



भारत 2023 INDIA

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ANNUAL REPORT

2022-23



DEPARTMENT OF FISHERIES, MINISTRY OF FISHERIES
ANIMAL HUSBANDRY AND DAIRYING
GOVERNMENT OF INDIA



Annual Report

2022-23

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 Organizational 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 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 are 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. Development of Fisheries Infrastructure
- e. Inland Fisheries Development
- f. Establishment of the network of Aquatic quarantine
- g. 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 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
- i. 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/Co-operative Unions
- k. Preservation, protection and improvement of fish stocks and prevention of diseases thereof, Veterinary training and practice
- l. 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) Fishery Survey of India (FSI), Mumbai (ii) Central Institute for Fisheries Nautical and Engineering Training (CIFNET), Kochi, (iii) National Institute for Fisheries and Engineering Training (NIFPHATT), Kochi, and (iv) Central Institute of Coastal Engineering for Fisheries (CICEF), Bengaluru. Besides these four Institutes, DoF has two autonomous/ regulatory bodies namely the National Fisheries Development Board (NFDB), Hyderabad and the Coastal Aquaculture Authority (CAA), Chennai. A brief on the Institutes is as 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 coasts 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 undertake 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 1972 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 maximized post-harvest fish utilization. Post-harvest technology up gradation 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, the organization is recognized for promotion and development of Fisheries and Aquaculture in India and has been driving dedicatedly the stakeholders mainly fishers through various need-based projects for technology up gradation, species diversification in aquaculture, dissemination of new and improved fish varieties, promoting seaweed cultivation, ornamental fisheries, training & capacity building etc. Acting as a catalyst for State/UT fisheries departments and Stakeholders in the promotion and implementation of schemes such as PMMSY & FIDF, identifying the gaps & as

an advisory/technical body and outreach extension services in implementing the activities. NFDB has played a crucial and exemplary role in promoting infrastructure facilities to bring a significant improvement in handling, preservation, and marketing of fish, increasing production and productivity, improve the livelihoods of fishers, promoting entrepreneurship opportunities in fisheries, providing insurance support and establishing e-trading platforms for the market price regularization, organizing outreach activities such as fish festivals, outdoor & digital campaigns to increase consumption of fish and also provides 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, viz., 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 and Sustainable Fish production

Recognizing the potential of the 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 FY2024-25. During the current financial year, proposals with a total cost of Rs. 7007.23 Crores with central share of Rs. 3224.19 Crores were approved. In the Budget Estimates 2022-23, the Department has been allocated total budgetary support of Rs. 2,118.47 Crores that was revised to a total budgetary support of Rs. 1,624.18 Crores including allocations for scheme and non-scheme components. The Component wise, Budget Estimates (BE), Revised Estimates (RE) and Expenditure for 2022-23 are indicated in **Annexure-II**.

The scheme intends to address critical gaps in fish

production and productivity, in fusion of innovation and modern technology, post-harvest infrastructure & management, modernization 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 Fisheries sector, facilitate economies of scale, generate higher incomes, and 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 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 post-harvest 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 in direct 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, a number of sub-activities/components are envisaged under the PMMSY scheme. To this effect, adoption of modern technologies in production and post-harvest 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.

1.5 Public Grievances Cell

A Public Grievances Cell has been set up in the Department to look into grievances of the public. A comprehensive review has been undertaken to upgrade the Centralised Public Grievance Redress and Monitoring System (CPGRAM) to make it more responsive to the needs of the citizen. Nodal officer for dealing with the PGs is DS (Administration) and appellate authority is Joint Secretary (Administration). As per the guidelines of DARPG, steps have been taken for deeper analysis of grievances, universalization of CPGRAM version 7.0 for auto routing of grievance to last mile etc., appointment of schemes officers as Public Grievance Officers. Public Grievance officers have been sensitized to resolve grievances within the prescribed timelines of 30 days. The details of public grievances in the Department from 1st April 2022 to 31st December 2022 are given 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 Officer 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/disciplinary cases pertaining to the Department and its subordinate offices. Various preventive vigilance measures have been taken to sensitize the officials like orientation programme on administrative vigilance and interaction with heads and vigilance officers of subordinate officers. Quarterly progressive Report has been submitted on CVC Portal, Probity information has been submitted in the respective portal. The Chief Vigilance Officer monitors the vigilance cases on a regular basis. Vigilance Awareness Week was celebrated in the Department from 31st October to 6th November 2022 on the theme "Corruption free India for a developed nation". Various activities have been undertaken during the vigilance awareness week.

