88.54 ha (WSA 68.62 ha) were received and all have been processed and LoP issued.

4.3.2.2 Registration/Renewal of registration of Hatcheries/NRHs:

- a. Total of 312 SPF *L. vannamei* hatcheries and 153 Nauplii Rearing Hatcheries (NRH) spread all over the coastal states with a production capacity of 70,000 million seeds (including NRH) were approved from 2009 till December 2021.
- b. A total of 4 SPF *P. monodon* hatcheries and 2 Nauplii Rearing Hatcheries (NRH) for *P. monodon* spread all over the coastal states were approved till December, 2021.
- c. Total of 12 hatcheries and 29 NRH newly established in Tamil Nadu, Andhra Pradesh and Odisha were inspected and processed for Registration during the period from January, 2021 to December, 2021.
- d. Total of 10,64,400 nos. of *L. vannamei* broodstock were permitted for import through the registered hatcheries. A total of 1,99,496 broodstock were imported from the empanelled overseas suppliers during the period January 2021 to December 2021.
- 25 hatcheries and 10 NRHs for which the e. validity of registration expired on 31st March 2021 were advised to submit a selfdeclaration on the ownership of the hatchery to validate their possession of the hatchery and readiness of the hatchery for the inspection, to enable CAA to schedule the inspection and process renewal of registration. Accordingly, CAA received Self declaration and readiness of the hatchery for the inspection from 33 hatcheries and NRHs. All the 33 hatcheries and NRHs have since been inspected by the designated Committee to process Renewal of Registration.

f. Inspection Committee of CAA in collaboration with the DLC, MPEDA and CIBA inspected 1 production facility located at East Godavari district of Andhra Pradesh for the registration of Artemia Nauplii Center during this period.

4.3.2.3 Approval of overseas suppliers of SPF *L. vannamei / SPF P. monodon* broodstock:

- a. CAA empanelled suppliers of SPF *L. vannamei* and SPF *P. monodon* brood stock based on the genetic base and disease status in consultations with CIBA, NFDB, NBFGR and MPEDA. Based on the recommendations of the committee, 14 suppliers (12 suppliers for SPF *L. vannamei* and 2 suppliers for SPF *P monodon*) were empanelled for supply of SPF brood stock to CAA permitted hatcheries.
- b. One proposal for empanelment of overseas brood stock supplier of SPF *L. vannamei* from M/s. Benchmark Genetics, Kona, Hawaii, USA was placed before the empanelment committee in a virtual meeting convened on 4th August, 2021. Virtual tour of the facility was made for evaluation was included for the first time as a progressive step towards a digital era of CAA.
- c. During the reporting period M/s. Benchmark Genetics, Florida, USA was enlisted as an empanelled supplier of SPF *L. vannamei*.

4.3.2.4 Issuance of Certificate of Compliance for antibiotic free aqua inputs:

CAA has so far issued Certificate of Compliance for 3,574 aqua inputs in eight categories (up to December, 2021). During the period January to December 2021, Certificate of Compliance have been issued to 389 products based on applications from 70 manufacturers.

4.3.3 Monitoring Activities:

Monitoring Assistants have been appointed by CAA on contractual basis for monitoring the registered farms and hatcheries, to aid in registration of unregistered farms and hatcheries, collect samples of soil, water, animal from farms and hatcheries, aquaculture inputs from farms, hatcheries and aqua shops and conduct awareness programmes at various hotspots of coastal aquaculture in all the coastal states/UTs.

a. Environmental monitoring:

CAA officials visited hatcheries and farms located in Andhra Pradesh, Tamil Nadu, Gujarat, Goa, Karnataka, Maharashtra and West Bengal. Water samples from the final discharge point of ETS of hatcheries and farms were collected for analysis. The water quality parameters showed no deviation from the prescribed standards.

b. Antibiotic residue monitoring:

In 2021, CAA and MPEDA officials visited 305 hatcheries located at Andhra Pradesh and Tamil Nadu to collect seed samples from 103 hatcheries under National Residue Control Programme (NRCP) (January to December, 2021). Action has been initiated against 16 hatcheries that were issued with show-cause for the detection of antibiotic metabolites repeatedly in the seed samples collected under NRCP programme.

c. Monitoring of hatcheries:

CAA officials along with the officials of Department of Fisheries, Tamil Nadu conducted joint monitoring of the hatcheries located at Chengalpattu District, Tamil Nadu on 6th to 11th October, 2021 and again on 18th June, 2015. The team visited a total of 27 hatcheries and found unauthorised seed production of *L. vannamei* taking place in one unregistered hatchery and *P. monodon* in another 5 hatcheries without

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permission. The registration of hatcheries has been cancelled and the bank guarantee submitted by the hatchery has been invoked.

CAA representatives joined with the state fisheries officials of Government of Andhra Pradesh to conduct surprise inspection of hatcheries in Andhra Pradesh for spurious seed production. 307 hatcheries located at Nellore, Prakasam, Guntur, East Godavari, Visakhapatnam, Vizianagaram and Srikakaulam districts were inspected. One hatchery was engaged in unauthorised seed production of P. monodon at Nellore district and another unregistered hatchery at East Godavari district, Andhra Pradesh was engaged in seed production of L. vannamei without permission. Action has been initiated on the registered hatcheries to suspend the operations and invoke the performance bank guarantee submitted by the erring hatcheries.

d, Special field campaign for registration and renewal of registration:

In an effort to facilitate the farmers to register their farms and achieve 100% registration, CAA conducted special campaign in Sirkali, Mayiladuthurai District in Tamil Nadu on 10th August 2021 in which the Member Secretary, CAA, District Collector, Mayiladuthurai District Director, CAA, Project Director, RGCA, Assistant Director of Fisheries and other officials of CAA and state Department of Fisheries participated. During the special campaign, 120 applications for new registration and renewal of registration were collected from the farmers of Mayiladuthurai district and handed over to the Member Convener, DLC for follow up action.





4.3.4 Celebration of 'World Antimicrobial Awareness Week 2021' (18th to 24th November 2021):

CAA organized Antimicrobial Awareness events on the side lines of World Antimicrobial awareness week (WAAW) in CAA office and 11 coastal districts during 18th to 24th November 2021. Slogan and essay competitions on topic **'Eliminating the presence of antibiotic residue'** were conducted for the technical persons of coastal aquaculture enterprises. Certificates and prizes were distributed for the competitions.





4.3.5 Policy Initiatives by CAA:

a. Guidelines for solid waste management for coastal aquaculture establishments:

Solid waste generation in coastal aquaculture farms and hatcheries due to the growth of coastal aguaculture sector during the last decade has become an area of concern. In order to achieve sustainable development of environment friendly coastal aquaculture practices, the aquaculture industry needs to focus on ways to reduce the waste (environmental impact) from coastal aquaculture establishments (any establishment involving coastal aquaculture production including coastal aqua hatcheries, farms, etc.). CAA during its 66th meeting approved the guidelines for solid waste management in coastal aquaculture establishments including farms, hatcheries, etc. and have has been notified by CAA for implementation with effect from 1st August 2021.

b. Standard Operating Procedure (SoP) for quarantining of Specific Pathogen Free (SPF) polychaete worms:

As approved and resolved in the 66th Meeting of the Authority, the Standard Operating Procedure (SoP) for Quarantining of Specific Pathogen Free (SPF) Polychaete Worms was submitted to the Ministry. The Ministry vide its order No. j1503529/7/2021-Fy (E-18472) dated 9th August 2021 made the SoP operational with effect from 9th August 2021.

c. Guidelines for Health Monitoring, Disease Surveillance and SPF Certification of Coastal Aquaculture Establishments and Stocks in India:

As approved and resolved in the 66th Meeting of CAA, the guidelines for health monitoring, disease surveillance and SPF certification of coastal aquaculture establishments and stocks in India has been submitted to the Ministry for approval. The draft guidelines was deliberated by the Committee constituted vide Department of Fisheries order no. j-15001/24/2020-Fy(E-17736) dated 2nd December, 2020 to review the establishment and operation of shrimp Nucleus Breeding Centers (NBCs) and Brood stock Multiplication Centers (BMCs) in the country on 5th November, 2021.

d. Guidelines of registration and certification of antibiotic-free aquaculture inputs:

Guidelines for certification of antibiotic-free aquaculture inputs and to recommend penal action on detection of antibiotic residues in farms, hatcheries and aquaculture inputs was placed before the Technical Working Group for regulation and monitoring of aquaculture in India constituted by the Ministry through video conferencing on 14th June, 2021. The same has been approved by CAA in its 67th meeting and made operational with effect from 1st November, 2021.

e. Proposal to make the amendments in the CAA rules and guidelines:

A meeting was convened on 18th September, 2021 with the officials of Department of Fisheries and CAA led by the Joint Secretary (Marine), to finalize the amendments in the CAA rules and guidelines in accordance with the decision made during the special meeting of the CAA held on 3rd September 2021. In this meeting, amendments of CAA rules and guidelines were deliberated and finalized based on the decisions of the CAA. Accordingly, a consolidated proposal on the draft

amendments in the CAA Rules and Guidelines has been submitted to the Ministry for consideration.

f. Consultation with stakeholders and domain experts on 'Return of Tiger - Exploring Sustainability':

The coastal aquaculture scenario of the Indian sub-continent is witnessing a renewed interest in tiger prawn primarily due to the successful harvests in the farms which were stocked with SPF tiger shrimp seed produced in the country. This has led to an unprecedented demand for SPF tiger shrimp seed / post larvae in the coastal aquaculture industry.

CAA held a day long consultation with stake holders and domain experts on 'Return of Tiger — Exploring Sustainability' through a hybrid model of workshop (physical and online) on 28th September, 2021 to formulate strategies for sustainable renewal of tiger shrimp as well for safeguarding the sustainability of shrimp aquaculture in the country. In this consultation, 14 representatives of various stakeholder associations attended in person at CAA office and more than 150 participants participated virtually from India and abroad. The meeting was also attended by the Joint Secretary (Marine), Department of Fisheries. The outcome of the meeting and the record of discussion has been submitted GoI vide CAA letter no. 58- 04/2021 Tech dated the 11th November 2021.

g. Updation of the salinity of the source water at AQF:

The salinity of the source water at Aquatic Quarantine Facility (AQF), Chennai drops below 25 PPT due to onset of Northeast monsoon in Tamil Nadu. It is expected to drop further as the monsoon progresses. Accordingly, it was decided to update the source water salinity status at AQF in the CAA's website on a daily basis to enable the empaneled suppliers of brood stock to adopt to necessary corrective measures based on the salinity of source water of AQF before packing to avoid stress on the brood stock during

quarantining in the AQF.

New Initiatives

4.3.6 Tracking system for the hatcheries and online registration portal for farms:

Application tracking system for the hatcheries and online registration portal for farms on the CAA website has been developed and the trial run of the same has been initiated.

Other Meetings/activities:

- a. Meetings with the Member Conveners of Sixty One (61) Districts covering 8 States and 3 Union Territories were conducted through video conferencing to discuss the issues related to Registration/Renewal of Registration of coastal aquaculture farms.
- b. Virtual meetings with the Principals and Indian Representatives of overseas suppliers of SPF P. monodon brood stock was convened on 7th to 25th August 2021 to discuss the issues related to the demand and supply of SPF P. monodon broodstock to India. The suppliers of SPF P. monodon assured CAA that a minimum of 10 facilities in Tamil Nadu and Andhra Pradesh will be involved in the production of SPF P. monodon to cater to the estimated demand of 4 billion PLs. An estimated 6200 nos. of broodstock (M/s. Moana Technologies LLC: 3800 nos.+ M/s. Aquaculture De La Mahajamba: 2400 nos.) Will be made available in India before December 2021.
- c. As per DoF OM No. A-43011/5/2021-Admn-I (Part) dated 1st October 2021; CAA initiated a special drive for cleanliness for weeding out old files and condemnation of old and disposable furniture, fittings and other items. Renovation of conference room, Chairperson's chamber, laboratory and library was also undertaken as a special drive.

4.4 Central Institute of Coastal Engineering for Fishery (CICEF), Bengaluru, Karnataka

4.4.1 Introduction

The Institute was established in January, 1968 as Pre-investment Survey of Fishing Harbours (PISFH) by the Ministry of Agriculture, Government of India in collaboration with Food and Agriculture Organisation of the United Nations (FAO/UN). In August 1983, it was renamed as Central Institute of Coastal Engineering for Fishery (CICEF).

4.4.2 Mandate

CICEF has the following mandate:

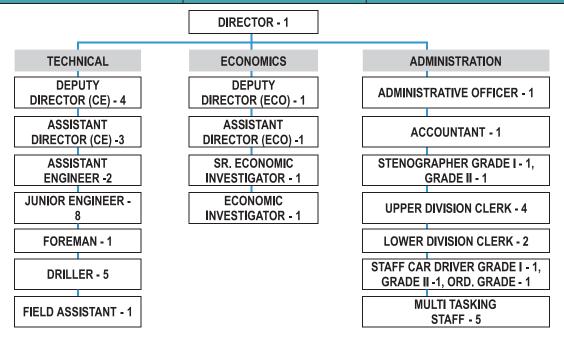
a. To carry out reconnaissance surveys/prefeasibility studies to identify priority sites for development of fishery harbours, follow it up by detailed engineering and economic investigations and prepare techno-economic feasibility reports

- b. To prepare preliminary construction plans and supporting facilities etc., for fishery harbours
- c. To give technical advice on engineering and economic aspects wherever required for the development of fishery harbours and fish landing centres
- d. To monitor the progress of construction of ongoing fishery harbours and fish landing centres sanctioned under the Centrally Sponsored Scheme in association with the Ministry of Fisheries, Animal Husbandry & Dairying

4.4.3 Organization

The Institute is headed by the Director and the total sanctioned strength of officers and staff is 47 comprising technical and administrative personnel. The break-up of the posts and the organization structure are as follows:

Group	Technical	Non-Technical
A	10	-
B (Gazetted)	3	1
B (Non - Gazetted)	9	2
С	7	15
Total	29	18



4.4.4 Achievements

- a. Investigations at 104 sites and prepared project reports for 122 (including revised) for the development of Fishery Harbours/Fish Landing Centres
- b. Reconnoitered about 66,200 ha of brackish water area and engineering investigations for over 15,600 ha in all the Maritime States/UTs for the development of aquaculture farms

As of 31st December 2021, CICEF has accomplished the following:

c. Reconnaissance Survey

Conducted reconnaissance survey at the following 6 (Six) fish landing sites in Bihar for development of fish landing centres.

- 1. Fatuha in Patna district
- 2. Mahanar Ganga Ghat and Sipahi Tola Ghat in Vaishali district
- 3. Bachwara in Begusarai district
- 4. Kadhagola Ghat in Katihar district
- 5. Lallu Pokhar in Munger district

d. Techno Economic Feasibility Report (TEFR)

- Issued TEFR for the construction of fishery harbour at Mallet Bunder in Mumbai for a design fleet size of 1,286 mechanised fishing vessels
- 2. Submitted Modernisation/ Upgradation of Paradip fishing harbour proposal to Paradip Port Trust and Government of Odisha

e. Pre-feasibility Report

- A. Issued Pre-feasibility report for the development of following Fish Landing Centres (FLCs) in Maharashtra
- 1. Thane district: Ghansoli, Bhate Bandar,

- Devtalav, Uttan Pali, Dongri Ladoba and RNP Park Koliwada
- Mumbai district: Vandre (Chimbai), Khar,
 Patilpada and Varinipada, Marve, Erangal
 Bhati Manori and Gorai
- B. Issued Pre-feasibility report for the development of Junglighat fishery harbour in Andaman & Nicobar Island

f. Technical Evaluation

CICEF conducted evaluation of the following Fishery Harbour (FH)/ Fish Landing Centre (FLC) proposals to be funded under FIDF in Tamil Nadu and Odisha:

- 1. Tamil Nadu:
 - a. Tharuvaikulam FLC in Thoothukudi district
 - b. Mandapam (North) FLC and Mandapam (South) FLC in Ramanathapuram district
 - c. Aruvikarai FLC in Tirunelveli district
 - d. Kottaipattinam, Pudukudi and Vadakkammapattinam in Pudukkottai district
 - e. Portonovo Annankovil and Mudasalodai FLC in Cuddalore district

2. Odisha:

- a. Chudamani FH and Kasia FLC in Bhadrak district
- b. Kalupadaghat FLC and Sorana FLC in Khurda district

4.4.5 Monitoring

CICEF conducted monitoring of fishery harbour projects in the State of Goa sanctioned under Centrally Sponsored Scheme:

- a. Chapora Fishery Harbour and Malim Fishery Harbour North Goa district
- b. Cutbona Fishery Harbour and Cortalim Fishery Harbour South Goa district

4.4.6 Financial

During 2020-21, Rs. 386.00 Lakhs was incurred by CICEF, while Rs. 286.60 Lakhs has been incurred during FY 2021-22

4.4.7 Events

International Day of Yoga, Hindi fort-night, Swachh Bharat Mission, Vigilance awareness week, National Integration Day, Kannada Rajyotsava etc. were celebrabted by CICEF



Constitution day on 26th November 2021



Visit to FSI vessel in Goa base

4.5 Central Institute of Fisheries, Nautical & Engineering Training, (CIFNET)

4.5.1 Introduction

Indian fishery after independence has witnessed

remarkable technological developments with due thrust and support from Central and state Governments. One of the revolutionary changes in this direction was the introduction of sophisticated deep sea fishing vessels, which necessitated a great demand for qualified and certificated personnel for manning them. Realizing the urgent need and importance of organizing suitable fisheries training system at the national level to meet the demands of Fishing Industry, the Government of India established the Central Institute of Fisheries Nautical and Engineering Training - CIFNET in 1963 at Kochi to meet the statutory manning requirements of deep-sea fishing vessels as laid down in the Merchant Shipping Act (1958) and skilled personnel required by the supporting shore installations. The institute was started originally with the name of Central Institute of Fisheries Operatives (CIFO) in the year 1963 and was later renamed as CIFNET in 1976. The Merchant Shipping (Amendment) Act 1987 stipulated that all fishing vessels with mechanical propulsion are required to be manned by duly certificated personnel, so that the diversification of fishing and development of deep-sea fisheries could be



effectively implemented with adequately trained manpower capable of effectively handling the type and class of vessels. Subsequently, two units of the Institute were set up at Chennai in 1968 and at Visakhapatnam in 1981 to cater to the

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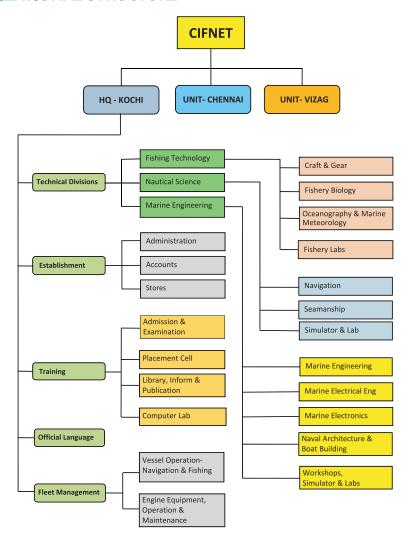
increased demands of trained manpower in the country.

4.5.2 Mandate

- a) To create technical manpower for the operation of Ocean going/ Deep-sea fishing vessels and to run infrastructure establishments
- b) To create trained manpower to manage fishery establishment
- c) To train the fishermen of the coastal states through capacity building training programme under Blue Revolution / Pradhan Mantri Matsya Sampada Yojana (PMMSY)

- To provide training for technical teachers for manning the fishermen training centers attached to Maritime States/UTs
- e) To conduct studies on fishing craft, fishing gears and equipment, and provide extensive training to accelerate advancement in fishing technology for enhancing productivity of fishermen and increasing marine fish production
- f) To help developing nations in the Southeast Asian, Middle east and African regions to create technical manpower for development of Marine Fisheries
- g) To provide technical consultancy service in all matters with special reference to technical manpower requirements

4.5.3 ORGANIZATIONAL STRUCTURE



The details of the CIFNET staff position functioning under all three centers are given in the table below.

CIFNET Staff strength Sanctioned strength, filled and vacant posts as on 31st December 2021

Category of post	Sanctioned Strength	Posts filled	Total vacant	
Group "A"	40	17	23	
Gr. "B"(G)	"B"(G) 06 5		1	
Gr. "B"(N. Gaz)	66	37	29	
Group "C"	167	75	92	
Total	279	134	145	

4.5.4 Courses offered by CIFNET

The Institute conducts various courses such as below:

- a. Bachelor of Fisheries Science (Nautical Science) of 4 year duration, approved and affiliated by Cochin University of Science & Technology, Kochi recognized by UGC
- b. Two trade courses, Vessel Navigator Course (VNC) and Marine Fitter Course (MFC) of 2 years duration, affiliated to National Council for Vocational Training (NCVT) under Ministry of Skill Development and Entrepreneurship
- c. Short term training programmes for fishermen of coastal states under PMMSY through outreach and in-house programmes
- d. Short term training programmes for Training of Trainers (TOT) of officials from sister organizations, fisheries departments of the States Government and short-term course for Coast Guard officials and students from VHSS and professional colleges
- e. Ancillary course 'Shore Mechanic Course

- (SMC)' of 1 year duration for the sponsored candidates
- f. Statutory course namely Elementary fishing Technology course (EFTC), and Advanced Fishing Technology course (AFTC) conducted as per the demand. EFTC is mandatory for appearing for the Mate Fishing Vessel Examination for Non-CIFNET (Private) candidates. The Advanced Fishing Technology Course (AFTC) is mandatory for appearing for the Skipper Grade II Fishing Vessel Examination conducted by MMD.

4.5.4.1 Student's strength of CIFNET

During FY 2021-22 (up to 31st December, 2021), 134 students of BF.Sc. (NS) and 210 trainees of VNC/MFC and in SMC a total of 27 students attended the regular courses. A total of 645 candidates including fishermen attended various short-term courses.

4.5.4.2 Training and Vessel Target and Achievements

The performance of CIFNET for the FY 2021-22 (up to December 2021) including training and operational parameters is furnished below.

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Performance of CIFNET 2021-2022 (Upto 31st December 2021)						
SI.No	Parameters	Annual Target 2021-2022	Total Achievement up to 31 st December 2021			
I. Target	for Institution Training Programmes					
1	No. of students under Degree course – BFSc(NS)	149	134			
2	No. of students under Trade Courses (NCVT) Vessel Navigator Course/ Marine Fitter Course	240	210			
3	No. of students under Ancillary Course (Shore Mechanics Course) (As Per Demand)	20	27			
4	Statutory & Refresher Course (As Per Demand)	10	2			
II. Target	for Other Training Programmes					
5	Short Term training courses (STC)	1000	645			
(a)	Fishermen training (In house)		218			
(b)	Extension training for fishermen (Outreach)		372			
(c)	STC for officials (Coast Guard, Fisheries officials)		55			
(d)	Professional students/VHSS)					
III. Target	for fishery training vessels					
1	Days out at sea	350	160			
2	Fishing Days	300	111			
3	Fishing Effort (hours)	1100	342.88			
4	Fishing Effort (Hooks)	5000	2410			
5	Catch (Kg)	14000	3821			
6	Institutional trainee Days	1500	931			
7	Post Institutional trainee days	3000	1232			

The shortfall in the achievement of vessel parameters is attributed to laid up of the vessels up to July 2021 due to non-engagement of casual hands such as Skipper, Chief Engineer etc. against the vacant post on board. After getting Ministry's sanction for the outsourcing of manpower to meet the requirement of vessel staff on contract basis, the sailing of fishing vessels started from August 2021.

The summary of short-term training programmes of CIFNET up to December 2021 is as follows.

S. No	Course	Kochi	Chennai	Vizag	Total
1	Fishermen Training	-	-	121	121
2	Extension Training	280	92		372
3	Capacity Building training programme for fishermen under PMMSY – Longlining and Tuna handling (6 No of Training)	-	91	6	97
4	STC for professionals	23	32	_	55
5	STC for professional students/VHSS students	-	-	-	_
	TOTAL	303	215	127	645





CIFNET Training programmes for fishermen under PMMSY

4.5.5 Other Events/ Meetings organized at CIFNET

I. Inauguration of roof top solar power plant at CIFNET Kochi by Secretary (Fisheries)

An 80 kWp roof top solar power plant was inaugurated at CIFNET Kochi by Shri Jatindra Nath Swain, Secretary, Department of Fisheries, Government of India on 24th September, 2021. Dr. J. Balaji, Joint Secretary (Marine Fisheries) Department of Fisheries Government of India was also present.





Inauguration of roof top solar power plant at CIFNET Kochi by Shri Jatindra Nath Swain, IAS Secretary, Department of Fisheries, Government of India

II. Vigilance awareness week celebration at CIFNET

The observance of Vigilance awareness week commenced from 26th October 2021 at CIFNET Head Quarters and Units. Vigilance pledge was administered to officers and staff members.

III. Observance and Celebration of Rashtriya Ekta Diwas at CIFNET

Rashtriya Ekta Diwas was observed and celebrated at CIFNET Headquarters Kochi and Units at Chennai and Vishakapatnam by taking 'Rastriya Ekta Diwas pledge' with participation of officers, staff and students on 31st October 2021.

IV. World Fisheries Day celebration at CIFNET

The World Fisheries Day 2021 was celebrated on 21st November, 2021 at CIFNET Unit Chennai. Dr A. R Thirunavukkarasu, Former Principal Scientist, CIBA was the chief guest of the function. Staff, fishermen and students attended the function.

V. Constitution Day celebrated at CIFNET

The Constitution Day of India was conducted at CIFNET, Kochi and Units at Chennai and Visakhapatnam by organising the 'Reading of Preamble' on 26th November, 2021.

VI. Hindi Pakhwada celebrations at CIFNET

Hindi Pakhwada was organized at CIFNET headquarters Kochi and two units at Chennai and Vishakhapatnam from 14th September, 2021 by conducting various competitions for the staff.

VII. Swachhata Pakhwada 2021 cleanliness programme

Swachhata Pakhwada 2021 cleanliness programme was organized at CIFNET headquarters Kochi and two units at Chennai and Vishakhapatnam from 16th to 31st December 2021.

VIII. Azadi Ka Amrit Mahotsav Celebration at CIFNET

CIFNET celebrated Azadi ka Amrit Mahotsav during 20-26th December 2021 by conducting a National Seminar on 'Marine Fisheries' at CIFNET, Kochi on 23rd December, 2021 and a National level Quiz competition on the theme 'Ornamental Fishes' was also conducted at CIFNET Kochi on 21st December, 2021. Azadi Ki Amrit Mahotsav was celebrated at CIFNET Unit, Chennai by conducting seminar on the topics 'Marine Pollution' and 'Safety of Life at Sea' on 23rd to 24th December, 2021 respectively.



Prof (Dr). K.N. Madhusoodanan, Hon'ble Vice Chancellor, CUSAT, inaugurating the seminar on 23rd December 2021

CIFNET participation in various Online Webinars/Meetings / Workshops

Director and the senior officers of CIFNET



National Level Quiz Competition on the theme 'Ornamental Fishes' at CIFNET Kochi on 21st December 2021

attended a meeting through video conferencing on 'Holistic Development of Islands: Action Plan-2025' organized by Department of Fisheries on 17th June, 2021 chaired by Joint secretary (Marine Fisheries)

- b. Director and the senior officers of CIFNET attended the Video Conference convened by Department of Fisheries to discuss the action points on the convergence of PMMSY and PMFME scheme of Ministry of food processing industry on 18th June, 2021. The Joint Secretary (Inland Fisheries), Department of Fisheries chaired the meeting
- c. Director, Faculty members and students of CIFNET attended the National Fish Farmer's Day programmes conducted by NFDB, Hyderabad on 10th July, 2021 through virtual platform
- d. Online meeting with Director of Fisheries, Andaman & Nicobar Islands on 19th July 2021 in connection with the training on longline fishing and tuna handling for the fishermen and fisher youth of Andaman & Nicobar islands
- e. CIFNET participated in the online consultative workshop organised by MPEDA on 'The refinement of Marine Fisheries Management in the west coast of India- Kerala Region' on 27th July, 2021 and 30th July, 2021 and on 'The

Refinement of Marine fisheries management] in the east coast of India on 26th October, 2021.

IX. Participation in Exhibitions

- a. CIFNET participated in the 'India International Science festival (IISF) 2021' from 10th to 13th December at Panaji, Goa by putting up a stall to display the activities and programmes of CIFNET
- b. CIFNET participated in the Exhibition 'Agrovision' 24th to 27th December, 2021, Nagpur, by putting up a stall. Various exhibits of CIFNET were displayed in the exhibition

X. Dignitary visit to CIFNET

- Shri Jatindra Nath Swain, Secretary,
 Department of Fisheries, Government of
 India visited CIFNET Kochi on 24th
 September 2021
- b. Dr. J. Balaji, Joint Secretary (Marine Fisheries) Department of Fisheries Government of India visited CIFNET Kochi on 24th September, 2021
- c. Shri S.K Jha, Deputy Secretary (Adm)
 Department of Fisheries, Government of
 India visited CIFNET Kochi on 15th
 December, 2021.





Secretary and Joint Secretary (Marine Fisheries) Department of Fisheries, Government of India onboard CIFNET Vessel M.V Prashikshani and at CIFNET Kochi.