1.8 Progressive use of Hindi

Official Language Section was established in the Department consequent upon creation and manning of one post of Assistant Director (OL) and two posts of Junior Translation Officer (JTO) for the first time in this Department. Consequently, the system of engaging Consultants for translation etc. was dispensed with. The Section has proactively initiated various activities towards implementation of Official Language policy of the Government.

Official Language Implementation Committee (OLIC) has been constituted 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. Parliamentary Committee on Official Language has inspected NFDB HQ, Hyderabad, CIFNET HQ, Kochi and FSI HQ, Mumbai during 2022 and they expressed satisfaction over the performance of this newly created small Department.

'Hindi Pakhwada' was organized in the Department from 17th to 30th September 2022. During the fortnight, various events/competitions like essay writing, noting and drafting, painting, typing/shorthand etc. were conducted and the officials of the Department participated enthusiastically. The winners were awarded cash prize by Secretary of the Department. Official Language Workshops were organized wherein officials were given information on various Official Language policies, Acts, rules and other instructions.

Hindi Salahkar Samiti under the chairmanship of Hon'ble Minister for FAHD has been constituted and its first meeting was held in November, 2022.

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

Under the Right to Information Act, 2005, Department has designated Central Public Information Officers (CPIOS) and Appellate Authorities. 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 2022-23 (1st April to 31st December, 2022), 172 RTI applications and 25 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. There is no complaint of sexual harassment at workplace either at the Department or organizations under its administrative control of the Department during 2022.

1.11 Minimum Government, Maximum Governance

Efficient decision making is fundamental to responsive and accountable governance. Accelerating the pace and efficiency of decision making is crucial for economic growth and enhancing the ease of living of citizens/ease of doing business. Accordingly, various actions have been initiated with an aim to Minimum Government, Maximum governance 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. E-office has been upgraded to version 7.0 for seamless inter transfer of files and receipts among Ministry/Department and with organizations..

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.

DOF Gallery 2022-23

Sagar Parikrama Phase-I



Sagar Parikrama Phase-II



Inauguration of Capacity Building Resource Centre for Intensive Aquaculture Technologies in Punjab at GADVASU-Ludhiana



DOF Gallery 2022-23

Review Meeting



International Coastal Cleanup Day - 2022



DOF Gallery 2022-23

Launch of Culinary Coffee Table Book 'Fish & Seafood - a collection of 75 gourmet recipes' (10th August 2022)



2nd PMMSY launch anniversary (10th September 2022)



Annual plan preparation workshop for all States/UTs (4th to 5th January 2023)



DOF Gallery 2022-23

Rajbhasha Pakhwada 2022



Vigilance Awareness Week 2022



DOF Gallery

2022-23

Webinar organised on Promotion of Frozen Fish and Fish Products with industry experts



Women as Catalyst for Change - Webinar on Narrowing Gender Gap in Fi-SHE-ries Sector

Women as Catalyst for Change

A Webinar on Narrowing Gender Gap in Fi-SHE-ries Sector

04:00 PM - 05:30 PM | Monday 08 August, 2022

Esteemed Speakers



Dr. V. Kripa
Member Secretary
Coastal Aquaculture Authority, Chennai



Dr. (Smt.) Suvarna Chandrappagari
JS, Chief Executive (CE)
National Fisheries Development Board (NFDB),
Hyderabad



Ms. Veenu Jaichand
Partner, SKI Development and
Entrepreneurship, Ernakulam, Kerala



Dr. Sriparna Baruah
Head, Indian Institute of Entrepreneurship (IIE),
Guwahati, Assam



Dr. S. Glowry Swarupa
Director General
National Institute for Micro, Small,
and Medium Enterprises, Hyderabad