4.6 Fishery Survey of India

4.6.1 Introduction

Fishery Survey of India is the nodal agency of Government of India to carry out the survey, assessment and monitoring of marine fishery resources in the Indian EEZ within the framework of a well defined mandate. The Institute, since its inception in 1946 has been generating vital georeferred information on the marine fishery resources for sustainable exploitation. Besides implementing the regular survey projects, conducting experimental diversified fishing to identify the resources in different bathymetric zones. FSI has been bestowed with the responsibility of collecting tuna data and submit the same to the Indian Ocean Tuna Commission (IOTC) in the form of India's National Report. The Institute also imparts training to the students sponsored by the CIFNET, Kochi onboard survey vessels on tenure basis. FSI has a fleet of 11 deep sea survey vessels with the state of art technology of which 2 multifilament tuna longliners, 2 monofilament tuna longliners and 7 Stern Trawlers which are being deployed from six operational Bases; Mumbai, Mormugao, Cochin, Chennai, Vishakhapatnam and Port Blair in order to accomplish the mandate of the Institute.

4.6.2 Mandate

The mandate of the Institute is fine tuned from

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time to time to match the developmental activities of the fisheries sector as well as to meet the national and global requirements. The mandate of the Institute is given below:

- a Exploratory surveys, charting of fishing grounds, assessment of fish stocks in the Indian EEZ and adjoining high seas and research thereof besides the specific surveys on request from the States/UTs
- b Data collection and periodic re-validation of potential of fishery resources to provide advice on Fishery management issues enshrined in the national, regional and global conventions and agreements and other associated activities
- c Monitoring survey of fishery resources in the exploited areas including coral reefs, application of Monitoring, Control and Surveillance (MCS) for regulating fishing activities and promoting Code of Conduct for Responsible Fisheries (CCRF) in the Indian EEZ

- d. Maintain data bank and disseminate information on fishery resources to the end users and act as an interface between the State/UTs and the Ministry of Fisheries, AH &D Agriculture and Farmers' Welfare, Government of India for marine and inland fish production and related aspects
- e. Assessment of suitability of fishing gear, accessories and equipment with special reference to the preservation of environment and ecology of marine habitat
- f. Fish stock identification and biodiversity studies including application of genetic tools and techniques
- g. Marine fisheries forecasting including application of remote sensing for the benefit of artisanal, mechanized and industrial sectors
- h. Human Resources Development through the practical training of fishing operatives, fishermen, fisheries officials and students

4.6.3. Organogram/ Organizational Chart of the Institute



4.6.4 Staff strength (upto December, 2021)

Group	Category	Sanctioned posts	Filled Posts	Vacant Posts
	Scientific	25	11	14
A	Technical	19	12	07
	Administrative	01	01	-
	Scientific	34	23	11
В	Technical	41	21	20
	Administrative	50	23	27
	Floating	94	23	71
	Scientific	01	-	01
c	Technical	155	66	89
	Administrative	139	69	70
	Floating	184	39	145
	Total	743	288	455

4.6.5 Major Initiatives and Achievements

a. Target and achievements of survey vessels

During FY 2021-22 (up to December, 2021) survey vessels achieved 447 fishing days against the target of 1,270 by expending total fishing effort of 931 hours against the target of 3787. The tuna longliners combined together, operated a total of 44,814 hooks against target of 2,74,845 up to December 2021.

b. Expenditure

Expenditure 2021-22 as Rs. 3,928.63 Lakhs up to 31st December, 2021

4.6.6 Meetings

Review of Operational and Scientific Activities (ROSA) meeting of FSI was held on 27th October 2021 at Chennai Zonal Base of Fishery survey of India under the Chairmanship of Dr. R. Jeyabaskaran, Director General, FSI.

4.6.7 Workshop/ Open-house/ Seminar conducted during the year

As part of the extension activities, Bases of FSI conducted 2 Regional Workshops, 7 Open House and 1 Seminar. Total of 302 participants including fishermen, college students and state officials attended the workshop and 3850 visitors benefited from the open-house conducted onboard the survey vessels and office premises. The details are furnished below.

SI. No.	FSI Base	Subject	Place and Date
1		Workshop on Recent Trends in Production and	Nanded, Maharashtra 21st
	Mumbai	Management of Fishery Resources'	December 2021
2	Mullibal	Open-house on 'Marine Fishery Resources and Eco-	Nanded, Maharashtra
		friendly Fishing Methods'	22nd December 2021
3	Marmugaa	Open-house onboard the vessel MFV Sagarika	Goa, 23rd December 2021
4	Mormugao	Seminar on the 'Diversity of the Marine Life'	Goa, 24th December 2021
5		Workshop on 'Deep Sea fisheries - Prospects and	
	Cochin	Problems'	
6	Open-house onboard the survey vessels MFV Matsya		Cochin, 20th December
		Varshini and MFV Lavanika	2021
7	Chennai	Open-house to commemorate the 75 years of India's	
		Independence	

SI. No.	FSI Base	Subject	Place and Date
8	Visakhapatnam	2 Open-houses onboard the survey vessels MFV	Visakhapatnam, 2nd
		Matsya Shikari and MFV Matsya Darshini	December 2021 & 24th
			December 2021
9	Port Blair	Open-house onboard the vessel MFV Blue Marlin.	Port Blair, 23rd December
			2021







4.6.8 Visit of Dignitaries

a. Shri Rakesh Kumar Singh, Dy. Secretary. (Admin. and Vigilance) Ministry of Fisheries, Animal Husbandry & Dairying, Govt. of India visited Mormugao and Visakhapatnam Base of FSI on 7th September, 2021 and 10th September, 2021 respectively. He also visited the survey vessels museums of the bases of FSI

b. Dr. J. Balaji, IAS, Joint secretary of Ministry of Fisheries, Animal Husbandry and Dairying, Department of Fisheries visited FSI Headquarters and Mumbai Base on 7th September, 2021 and reviewed the activities of FSI



Visit of Dr. J. Balaji, Joint secretary to FSI, Mumbai

c. Shri Jatindra Nath Swain IAS, Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying along with Dr. J. Balaji, Joint Secretary (Marine Fisheries) visited the Cochin and Mormugao Base of FSI and reviewed the FSI activities on 26th September, 2021 and 12th December, 2021 respectively. He also visited onboard the survey vessels of FSI



Visit of Shri Jatindra Nath Swain IAS, Secretary onboard vessel MFV Sagarika

4.6.9 Significant Events

a. World Fisheries Day

Fishery Survey of India (HQs) and its all Bases at different locations celebrated World Fisheries Day on 21st November, 2021. On this occasion various awareness programmes on 'Sustainable utilization of the fishery resources', 'Social responsibility in the fisheries value chain', 'Sustainable Fishing Practices and Hygienic handling of fish' and 'Code of Conduct for Responsible Fisheries (CCRF)' were conducted. Fishermen rallies and workshops for the benefit of fishermen were also organized.





b. Flagging off the Marine Mammal Stock Assessment Project on-board the Survey Vessels

The vessel MFV Matsya Shikari of Visakhapatnam Base, MFV Matsya Vrushti of Mumbai Base and MFV Matsya Drushti of Chennai Base undertook the deep-sea survey programme of "Stock Assessment of Marine Mammal Population of the Indian EEZ" jointly with CMFRI-MPEDA during the months of July, September and October 2021 respectively.

4.6.10 Participation in Exhibition/ Trade fair and Seminar

a. Participation in the Mega Science Technology and Industrial expo (IISF 2021)

Mormugao Base of FSI participated in the Mega Science Technology and Industrial expo (IISF 2021) organized by Ministry of Science and Technology, Ministry of Earth Sciences, Government of India, NCPOR Goa and Vigyan Bharat at SAG Campal Ground, Panaji, Goa during 10th to 13th December, 2021. During the programme various chart models, preserved specimens related to marine fisheries and slogans related to protection of marine resources were displayed.

b. Participation in AGROVISION at Nagpur, Maharashtra

Fishery Survey of India participated in AGROVISION at Nagpur, Maharashtra from 24th – 27th December, 2021 by putting up a stall wherein digital exhibition charts showcasing the activities of FSI and also fishing gear models, vessel models were displayed. Video on monofilament longline fishing activity was also screened to the public.

c. Participation in Vanijya Utsav Exhibition at Port Blair

Under Azadi Ka Amrit Mahotsav celebration Port Blair Base of FSI participated in "Vanijya Utsav" exhibition for the benefit of the exporters, fishermen and general public during 21st to 22nd September, 2021 at Sagarika Emporium, Udyog Parishar, Middle Point, Port Blair.

d. Participation in M-SAR (Marine search & Rescue) workshop

Shri. D. Bhami Reddy, Mechanical Marine

Engineer and Dr. A.B. Kar, Fisheries Scientist attended a workshop on Maritime Search and Rescue (M-SAR) at the Indian Coast Guard District Headquarters, Visakhap

4.6.11 Official Language Activities

a. Hindi Pakhwada/ Workshops

The Fishery Survey of India, Headquarter, Mumbai and its Base offices observed 'Hindi Day' on 14th September, 2021 and 'Hindi Fortnight' during 14th–28th September, 2021. During the Hindi Fortnight, various competitions were conducted such as Hindi essay writing, Hindi noting and drafting, General Knowledge on Official Language, Antakshari, Hindi Poem recitation etc. Prizes were distributed to the winners of the competitions during the event.

Total of 14 Hindi workshops on various topics were organized for the benefit of officers and staff of FSI.

b. Visit of Parliamentary Committee on Official Language

2nd Sub Committee of Parliament on Language visited and reviewed the performance of Mormugao Base of FSI on 24th August 2021 in the committee meeting held at Hotel Taj Aguada. Prof. Rita Bahuguna, Member of Parliament was the Member Convener.

c. Release of Hindi In-House Magazine

The 7th issue of departmental hindi publication 'Matsya Darpan' of Mumbai Base, 9th issue of departmental hindi publication 'Matsya Kirti' of Mormugao Base and 'Matsya Dhwani' of Cochin Base were released on 30th June, 2021, 24th August, 2021 and 14th September 2021 respectively.

d. International Assignment/ Trainings/JV-Co-operation

Director General, FSI, Scientists and Engineers participated in online meetings on various working parties of Indian Oceanic Tuna Commission (IOTC). Total of 17 meetings took place during the year under report.

e. Participation of FSIans in Various Regional and National Programme

FSI officials including Scientists, Engineers, Technical staff and Administrative staff attended 94 regional and national programmes organized by various institutes during the year.

f. Other Important Events

Following important activities and events were taken up by FSI (HQs) and all its Bases during the year. All the staff members were actively participated in all activities duly following Covid-19 protocols such as sanitization, social distancing and wearing of masks.

SI. No.	Subject/ Event	Date
1.	International Yoga Day	22nd June 2021
2.	Vigilance Awareness Week	1st November 2021
3.	Swachhata Hi Seva Abhiyaan/ Swachta	2nd-31st October & 16th-31st
	Bharat Fortnight	December 2021
4.	World Cleanup Day	18th September 2021
5.	National Unity Day	31st October 2021
6.	Constitution Day	26th November 2021

4.7 National institute of fisheries postharvest technology and training (NIFPHATT)

4.7.1 Introduction



Indo-Norwegian Project, the forerunner of the Integrated Fisheries Project was established in the year 1952 at Quilon as the offspring of a tripartite agreement among India, Norway and the UNDP and the Headquarters of the project along with the Norwegian Experts was shifted to Kochi in 1963. The subsequent years witnessed the setting up of similar units of the project at Kannur in Kerala, Karwar in Karnataka and Mandapam in Tamil Nadu. These units continued their activities until these units were handed over to the respective state governments in 1972.

The administration of the project at Kochi was taken over by the Government of India and renamed as IFP which continued its programmes as a Central Government scheme under the Ministry of Agriculture. Realizing the positive impact on the development of Indian through

Project activities and the enduring need for further developmental in various realms of the fishing industry with effect from 26th December, 1974. Thereafter the programmes and policies were framed and implemented under the various Five-Year Plans.

The mandate of IFP was reoriented and redefined by the Ministry of Agriculture according to the recommendations made by Cadre Review Committee. As a result, the processing, marketing & training division, refrigeration, and civil engineering sections were retained in IFP while the other divisions were transferred to other subordinate offices under the Ministry of Agriculture namely. Fishery Survey of India (FSI) and Central Institute of Fisheries Nautical Engineering and Training (CIFNET). During the year 2008, The Government of India renamed IFP as National Institute of Fisheries Post Harvest Technology and Training (NIFPHATT) as per the Gazette Notification No. S.O. 937 dated 3rd May, 2008.

4.7.2 Certain Initial Milestones

- a. Fishermen community and Area development
- b. Introduced mechanization and motorization in marine fishing sector
- c. Survey and mapping of resources along south- east and south-west coasts
- d. Introduced deep sea fishing techniques such as long lining, purse seining, deep sea trawling, gillnetting etc. as part of exploratory and experimental fishing
- e. Established refrigeration plant and cold storage facilities
- f. Developed diversified value-added marine products and processes
- g. Popularized the diversified fishery products in rural and urban markets in different parts of the country and created

- awareness among processors and consume.
- h. Established marine workshop and slipway/dry docking facilities for fishing trawlers
- i. Established fully equipped electronic and electrical sections
- j. Established life raft-servicing station and got it duly recognized by the Mercantile Marine Department
- k. Lead the Antarctic expedition in the polar vessel Sagar Sampada for the exploration of the Krill resources
- I. Popularized and promoted fish as healthy food
- n Created a cadre of fish processing experts through imparting hands-on training and exposure to the students of food technology particularly fisheries
- o. Conducted training programs on Postharvest technology, repairs and maintenance of fishing gears
- p. Implemented Coastal community empowerment programs with special reference to Gender

4.7.3 Mission and Mandates

- a. Upgradation of Post-harvest technology and its transfer to beneficiaries such as rural fishermen community, small scale industries, export processing houses and students through consultancy, job work and training
- b. Development of value-added products through process and product diversification of all varieties of fish including low value, unconventional and seasonally abundant fishes
- c. Imparting training in post-harvest technology, refrigeration technology, quality control and value-added products
- d. Providing consultancy services and

- training for rural development programs/women empowerment programs in fish processing, supporting local fish farmers, self-help groups of fishermen community, fishermen's cooperative societies functioning under Panchayati Raj Institutions
- e. Popularization and test marketing of value-added products from fish varieties including low value, unconventional species and seasonally abundant fishes
- f. Extension of the activities through popularization and test marketing of value-added products to new areas and develop markets in all states in a phased manner with added attention to rural areas and enthusing entrepreneurs to enter into sea food processing industry

4.7.4 Schemes for achieving the mandated target

- Schemes for introduction of new generation technologies and processes in post-harvest sector
- b. Schemes for extending the reach of Institute's marketing efforts to commensurate with the augmented production process to cover larger segments of consumers within the state as well as outside the State/UT
- c. Schemes for Human Resource Development activities in fisheries science and technology in post-harvest sector
- d. Scheme for establishing rural appropriate technology designing and dissemination center
- e. Scheme for extending assistance to small scale industries, export houses & fisherwomen groups by way of consultancy services and job works
- f. Scheme for strengthening the laboratory in order to undertake various research

- programs related to the development of novel products like canned/ dried/ pickled/ battered and breaded fish
- g. Extending strategic inputs and support for implementation of key components under PMMSY

4.7.5 Major activities and performance during 2021-22

4.7.5.1 Marketing Section

The uniqueness of NIFPHATT compared to others seems to be the pilot scale production and test marketing facilities. This up-scaled version from laboratory level amounts to applied research which is easily replicable to actual commercial production level. More over the trainees both fisherwomen, SHGs and university students are exposed to the intricacies involved in handling large quantities of raw material during production. The feedback of the consumers received through the test marketing section aid to the continuous improvement of products as well. The raw materials for all these activities are sourced by the marketing section through the landings from department vessels and fishermen cooperative societies. The test marketing of fishery products are also carried out by this section.

During this year, a total quantity of 76.96 tonnes (up to Decembe, r 2021) landed from fishermen cooperative society and department vessels.

A total of 63.17 (up to December 2021) tons of fish and fishery products test marketed through Ernakulam stall, Palai stall, Dealers, and Vizag unit and fetched a revenue of Rs.108.89 Lakhs.

4.7.5.2 Processing Section

The freezing plant of NIFPHATT is well equipped with plate freezers, tunnel freezer/air blast freezer, cold storages, flake ice machine and state of art machineries like meat picking machine, slicing machine, de-skinning machine, squid cutting





machine, fish filleting machines etc. New air blast freezer of capacity of 2 tonnes is under the process of commissioning.

The section emphasises on continuous production of high quality and economically viable, consumer friendly and convenient frozen products namely, IQF whole fish from different varieties, slices, dressed fishes and fish kheema conforming to the national and international standards.

Well equipped with Walk-in Coolers, Silent Cutter/Chopper, Modified Atmosphere Packaging (MAP) machine and Chest Freezers for



development of diversified value-added product such as Fish Cutlet, Fish Pickle, Fish Wafer, Fish Mixture, Fish Curry etc. The above facility along with pilot scale kitchen in the plant is used for research, development and standardisation of new products.

Canning plant of NIFPHATT has machineries like Precooking chamber, Exhausting chamber, Double seaming machine, Sterilization chamber/Counter pressure autoclave and Boiler. Within these facilities, the focus is on production of ready to serve products like Tuna in oil, Diet Tuna in water, Tuna Flakes in oil, Mackerel in oil etc.



Tuna processing plant at NIFPHATT, Vizag unit got approval certificate from Export inspection council for exporting fresh, frozen and processed fish and fishery products on 30th July, 2021.

This facility is made available to the entrepreneurs who export fish and fishery products from the country on a dry lease basis as a promotional and marketing measure.



A total of 93.75 tonnes of raw materials (including 28.89 tonnes of product used for further value addition) was processed during the financial year 2021-22 (up to 31st December, 2021). 63.29 tonnes of frozen products, 243.20 kg of different dried products, 942.68 kg of different value-added products were developed.

4.7.5.3 Training Section

a. Online Training on Fish Processing and Quality Assurance

NIFPHATT Kochi in association with St. Thomas College, Kozhencherry conducted an online training on Fish Processing and Quality Assurance on 30th June, 2021. 95 students from 6 colleges attended the training.

b. Online Training on Fisheries Post Harvest Technology

NIFPHATT Kochi in association with St. Albert's College, Ernakulam conducted an online training on Fisheries Post Harvest Technology from 12th to 16th July, 2021. 26 B.Voc. Fish Post Harvest Technology and Management students participated in the training.

c. Training on Sashimi Grade Tuna Processing

NIFPHATT and CIFNET jointly organized a training on sashimi grade tuna processing on 8th September, 2021. 20 Fishermen (including 10 online participants from CIFNET, Chennai) attended the programme.



d. Training program on "On-board handling of tuna for sashimi production to traditional fishers"

Special training programmes on on-board handling of tuna for sashimi production was conducted in association with CIFNET for traditional fishermen. 40 trainees from Nagercoil, Kanyakumari, Thoothukudi and Rameswaram, Nagapattinam and Chennai attended.

e. On-job training in Fisheries Post-Harvest Technology

NIFPHATT, Kochi conducted on-job training programme for 9 industry candidates and 10 Students during September 2021.





f. Training program on "On-board handling of tuna for sashimi production to traditional fishers"

Special training programmes on on-board handling of tuna for sashimi production was conducted in association with CIFNET for traditional fishermen at Kochi on 18th October, 2021. During the programme, fishermen were educated on the importance of sashimi, on-board handling and storage practices to be followed right from the point of catch to export.

g. On-job training for industry candidates

Twenty industry candidates attended the on –job training in fisheries post-harvest technology at NIFPHATT, Kochi from 23rd to 25th November 2021. During the programme, the trainees are given hands-on experience in fish filleting and other various aspects of fisheries post-harvest technology.

h. Training on Hygienic handling and value-added product development from seafood at Adimalathura, Trivandrum

NIFPHATT, Kochi conducted a three days training programme for 27 fisher folks from Puthukurichi, Trivandrum during 9th to 11th November 2021. Trainees were also equipped with the knowhow for producing various seafood value added products such as cutlets, pickles, wafers, fingers, rolls, samosa, mixture, fish pollichathu, fish curry, dried prawns with spices, prawn chutney powder etc.



i. Online Training in Fisheries Post Harvest Technology for Ashutosh College, Kolkata

NIFPHATT, Kochi conducted online training in

Fisheries Post-harvest Technology for 52 B.Sc. Industrial fish and fisheries students from Ashutosh College Kolkatta from 16th to 28th December 2021.

j. Short Term Exposure Training

NIFPHATT, Kochi conducted short term exposure training for 12 B. Sc. (Hons) Agriculture students from College of Agriculture, Vellayani, Trivandrum during 30th to 31st December 2021.

k. On the Job training program at NIFPHATT Vizag unit

5 Students from Sun International Institute of Tourism and Management attended on the job training programme at NIFPHATT, Vizag unit.

I. Project work on seafood microbiology

NIFPHATT, Vizag unit conducted project work on seafood microbiology for 5 students from Visakha Government Degree and PG College, Visakhapatnam and 2 students from Andhra University, Visakhapatnam

m. In plant training at Vizag unit

NIFPHATT, Vizag unit conducted In Plant training programme on "fisheries post-harvest technology" for 25 B.Sc. food science and technology students of Southern Institute of Food Science and Technology, Visakhapatnam and B.F.Sc students from College of Fisheries, Telengana.

Chapter 5

Trade Matters

5.1 Introduction

Fish and fish products are among the most traded food commodities in the world, with exports accounting for around 38 percent of total fish production (live weight equivalent). The total export value of USD 164 billion recorded in 2018 represented almost 11 percent of the export value of agricultural products (excluding forest products) and about 1 percent of the value of total merchandise trade. In the same year, 22 states/UTs reported some fish trading activity. Nearly, half of total exports come from the developing nations, whose net export earnings from the fish trade exceeds the combined value of their tea, rice, cocoa, and coffee exports. Further, globalization and liberalization of markets, combined with economic growth in developing countries, rising local demand and the growing importance of aquaculture produce has had a significant impact on the world's fisheries sector in general and on fish trade in particular. Simultaneously, there have been significant changes in the fish supply and value chains. Aquaculture is expanding rapidly, and tremendous progress has been made in logistics, distribution and packaging. Moreover, as a result of trade liberalization, the supply chain has extended, necessitating more stringent qualitycontrol standards to assure healthy produce for customers. The trade in seafood has greatly benefited developing countries by strengthening national economies, creating jobs across the value chain and addressing food security on a large scale.

5.2 Export Scenario in India

Exports of marine products are important to the Indian economy in terms of employment and income generation, as well as valuable foreign

exchange earnings. India is the world's fourth largest exporter of seafood products, with a total export value of USD 6.73 billion, accounting for 4.35 percent of total global exports. According to MPEDA data, India's marine product export value increased significantly from Rs. 8,607.94 Crores in FY 2008-09 to Rs. 43,720 Crores in FY 2020-21. During FY 2020-21, India exported 11,49,510 MT seafood worth USD 5.96 billion, equivalent to Rs. 43,720 Crores, despite the market uncertainties raised by the Covid-19 pandemic outbreak. Target of increasing fish production to 22 MT and doubling export from the present value has been set by the government under PMMSY. Marine products account for 17.63 percent of total agricultural and allied products exported from India. India's export basket includes shrimp, finfish, cuttlefish, squid, dried fish, and other seafood. During the year FY 2020-21 shrimp exports accounted to 51.36 percent of total exports in terms of quantity and 74.31 percent of total exports in terms of value, with the Pacific white legged shrimp Litopenaeus vannamei being the most important contributor of seafood export basket. According to Director General of Foreign Trade (DGFT), fish and fishery goods imports were USD 181.93 million in FY 2019-20 and USD 225.63 million in FY 2020-21.

5.3 Initiative undertaken in Export Sector

In recent years, the Government of India has launched a number of initiatives to fully realise the potential of the fisheries sector in a sustainable and responsible manner. The following targets have been specified with regard to fisheries exports:

Enhancing export of fisheries products to
 1 Lakh Crore in the next five years (FY 2020-25)

- b. Diversifying the export basket by adding new and value added products
- c. Exploring newer markets and expanding existing markets
- d. Boosting production of high value products and value-added products
- e. Promoting diversification in aquaculture species for exports
- f. Providing institutional mechanisms for easing market access, minimising trade barriers, minimising issues related to sanitation and phytosanitation
- g. Enabling fishers and farmers to get benefit of export opportunities

5.4 Import and export regulations

Trade in livestock and livestock products including fish/fishery products are regulated as per the Foreign Trade Policy–Export Import Policy (EXIM) of Government of India which is implemented by Department of Commerce. However, in order to prevent ingress of Exotic Diseases through import of livestock and livestock products as well as fish and fishery products, Ministry of Fisheries, Animal Husbandry and Dairying regulates trade in such products as per provision of Section 3 and Section 3A of the Livestock Importation Act., 1898. The Department oversees the Sanitary and Phytosanitary issues for the import and export of fish and fishery products.

Import of live animals including fishes falls under the category of restricted list (it is not free to import) as per EXIM Policy for which importer has to obtain license from DGFT issues license on the recommendation of Department of Fisheries. The Department of Fisheries makes a decision on recommendation based on the risk analysis and the related germplasm policy. Central Government is empowered to regulate, restrict and prohibit import of live animals in accordance with Section 3 of the Live-stock Importation Act.,

1898. Notifications S.O. 1495(E) and 1496 (E) dated 10th June, 2014 under Section 3 of Livestock Importation Act was issued by the Department of Animal Husbandry, Dairying and Fisheries. These notifications define classes of animals that can be considered as "Live-stock" and requirement of veterinary health certificate for their import and quarantine procedure of live animals.

Livestock and fish/fishery products are categorized under Open General License (OGL) as per EXIM Policy. Central Government is empowered to regulate, restrict and prohibit import of live-stock products in accordance with Section 3A of the Live-stock Importation Act., 1898. In this regard, the Ministry has issued notification S.O. 2666(E) dated 17th October, 2015 listing out the livestock products and procedure for import of livestock products.

The import of these products is basically allowed and is subject to Sanitary Import Permits (SIPs) which are guided by risk analysis done through veterinary health certificates to be accompanied with the import of livestock products. The Department issues SIPs for livestock and fish products that are valid for one year or six month depending upon the nature of product and may be used for multiple consignments.

SIP is not a license but a certificate certifying India's sanitary requirements. Imports of animals/fish and animal/fish products are allowed only through designated sea ports/air ports of Bangalore, Chennai, Delhi, Hyderabad, Kolkata, and Mumbai where Animal Quarantine and Certification Services (AQCS)/arrangements are available. Imports of fish products are allowed through the sea port of Vishakhapatnam (in the State of Andhra Pradesh), sea and airport of Kochi and the Land Custom Station at Petrapole (for imports from Bangladesh only). However, as per requirement of the sector, the Department of Fisheries is also notifying the ports for ease of doing business.

The Committee on Risk Analysis under the Chairmanship of Joint Secretary (Trade) has been established under the Ministry of Fisheries, Animal Husbandry and Dairying. It considers applications received for issuance of SIP to import various livestock products including fish and fishery products. After necessary amendment in the notification S.O. 2666 (E) dated 16th October, 2014, Department of Fisheries has launched a web portal for online submission of SIP applications, their processing and issuance of SIP.

In case of Restricted Items, DGFT forwards the application to Department of Fisheries seeking comments before considering for issuance, of import license in favor of importer. If the cases are related to import of live exotic aquatic animals, the matters are referred to the National Committee on Introduction of Exotic Aquatic Species into Indian Waters, in the Department of Fisheries under the chairmanship of Joint Secretary (Trade). Based on the recommendation of the said Committee and the examination & observation by Department of Fisheries, the applications are approved.

In order to facilitate the ease of doing business in the fisheries sector, Department of Fisheries has done away with the requirement of SIP for import of SPF shrimp broodstock from the CAA approved overseas suppliers. However, at the port of entry, the AQCS shall issue NOC to the customs after verifying the pre-boarder quarantine certificate and another certificate

declaring freedom from OIE listed pathogen of the susceptible species, issued by the competent authority of the exporting country.

In response to the Hon'ble Finance Minister's Budget Speech 2020, the Department of Promotion of Industry and Internal Trade (DPIIT) has set up an Investment Clearance Cell (ICC) to provide end to end business facilitation and support, including the Investment Clearance through a National Single Window System for entrepreneurs. Department of Fisheries is actively involved with activities of ICC. Besides, a Project Development Cell (PDC) has been constituted in Department of Fisheries under the Co-Chairmanship of Joint Secretary (Marine Fisheries) and Joint Secretary (Inland Fisheries) with other offices of Department of Fisheries and a representative of Invest India as members. The objective of the PDC is to conceptualize, strategize, implement and disseminate details with respect to investable projects in the fisheries sector. The PDC creates detailed project reports, ensures that all permissions are in place and land is available for allotment for their respective projects for adoption/ investments by companies/investors. It also identifies policy issues that need to be resolved and places them before the Empowered Group of Secretaries. The PDC cell also interacts with State Governments and coordinates with them while preparing project proposals. In line with the above, important discussion meetings have been held to chalk out the way forward.

Chapter 6

Scheduled Castes Sub-Plan (SCSP) And Tribal Sub-Plan (TSP)

The Department of Fisheries aims at strengthening the infrastructure of the State/UTs for the development of fisheries sector under its various schemes. A large population of the country belonging to the Scheduled Castes, Scheduled Tribes, other weaker sections of the society and women are engaged in activities in fisheries sector. As a corollary, various schemes implemented by the Department of Fisheries aim at benefitting the weaker sections of the society.

As per the Guidelines issued by the NITI Aayog vide D.O. letter No.N-11016/12(1)/2009-PC dated 15th December, 2010 to earmark 16.6 percent of funds under Scheduled Castes Sub Plan (SCSP).