Organized by

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

Chapter 2

Overview of the Indian Fisheries Sector

2.1 Indian Fisheries Sector-Current Scenario

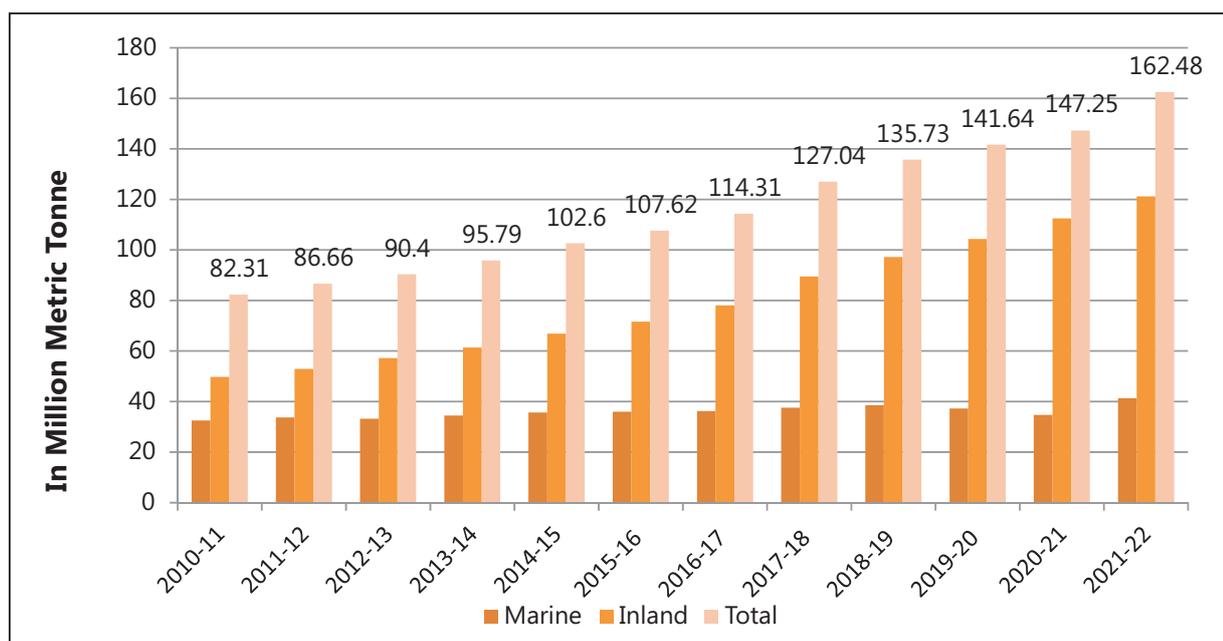
India is the third largest fish producing country in the world and accounts for 7.96 percent of the global production. The total fish production during FY 2022-23 is estimated at 16.25 MMT with a contribution of 12.12 MMT from Inland sector and 4.13 MMT from Marine sector. The annual average growth rate in the Fisheries sector has been 7% over the last five years. The Fisheries sector plays an important role in the national economy and the share of Fisheries sector in the total Gross Value Added (GVA), at Constant prices, in 2022-2023 is estimated at Rs. 1,37,716 Crores that constitutes about 1.09 percent of the total national GVA and 6.72 percent of agricultural GVA. Fisheries and aquaculture continue to be an important source of food, nutrition, income and livelihood to millions of people. The fisheries sector of India has shown an impressive growth rate of 9.03% (Constant Price: 2011-12) during the year 2015-16 to 2020-21.

During FY 2021-22, export of marine products stood at 1.37 MMT and valued at Rs. 57,586.48 Crores (USD: 7.76 billion) with an impressive average annual growth rate of about 10% in recent years. As for overseas markets, USA continued to be the major importer of Indian seafood with an import worth USD 3371.66 Million, accounting for a share of 43.45 percent in terms of US 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 75 percent of the total fish production of the country. The fish production in the country has shown continuous and sustained increment since independence. During 2021-22, 77 percent of Marine Fisheries potential and 71 percent of the Inland Fisheries potential have been harnessed.

Fish being an affordable and rich source of animal protein, is one of the healthiest options to mitigate hunger and nutrient deficiency. The sector has immense potential to double its exports. Thus sustained and focused attention is given to the fisheries sector by the Union Government through policy and financial support to accelerate its development in a sustainable, responsible, inclusive and equitable manner.