The Department has earmarked Rs. 200.40 Crores in FY 2021-22 in BE under different schemes/programmes pertaining to SCSP component. As against the allocated amount Rs. 63.68 Crores that has been incurred under different schemes in FY 2021-22 as of 31st December, 2021).

The Department had been exempted for earmarking funds under Tribal Sub Plan (TSP) up to FY 2017-18. From FY 2018-19, 8.60 percent has been fixed under TSP. The Department has earmarked Rs. 110 Crores in BE during FY 2021-22, of which Rs. 52.03 Crores has been already incurred (as of 31st December, 2021).

Chapter 7

Empowerment of Women

7.1 Role of Women in Fisheries Sector

Women constitute approximately half of India's population and play a vital role in building our Nation. Women play a crucial role in Marine fisheries and aquaculture, specifically in the small-scale and artisanal fisheries sector. It is estimated that there are about 5.4 million people fully engaged in fisheries activities, out of which, 3.90 million are fishermen and 1.50 million are fisherwomen. They represent half of the total working population worldwide in the seafood industry as a whole, with fisheries, aquaculture, seafood processing and all related services.

Women also play a large role in Inland Fisheries, which is an important sector for establishing national food security. Activities carried out by women, paid and unpaid, spread across the value chain including pre and post-harvest activities. This includes seaweed and shellfish collection, fishing, weaving and repairing nets, processing, sales, local and intra-regional trade. Clams, crabs, fish fry, seaweed, chank etc. are fished by women in states like Kerala, Tamil Nadu, West Bengal, Andhra Pradesh, Odhisa, Gujarat and the North East.

Women in small-scale fisheries also play key roles in managing finances at the household level and also managing aquatic resources at the community level. Women in indigenous and local coastal communities have extensive local and traditional ecological knowledge, which contributes towards sustainable use and conservation of marine and coastal ecosystems.

Women in the small-scale and artisanal fisheries sector have difficulty securing their rights as workers because their role is often unrecognised. They have limited or no access to social security, capital and credit and face hardships in securing land rights and access to fishery resources. They also face unsafe, unhygienic and unfair working

conditions. In most places, women in postharvest activities are constantly struggling for even basic facilities at landing centres and markets. Their roles in harvesting have been limited to collection, hand picking and fishing from smaller water bodies while employment opportunities are generally seasonal in nature and with poor wages. There is also a sizeable difference in the incomes earned by men and women with income for women being quite low.

It has been the endeavour of the Department to focus on providing benefits to women engaged in animal husbandry, dairying and fisheries. NFDB has been working towards overall development of the fisheries sector in the country and also ensures that women entrepreneurs/farmers are well supported and encouraged. Since its inception, NFDB has extensively funded 93 projects amounting to a total project cost of Rs. 6,023.98 Lakhs for women entrepreneurs/ farmers. NFDB provided financial assistance and technical hand holding for activities varying from seaweed culture in the coastal areas, culture and breeding ornamental fish, culture of food fish in ponds and tanks, paddy cum fish culture, cage culture in reservoirs, setting up of backyard RAS units, Aqua One Centres, AAHLs, procurement of fish marketing vehicles, cold chain management, fish drying and processing besides conducting various awareness programs, workshops, capacity building and training programs specifically for women in the fisheries sector and also for creating opportunities for women to be developed as startup/entrepreneurs for implementing various fisheries and aquaculture. NFDB organized various activities "Rashtriya Poshan Maah" programme for entire one month during September 2021 to improve the nutritional status of children, pregnant women and lactating mothers. Fish included in the diet shall reduce risk of illness, maternal and infant mortality, stunting and poor cognitive performance. Consuming small fish improves immune system, especially for mothers and children ultimately addresses malnutrition

Empowerment of weaker and underprivileged sections is a key focus area for Government of India. Through implementation of various activities and schemes, socio-economic status has been improved along with improvements in achieving food security for the underprivileged in the fisheries sector. Further actions taken to improve gender equality and recognition of the role of women in fisheries is expected to increase women participation contributing to overall development in fisheries sector.

7.2 Role of Women in the Fisheries and Aquaculture sector

7.2.1 Fresh Water Pearl Culture

Freshwater pearl culture is a diversified activity in aqua-farming systems. It is an ancient technology developed by Central Institute of Freshwater Aquaculture (CIFA), Bhubaneswar. There are three identified pearl mussel species namley Lamellidens marginalis, L. corrianlis and Parreysia corrugata. These different varieties of pearls are cultured using three different surgical procedures. The technology has attracted several rural, artisan and enterprising communities including women. Therefore, groups of women should be encouraged and trained in pearl culture for alternative source of income.

7.2.2 Backyard Ornamental Fish Culture

Practice of ornamental fish culture is seen as a lucrative and stable business that can be taken up by women in remote villages. Women should be encouraged to adopt innovative and economically advantageous technologies.

7.2.3 Community Pond Aquaculture

A large number of small and backyard ponds in the coastal areas are being used for bathing, washing and also as dumping ground, resulting into environmental problems. Women could be employed and trained in developing the neglected water bodies for raising short term crops of fish fry, fingerlings and even table size fish at low operational costs. These initiatives will lead to sustainable economic development.

7.2.4 Seed Collection and grading

As alternate income sources, seeds can be collected and graded by women. Women have existing skills for grading juvenile sea bass fattening of crabs, mussel, pearl and oyster; involvement in grading thereby increasing their economic independence.

7.3 Key Gender issues in Aquaculture

Currently, there is no set mechanism or platform for making the women aware of the market related information. Time constraints due to household priorities also prevent women from coming to the forefront and take up fisheries as a major economic activity. However, such issues can be overcome to a great extent through technology dissemination, imparting training on time efficient technologies and techniques. Therefore, efforts are being made to create awareness for encouraging women to come forward.

7.4 Occupational Roles in Post Harvest

Indian fisherwomen are involved in sorting and grading different varieties of fish for sale in local markets from the beach. Adoption of traditional method-ITK (Indigenous Technical Knowledge) like smoking fish are followed and products are sold in nearby markets. Women are involved in packing of fish and other post-harvest processing methods. Additionally, women organize themselves as Self Help Groups (SHGs) and sell their value added products through exhibitions, fairs and nowadays their products are seen in supermarkets and are also exported.

7.5 Gender Budget Cell

A Gender Budget Cell has been set up in the Department with the objective of influencing and effecting a change in the Ministry's policies, programmes in a way that can tackle gender imbalances, promote gender equality and empowerment of women. It is headed by Joint Secretary (Inland Fisheries & Administration).

Currently, the Department has not earmarked any specific funds for women component, however, it is advising States/UTs Implementing Agencies for utilizing around 30 percent of allocated funds towards women beneficiaries under the existing Centrally Sponsored/Central Sector schemes being implemented by the Department. The Gender Budget Cell has identified the following

schemes under which funds are allocated towards women beneficiary:

- Pradhan Mantri Matsya Sampada Yojana (PMMSY)
- Fisheries Infrastructure Development Fund (FIDF)
- National Fisheries Development Fund

Chapter 8

International Cooperation

8.1 Overview

Oceans cover 72 percent of the surface of our blue planet and provide a substantial portion of the global population with food and livelihood. Fisheries resources in the oceans and seas around the world support economies of many nations.

Fisheries, which is a vital oceanic resource, forms the core of the Blue Economy. It provides food to hundreds of millions of people and greatly contributes to the livelihoods of coastal communities. It plays an important role in ensuring food security, poverty alleviation and also has a huge potential for business opportunities. Aquaculture, which offers huge potential for the provision of food and livelihoods, incorporates the value of the natural capital in its development, this entails respecting ecological parameters throughout the cycle of production, creating sustainable, decent employment and offering high value commodities for export.

To meet the increasing public demand in seafood products, natural fisheries resources are being over-exploited and threatened. Therefore, the urgent need to find a balance between population need and environmental health has provided impetus to the 'promotion of sustainable fishing and aquaculture'. While aquaculture has the potential for continued strong growth to supply the food requirements of a growing world, well-managed fisheries can deliver millions of tonnes of more fish annual to boost economic and nutritional gains.

Fish being a global 'good' and world's most 'traded commodity', demands sustainable management of fisheries' resources. Therefore, 'International Cooperation' becomes particularly

important in case of the fish stocks that are migratory and straddling and are shared by different countries. International efforts are ongoing for forging commitments and agreements towards this end.

India is a signatory to a number of international instruments and agreements including United Nations Convention on the Law of the Sea (UNCLOS), 1982; United Nations Fish Stock Agreement (UNFSA), 2001; UN Convention on Biological Diversity, 1995; FAO Code of Conduct for Responsible Fisheries and International Plan of Actions related to marine fisheries, 1995; The Kyoto Declaration and Plan of Action, 1995; Safety and health of fishers at Sea: the International Labour Organisation (ILO) requirements and UN Sustainable Development Goals (SDG 14). In addition, as India is a party to various international conventions, treaties or agreements and member in Regional Fishery Bodies (RFBs), it is committed to a range of international obligations related to the Fisheries sector.

India is member of various regional fisheries bodies including the Asia-Pacific Fishery Commission (APFIC); Network of Aquaculture Centres in Asia and the Pacific (NACA); Intergovernmental Organization for Marketing Information and Technical Advisory Services for Fishery Products in the Asia and Pacific Region (INFOFISH); Indian Ocean Tuna Commission (IOTC) and the Bay of Bengal Programme Inter-Governmental Organization (BOBP-IGO). Besides, it is also a member of other regional bodies that deal with environment (e.g. South Asian Cooperative Environment Programme, International Union for Conservation of Nature) and Trade (Bay of Bengal Initiative for Multi-Sectoral Technical Economic CooperationBIMSTEC). Even economic and geopolitical setups such as South Asian Association for Regional Cooperation (SAARC) have undertaken initiatives in both fisheries and environment related matters from time to time.

Most of the regional organizations to which India is a party (APFIC, BOBP-IGO and NACA) are advisory in nature and as such their roles and functions are limited to policy advocacy and capacity building.

8.2 Role of Regional Fisheries Management Organizations

Regional Fisheries Management Organizations (RFMOs) are international organizations formed by countries with fishing interests in an area. Some of them manage all the fish stocks found in a specific area, while others focus on particular high migratory species, notably tuna, throughout vast geographical areas. There are several IOTC resolutions on conservation and management measures which are binding on its members.

RFMOs play a pivotal role in facilitating intergovernmental cooperation in fisheries management. IOTC is the RFMO, to which India is a party, has management and regulatory mandate on tuna and tuna like species in the Indian Ocean under its area of competence.

India is a member as Contracting and Cooperating Party (CPC) and the Department has plans to play a leadership role particularly in the IOTC. The Department officials have actively participated in all the meetings and made necessary intervention in order to protect the country's national interests and that of the small-scale fisher communities. As the Department has initiated action towards enactment of a suitable national legislation for regulation and management of marine fisheries, it is also envisioned that the Agreement on Port State Measures (PSMA) will also be ratified as soon the proposed legislation is enacted by the Parliament.

8.3 Engagement with World Trade Organisation and other global organisations

While the Department has been ensuring active participation, it also proposes to play a proactive and effective role in all relevant meetings, conferences of the concerning international, multilateral and regional fora concerning the Fisheries sector.

In World Trade Organisation (WTO), negotiations are going on for developing disciplines under Agreement on Subsidies and Countervailing Measures (ASCM), for prohibiting certain subsidies which lead to (i) Illegal, Unreported and Unregulated (IUU) Fishing (ii) Fishing in stocks declared as overfished (iii) Overfishing and overcapacity. Department of Fisheries has been working with Department of Commerce for securing the interests of the country and that of the poor fisherfolk. On the WTO front, the Department has held Secretary level consultations with the Department of Commerce and Permanent Mission of India to WTO as well as Task Force constituted by the Department chaired by Joint Secretary with inter-Ministerial and States' participation to arrive at the reasonable position to be taken by India in respect of the ongoing negotiations on fisheries subsidies disciplines with particular reference to securing appropriate and effective Special & Differential Treatment (S&DT) in order to protect interest of Indian fisherfolk and secure policy space for developmental aspiration in marine fisheries sector. As part of the Indian delegation, the Department officials attended meeting clusters of Negotiating Groups on Rules (NGR) on Fisheries Subsidies of the WTO as well as inter-sessional and bilateral meetings in this connection.

Similarly, India is also represented in the World Organization for Animal Health formerly known as the Office International des Epizooties (OIE) which is the international organisation for aquatic animal health recognized by the WTO's Agreement on Sanitary and Phytosanitary Measures (SPS Agreement) and hence related to the Fisheries sector.

International Organization for Standardization (ISO) is one of the other international organisations which are also concerned with the fisheries sector. ISO/TC 234 Fisheries and Aquaculture is the specialized technical committee which develops global standards related to the fisheries sector.

With regards to bilateral cooperation in the field of fisheries, the Department currently has active Memoranda of Understanding (MoU) signed with Norway, Bangladesh, Iceland, Morocco and Vietnam. The progress under these MoUs is at various levels through the Joint Working Group (JWG). As the MoUs earlier signed with Indonesia has expired, a fresh MoU is being negotiated with the Indonesian side. Besides, a draft MoU is also under active consideration for signing with the Republic of Korea. In addition, there is a mechanism of JWG between India and Sri Lanka on Fisheries issues. In this regard, the preparatory meeting for Fifth meeting of India-Sri Lanka JWG is being planned for January 2022 under the Chairmanship of Secretary, Department of Fishereis. Due to economic value of the sector, fisheries sector is also included as one of the areas of bilateral cooperation under various MoUs signed with a number of other countries by the Department of Agriculture, Cooperation and Farmers Welfare and Department of Animal Husbandry and Dairying.

Singapore - India Partnership Office (SIPO) team is on its mission to strengthen and diversify Singapore economic relations with India. SIPO mandate is to partner with the Government of India and /or the State Governments of India to jointly explore and implement mutually beneficial projects. Under the Chairmanship of Secretary (Fisheries), first meeting was held on 22nd September, 2021 between officers of the Department with Singapore – India Partnership

office (SIPO) and Aquatic Innovation Centre (AIC) to discuss cooperation in fisheries through video conferencing. Second meeting was convened on 18th October, 2021.

The Department officials attended meeting through virtual mode on EAS Workshop on Illegal, Unreported and Unregulated Fishing for clarity and better understanding of the modalities for the proposed EAS workshop on IUU fishing and role of the Department in EAS workshop on IUU fishing on 25th May, 2021 and also on 6th October, 2021. For discussions on EAS workshop on Illegal, Unreported and Unregulated Fishing officers from the Department were nominated as speakers for ARF Workshop on Fisheries and Law of the Sea held from 7th to 8th December, 2021.

An Expression of Interest (EoI) for India's participation as the Lead Partnering Country (LPC) in the GloLitter Partnership (GLP) Project, being jointly implemented by the Food and Agriculture Organisation (FAO) and International Maritime Organisation (IMO) was submitted by the Department and India has been selected for the same. The Department participated in the virtual meeting with GloLitter Team VC meeting relating to Country Call for India as Lead Partnering Country for the GLP on 27th May, 2021 and 21st December, 2021 to discuss issues related to implementation of the GLP Project.

Other important meetings attended by the Department officials are as follows:

- Webinar on 'Port State Control and Maritime Safety and Security in the Indian Ocean Region IORA Working Group on Maritime Safety and Security (IORA-WGMSS)' on 4th May, 2021
- VC meeting relating to '36th Session of the Asia Pacific Fishery Commission' held in virtual mode in Bangkok, Thailand during 5th to 7th May, 2021
- VC meeting for clarity and better understanding of the modalities for the proposed EAS workshop on IUU fishing

and role of Department of Fisheries in EAS workshop on IUU fishing on 25th May, 2021

- GloLitter Country Call through VC organized by the GloLitter Partnerships Project (GLP) Manager at IMO Secretariat for India as Lead Partnering Country (LPC) for the (GLP) held on 27th May, 2021
- Second JWG Meeting between Department of Fisheries and Worldfish, Penang (Malaysia) under the Chairmanship of Secretary Fisheries on 28 June, 2021
- VC Meeting of G20 Environment Drafting Sessions which was held virtually on 25th June, 2021 to discuss Draft V2 Version of the G20 Environment Ministerial Communique
- Virtual workshop Asia Regional Workshop: SDG 14.b and its associated Indicator 14.b.1 held on 6th to 8th July, 2021
- G20 Environment Drafting Meeting for the G20 Environment Communique 3rd Draft held virtually from 8th to 9th July and also from 15th to 16th July, 2021
- Virtual webinar on 'Women's Economic Empowerment in the Indian Ocean Rim: Progress and Challenges' held on 20th July, 2021
- UN Food Pre Summit from 26th to 28th July, 2021 in Rome through VC
- BRICS Working Group on Agriculture held from 12th to 13th August, 2021 followed by BRICS Agriculture Ministers meeting held on 27th August, 2021
- Full Quad Climate Group meeting on 16th August, 2021 and virtual webinar on promotion of small-scale rural aquaculture on 31st August, 2021

The Department has been negotiating a project proposal for World Bank assistance on 'Blue

Revolution: Tranche -1: Response to COVID-19 and Recovery of Fisheries Sector, Tranche-2: Harnessing the Potential of Aquatic Resources to complement the Pradhan Mantri Matsya Sampada Yojana (PMMSY)'. The Department is engaged in active collaboration and cooperation with Food and Agriculture Organisation of the United Nations (FAO) and its bodies like Committee on Fisheries (COFI), its subcommittees namely Sub-Committee on Aquaculture (COFI-AQ) and Sub-Committee on Fish Trade (COFI-FT). India also actively participated in the Asia-Pacific Fishery Commission (APFIC) which is a regional Fisheries body under the FAO.

The Department has supported India's participation in the Cluster Group on Fisheries Management (CGFM) of the Indian Ocean Rim Association (IORA). Officers of the Department participated in IORA online webinar on Port State Control and Maritime Safety and Security in the Indian Ocean Region IORA Working Group on Maritime Safety and Security (IORA-WGMSS) held on 4th May, 2021.

The Department officials along with the representatives from Fishery Survey of India (FSI) and ICAR-Central Marine Fisheries Research Institute (CMFRI) actively participated in various meetings of IOTC held on virtual mode, such as 8th Technical Committee on Allocation Criteria (28th June to 1st July, 2021), 18th Session of the Compliance Committee (30th May to 1st June, 2021), 25th Session of the Indian Ocean Tuna Commission (7th to 11th June, 2021), 23rd Working Party on Tropical Tuna (25th to 30th October, 2021), 5th Special Session of the Indian Ocean Tuna Commission (29th November, 2021), 24th Session of the Scientific Committee (6th to 10th December, 2021), 5th Meeting of the IOTC Working Party on the Implementation of Conservation and Management Measures (16th to 18th February, 2022) etc.

Chapter-9

Departmental Accounting Organisation

9.1 Accounting Organization of Department of Fisheries

The Secretary as Chief Accounting Authority in the Department of Fisheries discharges his functions with the assistance of Financial Adviser and Chief Controller of Accounts. As per Rule 70 of GFR 2017, the Secretary of a Ministry/Department as Chief Accounting Authority of the Ministry/Department shall

- a. Be responsible and accountable for financial management of his Ministry or Department
- b. Ensure that the public funds appropriated to the Ministry or Department are used for the purpose for which they were meant
- c. Be responsible for the effective, efficient, economical and transparent use of the resources of the Ministry or Department in achieving the stated project objectives of that Ministry or Department, whilst complying with the performance standards
- d. Appear before the Committee on Public Accounts and any other Parliamentary Committee for examination
- e. Regularly review and monitor the performance of the programmes and projects assigned to his Department to determine whether stated objectives are achieved
- f. Be responsible for preparation of expenditure and other statements relating to his Ministry or Department as required by regulations, guidelines or directives issued by Ministry of Finance

- g. Ensure that his Ministry or Department maintains full and proper records of financial transactions and adopts systems and procedures that shall at all time accord to internal controls
- h. Ensure that his Ministry or Department follows the Government procurement procedures for execution of works, as well as for procurement of services and supplies, and implements it in a fair, equitable, transparent, competitive and cost-effective manner
- i. Take effective and appropriate steps to ensure his Ministry or Department:
 - i. Collects all moneys due to the Government and
 - ii. Avoids unauthorized, irregular and wasteful expenditure.

As per Para 1.3 of Civil Accounts Manual, the Chief Controller of Accounts for and on behalf of the Chief Accounting Authority is responsible for:

- a. Arranging all payments through the Pay and Accounts Offices/Principal Accounts Office (PAO) except where the Drawing and Disbursing Officers are authorized to make certain types of payments
- compilation and consolidation of accounts of the Ministry/ Department and their submission in the form prescribed, to the Controller General of Accounts; preparation of Annual Appropriation Accounts for the Demands for Grants of his Ministry/Department, getting them duly audited and submitting them to the CGA, duly signed by the Chief Accounting Authority

c. Arranging internal inspection of payment and accounts records maintained by the various subordinate formations and Pay and Accounts Offices of the Department and inspection of records pertaining to transaction of Government Ministries / Departments, maintained in Public Sector Banks.

The Chief Controller of Accounts, Department of Fisheries performs his duties with the assistance of Controller/Assistant Controller of Accounts, three Pr. Accounts Officers at Headquarters and ten Pay and Accounts Offices. Five Pay and Accounts Offices are located in Delhi/NCR, One each in Chennai, Cochin, Kolkata, Mumbai and Nagpur. All payments pertaining to the Department /Ministry are made through PAOs/CDDOs attached with respective PAOs. DDOs present their claims /bills to the designated PAOs/CDDOs, who issue cheques/releases epayment after exercising the necessary scrutiny as per provisions contained in Civil Accounts Manual, Receipt and Payment Rules and other order issued by Government from time to time.

As per Para 1.2.3 of Civil Accounts Manual, Principal Accounts Office at Headquarters functions under a Principal Accounts Officer who is responsible for:

- a. Consolidation of the accounts of the Ministry/Department in the manner prescribed by CGA
- b. Preparation of Annual Appropriation Accounts of the Demands for Grants controlled by Ministry/Department, submission of Statement of Central Transactions and material for the Finance Account of the Union Government (Civil) to the Controller General of Accounts
- c. Payment of loans and grants to State Government through Reserve Bank of India and wherever this office has a drawing account, payment therefrom to UT Government/ Administrations

- d. Preparation of manuals keeping in view the objective of management accounting system if any, and for rendition of technical advice to Pay and Accounts Offices, maintaining necessary liaison with CGA's Office and to effect overall coordination and control in accounting matters
- e. Maintaining Appropriation Audit Registers for the Ministry/ Department as a whole to watch the progress of expenditure under the various Grants operated on by the Ministry/Department

Principal Accounts Office/Officer also performs all administrative and coordinating function of the accounting organization and renders necessary financial, technical, accounting advice to Department as well as to local Pay and Accounts offices and out Station Pay and Accounts offices.

As per provisions contained in Civil Accounts Manual, Pay & Accounts offices make payments pertaining to respective Ministries/ Departments and in certain cases payments will be made by the Departmental Drawing and Disbursing Officers (DDOs) authorized to draw funds, by means of cheques drawn on the offices/branches of accredited bank for handling the receipts and payments of the Ministry/Department. These payments will be accounted for in separate scrolls to be rendered to the Pay and Accounts Offices of Ministry/Department concerned. Each Pay and Accounts Office or Drawing and Disbursing Officer authorized to make payments by cheques/e-payments, will draw only on the particular branch/branches of the accredited bank with which the Pay and Accounts Office or the Drawing and Disbursing Officer as the case may be, is placed in account. All receipts of the Ministry/Department are also to be finally accounted for in the books of the Pay and Accounts Office. The Pay and Accounts office is the basic Unit of Departmentalized Accounting Organization. Its main functions include:

- a. Pre-check and payment of all bills, including those of loans and grants-in-aid, submitted by Non-Cheque Drawing DDOs
- b. Accurate and timely payments in conformity with prescribed rules and regulations
- c. Timely realization of receipts
- d. Issue of quarterly letter of credit to Cheque Drawing DDOs and post check of their vouchers/bills
- e. Compilation of monthly accounts of receipts and expenditures made by them incorporating there with the accounts of the Cheque Drawing DDOs
- f. Maintenance of GPF accounts other than merged DDO and authorization of retirement benefits
- g. Maintenance of all DDR Heads
- h. Efficient service delivery to the Ministry/Department through banking arrangement by way of e-payment
- i. Adherence to the prescribed Accounting Standards, rules and principles
- j. Timely, accurate, comprehensive, relevant and useful financial reporting.

The overall responsibilities of Departmental Accounting Organization in respect of Department of Fisheries are:

- a. Consolidation of monthly accounts of Ministry and its submission to the CGA
- b. Annual Appropriation Accounts
- c. Statement of Central Transactions
- d. Preparation of 'Accounts at a Glance'
- e. Union Finance accounts which are submitted to the CGA, Ministry of Finance and Principal Director of Audit
- f. Payments of grants-in-aid to Grantee Institutions / Autonomous Bodies etc

- g. Rendering technical advice to all PAOs and Ministry; if necessary in consultation with other organizations like DoPT, Ministry of Finance and CGA etc.
- h. Preparation of Receipt Budget
- i. Preparation of Pension Budget
- j. Procuring and supplying of cheque books for and on behalf of PAOs/Cheque Drawing DDOs
- k. To maintain necessary liaison with Controller General of Accounts office and to effect overall co-ordination and control in accounting matters and accredited bank
- I. To verify and reconcile all receipts and payments made on behalf of Department of Fisheries through the accredited bank i.e. State Bank of India
- m. To maintain accounts with Reserve Bank of India relating to Department of Fisheries and to reconcile the cash balances
- n. To ensure prompt payments
- o. Speedy settlement of Pension/Provident fund and other retirement benefits
- p. Internal Audit of the Ministry, subordinate and attached offices under Department of Fisheries and its Grantee institutions, Autonomous Bodies etc
- q. To make available accounting information to all concerned Authorities/Divisions
- r. Budget co-ordination works Department of Fisheries
- s. Monitoring of New Pension Scheme and revision of pension cases from time to time
- t. Computerization of Accounts and epayment
- u. Administrative and co-ordination function of the accounting organization
- v. Roll out of PFMS under Other Central

Expenditure and Central Sector Schemes in Implementing Agencies/Grantee Institutions/Autonomous Bodies

- w. Non-Tax Receipt Portal (NTRP) in Department of Fisheries
- Accounting information and data are also 8. provided to the Financial Advisor and Chief Accounting Authority to facilitate effective budgetary and financial control. Monthly and progressive expenditure figures under various sub-heads/object-heads of the grant of the Department of Fisheries are furnished to Budget Section of the Department including Senior Officers. Progress of expenditure against budget provisions are also submitted weekly to the Secretary and Addl. Secretary & Financial Adviser as well as Heads of Divisions of the Department, controlling the grant for purposes of better monitoring of expenditure in last quarter of the financial year.
- 9. The Accounting organization also maintains accounts of long-term advances such as House Building Advance, Motor Car Advance and General Provident Fund (GPF) accounts of employees of the Ministry.
- 10. The verification and authorization of pensionary entitlement of officers and staff members is done by the Pay & Accounts Offices on the basis of service particulars and pension papers furnished by Heads of Offices. All retirement benefits and payments like gratuity, cash equivalent to leave salary as well as payments under Central Government Employees Group Insurance Scheme; General Provident Fund etc. are released by Pay and Accounts Offices on receipt of relevant information / bills from DDOs.

9.2 Internal Audit Wing

The Internal Audit Wing carries out audit of accounts of various offices of the Department to ensure that rules, regulations and procedures prescribed by the government are adhered to by

these offices in their day to day functioning. Internal Auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It basically aims at helping the organization to accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes. It is also an effective tool for providing objective assurance and advice that adds values, influence change that enhances governance, assist risk management, control processes and improve accountability for results. It also provides valuable information to rectify the procedural mistakes/deficiencies and thus, acts as an aid to the management. The periodicity of audit of a unit is regulated by its nature, volume of work and quantum of funds.

The Internal Audit Wing working under the overall guidance of Chief Accounting Authority and Financial Advisor has focused on strengthening governance structures, capacity building and leveraging technology in appropriate manner to ensure an efficient and effective Internal Audit practice.

In pursuance of O/o Controller General of Accounts, Department of Expenditure, Ministry of Finance, OM no. G.25014/33/2015-16/MF.CGA/IAD/306-53 dated 15th May, 2017 and as per provisions contained in Generic Internal Audit Manual (Version 1.0) issued by O/o CGA, Audit Committee has been constituted in this Department under the Chairmanship of Secretary (Fisheries) and terms of reference of Internal Audit Committee has been defined in O/o CCA OM No. Agri/IAW/Audit Committee/DAHD/2020-21/229-250 dated 15th September, 2020.

During the financial year 2021-22, the focus of Audit was to detect errors in fixation of Pay paid in excess as well as in short. Status of Outstanding Internal Audit paras in Department of Fisheries as on 31st December, 2021 are given below:

Department	Outstanding Paras up to 31 st March 2021	Paras Raised from 1 st April 2021 to 30 th June 2021		Total Outstanding Paras as on 30 th June 2021
FISHERIES	205	NIL	NIL	205
TOTAL	205	NIL	Nil	205

Department	Outstanding Paras up to 30 th June 2021	A II cood a coth	Paras Dropped from 1 st April 2021 to 30 th September 2021	Total Outstanding Paras as on 30 th September 2021
FISHERIES	205	NIL	NIL	205
TOTAL	205	NIL	NIL	205

Department	Outstanding Paras up to 30 th June 2021	Paras Raised from 1st October 2021 to 31st December 2021	Paras Dropped from 1st October 2021 to 31st December 2021	Total Outstanding Paras as on 31 st Dec 2021
FISHERIES	205	NIL	22	183
TOTAL	205	NIL	22	183

9.3 Banking Arrangements

State Bank of India is the accredited bank for PAOs and its field offices in the Department of Fisheries. e-Payments processed by the PAOs/CDDOs are settled through CMP, SBI, Hyderabad in favor of the bank account of vendors/beneficiaries. In some cases, cheques issued by the PAOs/CDDOs are presented to the nominated branch of the accredited bank for payment. The receipts are also remitted to the accredited banks by the respective PAOs/CDDOs apart from Non-Tax-Receipt Portal (NTRP). Any change in accredited bank requires specific approval of Controller General of Accounts, Department of Expenditure, Ministry of Finance.

Principal Accounts Office has 10 (Ten) Pay and Accounts Offices. Five PAOs are located in Delhi/NCR, One each in Chennai, Cochin, Kolkata, Mumbai, and Nagpur. All payments pertaining to the Department/Ministry are made through PAOs/CDDOs attached with respective PAOs. Drawing and Disbursing Officers present their claims/bills to the designated PAOs/CDDOs, who issue releases e-payment after exercising the

necessary scrutiny as per provisions contained in Civil Accounts Manual, Receipt and Payment Rules and other orders issued by Government of India from time to time.

9.4 Public Financial Management System (PFMS):

Public Financial Management System (PFMS) initially started as a Plan Scheme named CPSMS of the erstwhile Planning Commission in 2008-09 as a pilot in four states of Madhya Pradesh, Bihar, Punjab and Mizoram for four flagship schemes e.g. MNREGA, NRHM, SSA and PMGSY. After the initial phase of establishing a network across Ministries / Departments, it has been decided to undertake national roll-out of CPSMS (PFMS) to link the financial networks of Central, State Governments and the agencies of State Governments. The scheme was included in 12th Plan initiatives of erstwhile Planning Commission and Ministry of Finance. Presently, PFMS is the scheme of Department of Expenditure, Ministry of Finance and being implemented by O/o Controller General of Accounts across the country.

As per MoF, DoE, OM No.66 (29) PF-II/2016 dated 15th July 2016, Hon'ble Prime Minister has emphasized the need for improved financial management in implementation of Central Plan Schemes so as to facilitate Just-in-Time releases and monitor the usage of funds including information on its ultimate utilization. PFMS is administered by the O/o controller General of Accounts in the Department of Expenditure which is an end-to-end solution for processing payments, tracking, monitoring, accounting, reconciliation and reporting. It provides the scheme managers a unified platform for tracking releases and monitoring their last mile utilization.

In order to abide by the directions to implement Just-in-Time releases and monitor the end usage of funds, it has been decided by Ministry of Finance to universalize the use of PFMS to cover all transactions/payments under the Central Sector Schemes. The complete monitoring of these schemes require mandatory registration of all Implementing Agencies (IAs) on PFMS and mandatory use of Expenditure, Advances & Transfer (EAT) module of the PFMS by all IAs. The Implementation Plan covers the complete universe of Central Sector Schemes, which interalia requires the following steps to be taken by each Ministry/Department:

- a. All central schemes have to be mapped /configured and brought on the PFMS platform.
- b. All Implementing Agencies (IAs) receiving and utilizing funds needs to be mandatorily registered on PFMS
- c. Usage of PFMS modules has to be made mandatory for all registered agencies for making payments, advances and transfers
- d. All Departmental Agencies incurring expenditure in respect of Central Sector Schemes must register and compulsorily use the PFMS Modules
- e. All Grantee Institutions have to adopt

PFMS modules for making Payments/Transfers /Advance from Grants received from the Central Government This will enable generation of on-line Utilization Certificates for claiming funds from the Central Government

f. Department has to take an action for integrating their respective systems/applications with the PFMS

9.5 Module to implement the Mandate:

Modules developed/under development by PFMS for stakeholders as per the Union Cabinet approval and mandates are as under:

I. Fund Flow Monitoring [EAT Modules]

- a. Agency registration
- b. Expenditure management and fund utilization through PFMS EAT module
- c. Accounting Module for registered agencies
- d. Treasury Interface
- e. PFMS-PRI fund flow and utilization interface
- f. Mechanism for State Governments towards fund tracking for State schemes
- g. Monitoring of Externally Aided Projects (EAP)

II. Direct Benefit Transfer (DBT) modules

- a. PAO to beneficiaries
- b) Agency to beneficiaries
- c. State treasuries to beneficiaries

III. Interfaces for Banking

- a. CBS (Core Banking Solutions)
- b. India Post
- c. RBI (Reserve Bank of India)

d. NABARD and Cooperative Banks

9.6 Modules to Implement Enhanced mandate

I. PAO Computerization-Online payments, receipts and accounting of Government of India

- a. Programme Division module
- b. DDO module
- c. PAO module
- d. Pension module
- e. GPF and HR module
- f. Receipts including GSTN
- g. Annual Financial Statements
- h. Cash Flow Management
- i. Interface with non-civil ministries

II. Non-Tax Receipt Portal

9.7 Other Departmental Initiatives:

To leverage the capabilities of PFMS, several other departments have approached PFMS for developing utilities for their departmental need as follows:

- a. CBDT PAN Validation
- b GSTN bank account validation

9.8 Implementation Strategy:

Action Plan has been prepared and approved by Ministry of Finance for phased implementation of Public Financial Management System (PFMS).

9.9 Improved Financial Management through:

- a. Just in time release of funds
- b. Monitoring of use of funds including ultimate utilization

9.10 Strategy:

Universal roll-out of PFMS which inter alia includes

- a. Mandatory registration of all IAs on PFMS and
- b. Mandatory use of Expenditure Advance & Transfer (EAT) Module of PFMS by all IAs

9.11Implementation Strategy for Central Sector (CS) Schemes/transaction

Activities to be completed:

- a. Mandatory registration and use of EAT module by IAs
- b. Mapping of all relevant information of Schemes
- c. Uploading of budget of each scheme on PFMS
- d. Identify implementation hierarchy of each scheme
- e. Integration of system interface of specific schemes with PFMS e.g. NREGA Soft, Awas Soft
- f. Deployment and training of trainers

9.12 Implementation Strategy for Centrally Sponsored Schemes

Activities to be undertaken by states:

- a. State Treasury Integration with PFMS
- b. Registration of all SIAs on PFMS (1st level and below)
- c. Mapping of state schemes with corresponding central schemes
- d. Configuration of State schemes on PFMS
- i. Configuring State Schemes components
- ii. Identify and configure hierarchy of each state scheme
- e. Integration of PFMS with schemes specific software application
- f. Deployment and training of trainers
- g. Continuous support for implementation At present, all ten (10) Pay and Accounts Offices of Department of Fisheries five (5) PAOs are located in Delhi/NCR, one each

in Chennai, Cochin, Kolkata, Mumbai and Nagpur are functioning successfully on PFMS. All payments are routed through PFMS and e-payments being directly credited into the beneficiary's bank account

- I. Employees Information System (EIS)
 Module of PFMS: This Module has been
 implemented in all Drawing & Disbursing
 Offices of Department of Fisheries
- II. CDDO Module of PFMS: CDDO module of PFMS has been rolled out in all Cheque Drawing and Disbursing Offices of Department of Fisheries
- III. Online Portal (Bharatkosh) for collection of Non-Tax Revenue in the Department:
- a. The objective of Non-Tax Receipt Portal (NTRP) is to provide a one-stop window to Citizens/ Corporate /Other users for making online payment of Non-Tax Revenue payable to Government of India (Gol)
- b. Non-Tax Revenue of Government of India comprise of a large bouquet of receipts, collected by individual departments/ ministries. Primarily these receipts come from Dividends, Interest receipts, RTI application fee and many other such payments by citizens / corporate/other users
- c. The online electronic payment in a completely secured IT environment, helps common users /citizen from the hassle of going to banks for making drafts and then to Government offices to deposit the instrument for availing the services. It also helps avoidable delays in the remittance of these instruments into Government account as well as eliminates undesirable practices in the delayed deposit of these instruments into bank accounts

- d. NTRP facilitates instant payment in a transparent environment using online payment technologies such as Internet Banking, Credit/Debit Cards
- e. NTR Portal has been functional in Department of Fisheries under new created Ministry of Fisheries, Animal Husbandry and Dairying since its inception in FY 2019-20
- f. The collection of Non-Tax revenue of the Department of Fisheries in the Financial Year 2021-22 up to 31st December, 2021 is Rs. 3 Crores, and of it Rs. 0.85 Crores have been collected through Bharat Kosh on NTR e- Portal

9.13 New Development in the Accounting Organization

Enforcement of enhanced security layers for online payment process on PFMS

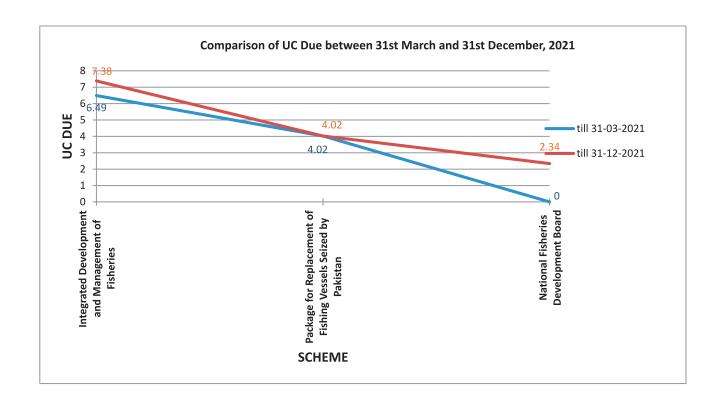
In order to ensure safety measures on PFMS platform, the following features are being enforced for treasury operations:

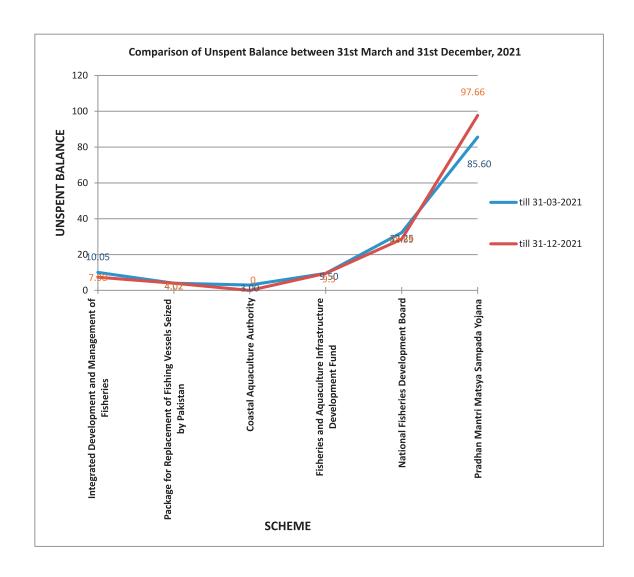
- Verification of each payment request with physical bill without fail before putting the digital signature by Pay and Accounts Offices
- b. Use of NIC/GOV domain e-mail IDs for user registration by the officials dealing with PAO and DDO module of PFMS
- c. Immediate deactivation of user(s) found to be no longer active
- d. Deactivation of user ID/Digital key of PAO/ AAO user type at the time permanent transfer/superannuation
- e. Implementation of OTP based log in system on PFMS in phased manner

9.14 Details of Unspent Balances and Utilization Certificate (UC) in r/o Implementing Agencies Under all Schemes of Department of Fisheries.

(Figures in Crores)

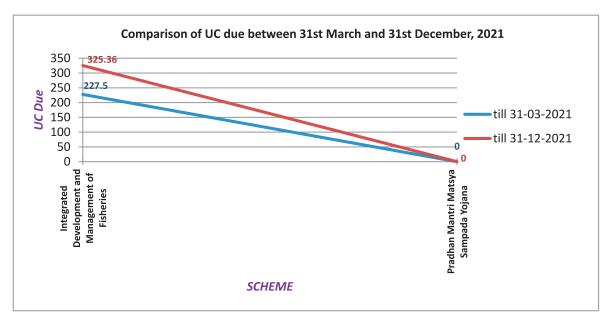
	As on 31st March 2021			As on 31st December 2021		
Scheme Name	UC due upto 2018- 19	UC not due	Unspent Balance	UC due upto (19- 20)	UC not due	Unspent balance
1	2	3	4	5	6	7
Integrated Development and Management of Fisheries	6.49	3.56	10.05	7.38	-	7.38
Package for Replacement of Fishing Vessels Seized by Pakistan	4.02	-	4.02	4.02	-	4.02
Coastal Aquaculture Authority	-	3	3.00	-	-	-
Fisheries and Aquaculture Infrastructure Development Fund	-	9.5	9.50	-	9.5	9.5
National Fisheries Development Board	-	32.25	32.25	2.34	26.25	28.59
Pradhan Mantri Matsya Sampada Yojana	-	85.6	85.60	-	97.66	97.66
Total	10.51	133.91	144.42	13.74	133.41	147.15

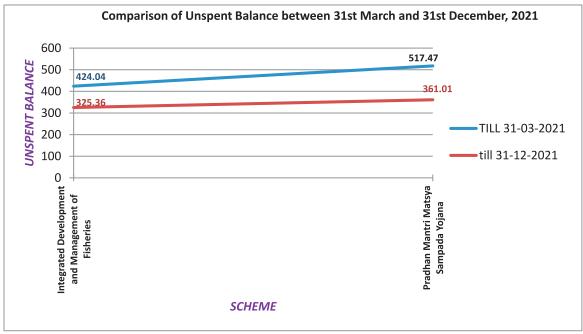




9.15 Details of Unspent Balances and Utilization Certificate in r/o States under all schemes of Department of Fisheries

	as on 31st March 2021		As on 31st December		per 2021
Name of Scheme/Item	Unspent Balances (upto 20-21)	Pending Ucs (2018- 19)	Total Releases in Fy 2020-21	Unspent Balances (upto 20-21)	pending UCS (upto 19-20)
Integrated Development and Management of Fisheries	424.04	227.5	0	325.36	325.36
Pradhan Mantri Matsya Sampada Yojana	517.47	0	517.47	361.01	0
Total	941.51	227.5	517.47	686.37	325.36





11.12 SNA Agencies Mapping Status as on 31st December 2021 as per SNA-03

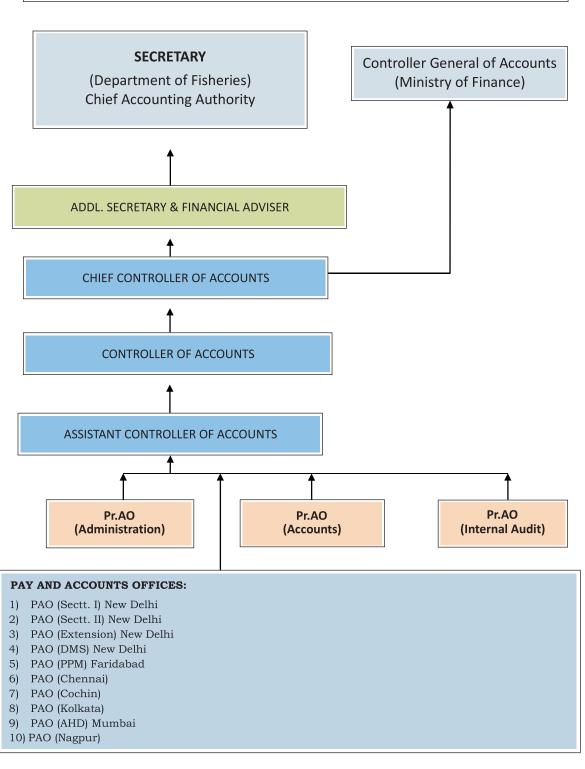
S.No.	State-wise SNA Status of Schemes	Agencies Registered as SNA	Child Agencies Mapped with SNA Account	Child Agencies using Zero Balance Account	Total Agencies Mapped	Total Agencies Mapped in Hierarchy
1	ANDHRA PRADESH	1	0	13	14	14
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	13	14	14
2	ARUNACHAL PRADESH	0	0	0	0	0
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	0	0	0	0	0
3	ASSAM	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1
4	BIHAR	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1
5	CHHATTISGARH	1	0	27	28	28
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	27	28	28
6	DELHI	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1
7	GOA	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1
8	GUJARAT	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1
9	HARYANA	1	0	2	3	3
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	2	3	3
10	HIMACHAL PRADESH	1	0	11	12	12
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	11	12	12
11	JAMMU AND KASHMIR	1	0	2	3	3
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	2	3	3
12	JHARKHAND	1	0	24	25	25
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	24	25	25
13	KARNATAKA	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1

S.No.	State-wise SNA Status of Schemes	Agencies Registered as SNA	Child Agencies Mapped with SNA Account	Child Agencies using Zero Balance Account	Total Agencies Mapped	Total Agencies Mapped in Hierarchy
14	KERALA	1	0	16	17	17
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	16	17	17
15	MADHYA PRADESH	1	0	51	52	52
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	51	52	52
16	MAHARASHTRA	1	0	36	37	37
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	36	37	37
17	MANIPUR	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1
18	MEGHALAYA	1	0	11	12	12
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	11	12	12
19	MIZORAM	1	7	0	8	8
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	7	0	8	8
20	NAGALAND	1	1	10	12	12
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	1	10	12	12
21	ODISHA	1	0	35	36	36
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	35	36	36
22	PUDUCHERRY	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1
23	PUNJAB	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1
24	RAJASTHAN	1	0	0	1	0
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	0
25	SIKKIM	1	0	0	1	0
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	0
26	TAMIL NADU	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1
27	TELANGANA	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1

S.No.	State-wise SNA Status of Schemes	Agencies Registered as SNA	Child Agencies Mapped with SNA Account	Child Agencies using Zero Balance Account	Total Agencies Mapped	Total Agencies Mapped in Hierarchy
28	TRIPURA	1	0	32	33	33
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	32	33	33
29	UTTAR PRADESH	1	0	0	1	1
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	1	0	0	1	1
30	UTTARAKHAND	3	0	9	12	12
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	3	0	9	12	12
31	WEST BENGAL	0	0	0	0	0
	3890-Pradhan Mantri Matsya Sampada Yojana (PMMSY)	0	0	0	0	0
	Grand Total	31	8	279	318	316

Accounting Organization of the Department

Accounting Organization Setup in Department of Fisheries

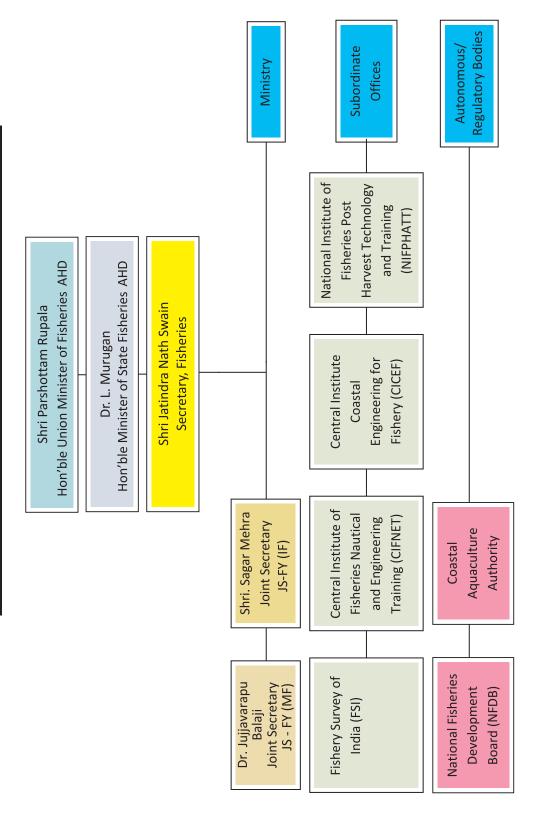


ANNEXURES

MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING

Annexure - I

Organisational Structure of Department of Fisheries



Work Allocation of Joint Secretaries (Inland & Marine) Department of Fisheries

Joint Secretary (Admin & Inland Fisheries)

Admn. I, Admn. II, Cash, General Admin, Trade & Codex Alimentarius, Plan Coordination, General Coordination, Public Grievances & Administrative Reform, International Cooperation, Official language, Information Technology. All matters related to Inland Capture Fisheries, FIDF, NFDB, FISHCOPFED, Matters related to Ornamental & Cold water fisheries, FAO, OIE, WTO, etc, Trade- SIPs, Coordination with ICAR Institutes for Inland Fisheries CIFRI, CIFA, CIFE, DCFR, NBFGR & other institutions related inland fisheries, Inland Fishing Infrastructure Cold-Chain, Markets, Fish Landing Centers & other Post Harvest Operations, PMMSY Schemes of all states except Maritime States/UTs, Inland Fishers Welfare Scheme and Programs, KCC, Department of Fisheries Administration (other than matters related to administration of Fisheries Institutions and CAA), Budget & Accounts, Fisheries Statistics, Court casesinland fisheries, Press/information Social Media, Website/Dash board related activities, Parliament affairs and Coordination Any other matters entrusted by Secretary **Fisheries**

Joint Secretary (Marine Fisheries & Chief Vigilance Officer)

All matters related to Marine Fisheries, Coastal Aquaculture & Mariculture, Matters of Coastal areas within the geographical jurisdiction of CAA, Quarantine & Diseasesregulation, surveillance & control, Matter related to Fisheries Institutions-FSI, CIFNE T, CICEF, NIPHATTexcept administrative matters, Coordination with ICAR Institutes of CMFRI, CIBA, CIFT, NIO, NIOT, CSRI, NBFGR & other institutions related marine fisheries, Coastal Aquaculture Authority (CAA), Marine fishing Infrastructure including Fishing Harbours, Fish Landing Centers & other Post Harvest Operations like Cold-Chain, Markets etc, Export promotion, matters of MPEDA, RGCA, EIA, Matters related to IOTC, FAO, OIE, WTO etc, Externally Aided Projects, All PMMSY Schemes of Maritime States/UTs, Monitoring, Controlling and Surveillance Scheme under PMMSY, Marine Fishers Welfare Schemes and Programmes, Court Cases-Marine Fisheries, any other matters entrusted by Secretary (Fisheries)

Annexure-II

Financial Allocation and Expenditure during FY2021-22

Actual Expenditure as on 31st December 2021 (Rs. In Crores)

Budget Components	Budget Estimates	Revised Estimates	Actual Expenditure
Pradhan Mantri Matasya Sampada Yojana	1000.00	1200.00	737.85
National Fisheries Development Board	23.84	18.04	1400
Coastal Aquaculture Authority	4.00	4.00	4.00
Fisheries and Aquaculture Infrastructure Development Fund	15.00	10.00	9.60
Directorate of Aquatic Animal Health and Quarantine	15.28	15.26	10.00
National Institute of Fisheries Post Harvest Technology and Training	11.57	9.26	8.24
Fishery Survey of India	83.71	72.84	44.63
Central Institute of Coastal Engineering For Fishery	505	4.40	3.92
Central Institute of Fisheries, Nautical & Engineering Training	34.14	24.00	17.50
Secretariate Economic services	28.23	49.48	14.60
Grand Total	1220.84	1407.29	864.35

Abbreviations

Short Form	Full Form			
AAQU	Aquatic Animal Quarantine Unit			
AFTC	Advanced Fishing Technology Course			
AIC	Aquatic Innovation Centre			
AKAM	Azadi Ka Amrit Mahotsava			
AOC	Aqua One Centre			
APFIC	Asia-Pacific Fishery Commission			
AQCS	Animal Quarantine and Certification Services			
AQF	Aquatic Quarantine Facility			
ASCM	Agreement on Subsidies and Countervailing Measures			
BE	Budget Estimate			
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical Economic Cooperation			
ВМС	Brood stock Multiplication Centre			
BOBP-IGO	Bay of Bengal Programme Inter-Governmental Organization			
CAA	Coastal Aquaculture Authority			
CBF	Culture Based Fisheries			
CBS	Core Banking Solutions			
CCRF	Code of Conduct for Responsible Fisheries			
CGFM	Cluster Group on Fisheries Management			
CICEF	Central Institute of Coastal Engineering for Fisheries			
CIFA	Central Institute for Freshwater Aquaculture			
CIFNET	Central Institute for Fisheries Nautical and Engineering Training			
CIFO	Central Institute of Fisheries Operatives			
CMFRI	Central Marine Fisheries Research Institute			
COFI	Committee of Fisheries			
COFI-AQ	Sub-committee on Aquaculture			
COFI-FT	Sub-committee on Fish Trade			
CPIO	Central Public Information Officer			
CPWD	Central Public Works Department			
CS	Central Sector Scheme			
CSS	Central Sponsored Scheme			
DAAHQ	Directorate of Aquatic Animal Health & Quarantine			
DBT	Direct Benefit Transfer			

DDL	Disease Diagnostic Laboratory				
DDO	Drawing and Disbursing Officer				
DFS	Department of Financial Services				
DGFT	Director General of Foreign Trade				
DLC	District Level Committee				
DoF	Department of Fisheries				
DPIIT	Department of Promotion of Industry and Internal Trade				
DSFS	Deep Sea Fishing Station				
EAP	Externally Aided Projects				
EAT	Expenditure, Advances & Transfer				
EEs	Eligible Entities				
EEZ	Exclusive Economic Zone				
EIS	Employees Information System				
EWS/PwD	Economically Weaker Section/Persons with Disabilities				
FAO	Food and Agriculture Organization				
FAO/UN	Food and Agriculture Organisation/United Nations				
FFPOs/Cs	Fish Farmers Producer Organizations/Companies				
FIDF	Fisheries and Aquaculture Infrastructure Development Fund				
FISHCOPFED	National Federation of Fishers' Cooperatives Ltd.				
FLC	Fish Landing Centre				
FMPIS	Fish Market Price Information System				
FSI	Fishery Survey of India				
GAIS	Group Accidental Insurance Scheme				
GAP	Good Aquaculture Practice				
GLP	Glo Litter Partnerships Project				
GVA	Gross Value Added				
IA	Implementing Agencies				
ICC	Investment Clearance Cell				
IISF	India International Science Festival				
ILO	International Labour Organisation				
IMC	Indian Major Carp				
IMO	International Maritime Organization				
INFOFISH	Information and Technical Advisory Services for Fishery Products in the Asia and Pacific Region				
IORA	Indian Ocean Rim Association				
IOTC	Indian Ocean Tuna Commission				

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ISO	International Organization for Standardization				
ITK	Indigenous Technical Knowledge				
IUU	Illegal, Unreported and Unregulated				
JWG	Joint Working Group				
KCC	Kisan Credit Card				
LPC	Lead Partnership Country				
MAP	Modified Atmosphere Packaging				
MCS	Monitoring, Control and Surveillance				
MFC	Marine Fitter Course				
MFVs	Mechanized Fishing Vessels				
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act				
MMT	Million Metric Tonnes				
MoA	Memorandum of Agreement				
MSCS	Multi-States Cooperative Society				
NABARD	National Bank for Agriculture and Rural Development				
NACA	Network of Aquaculture Centres in Asia and the Pacific				
NBC	Nucleus Breeding Centres				
NBFGR	National Bureau of Fish Genetic Resources				
NCDC	National Cooperative Development Corporation				
NCVT	National Council for Vocational Training				
NFDB	National Fisheries Development Board				
NGR	Negotiating Groups on Rules				
NIFAP	National Inland Fisheries and Aquaculture Policy				
NIFPHATT	National Institute for Fisheries Post-Harvest Technology & Training				
NLEs	Nodal Loaning Entities				
NMP	National Mariculture Policy				
NRCP	National Residue Control Programme				
NSPAAD	National Surveillance Programme for Aquatic Animal Diseases				
NTRP	Non-Tax Receipt Portal				
OIE	Office International des Epizooties				
OLIC	Official Language Implementation Committee				
PAC	Project Appraisal Committee				
PAO	Pay and Account Office/Principal Accounts Office				
PDC	Project Development Cell				
PFMS	Public Financial Management System				

PISFH	Pre-investment Survey of Fishing Harbours					
PL	Post Larvae					
PMMSY	Pradhan Mantri Matsya Sampada Yojana					
PMU	Project Monitoring Unit					
RAS	Re-circulatory Aquaculture System					
RE	Revised Estimate					
RFB	Regional Fishery Bodies					
RFMO	Regional Fisheries Management Organization					
RKVY	Rashtriya Krishi Vikas Yojana					
ROSA	Review of Operational and Scientific Activities					
RTI	Right to Information					
S&DT	Special & Differential Treatment					
SAARC	South Asian Association for Regional Cooperation					
SCP	Self Contained Proposal					
SCSP	Scheduled Caste Sub Plan					
SDG	Sustainable Development Goals					
SGO	Sectoral Group of Secretaries					
SHG	Self Help Group					
SIDA	Swedish International Development Agency					
SIPO	Singapore-India Partnership Office					
SLBC	State Level Bankers Committee					
SLC	State Level Committee					
SMC	Shore Mechanic Course					
SOP	Standard Operating Procedure					
SPF	Specific Pathogen Free					
SPS	Sanitary and Phytosanitary Measures					
TEFR	Techno Economic Feasibility Report					
UNCLOS	United Nations Convention on the Law of the Sea					
UNFSA	United Nationhs Fish Stock Agreement					
UTs	Union Territories					
VNC	Vessel Navigator Course					
WAAW	World Antimicrobial Awareness Week					
WGMSS	Working Group on Maritime Safety and Security					
WTO	World Trade Organisation					

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