India is also a major producer of fish through Aquaculture and ranks second in the world after China. Inland fish production constitutes about 75 percent of the total fish production of the country and annual growth rate of production has also been high. The fish production has increased from 5.66 MMT in 2000-01 to 8.67 MMT in 2011-12 and further to 16.25 MMT in 2021-22.



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 civilization. Reference to fish, its trade and fisher community are found in the Songs of the Sangam Period/Litature (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 marking

the priorities for the development of both the Marine Fisheries and the Inland Fisheries sectors through:

- Mechanisation of country craft or introduction of new mechanized boats
- Development of fishing harbor facilities
- Supply of requisites to fishermen
- Development of marketing activities
- Provision of ice and cold storage and transport facilities
- Introduction of mother ship operations
- Provision for off-shore fishing with larger powered vessels such as purse-seiners and trawlers
- Survey and stocking of new culturable waters
- 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.

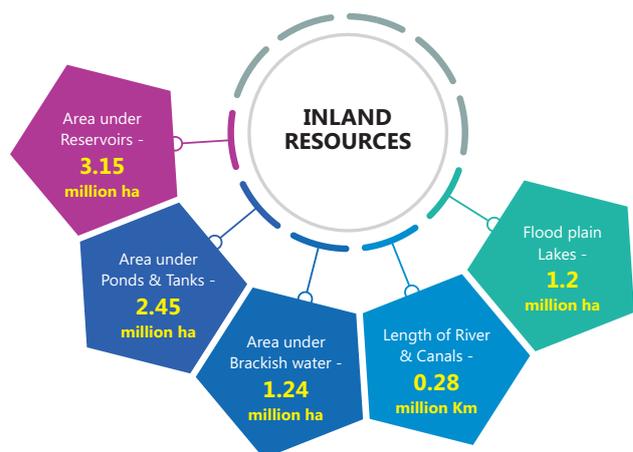
Fisheries have emerged as a sunrise sector and have been an important sector that provides food, nutrition, employment, income and livelihood in India. Transformation of the Fisheries sector from traditional to commercial scale has led to an increase in fish production from 0.75 MMT in 1950-51 to 16.25 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 to 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, flood plain lakes, ponds and tanks, reservoirs, brackish water, saline/alkaline affected areas etc.

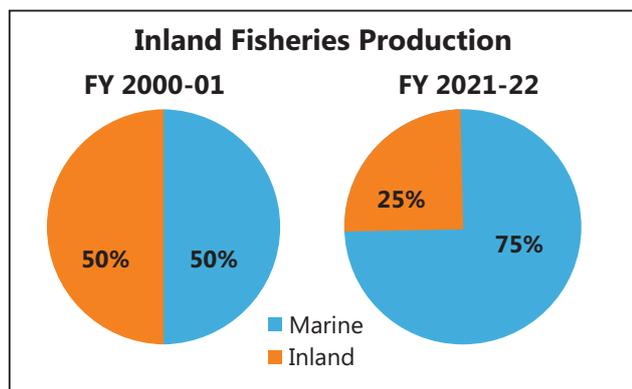
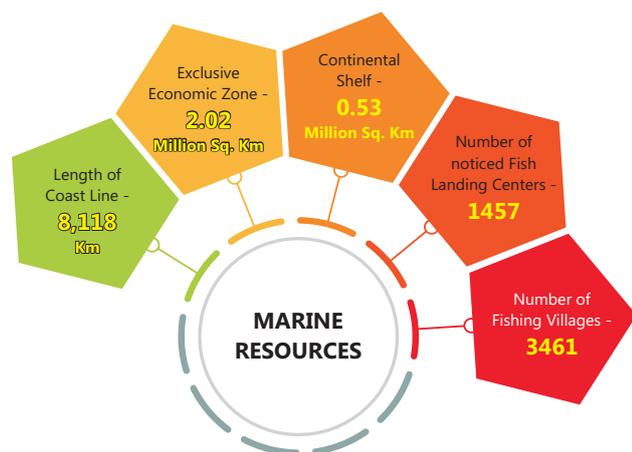
The Marine resources of the country comprise an EEZ of 2.02 million sq.km, a continental shelf area of 0.53 million sq. km and a coastline of 8,118 km. The Marine Fisheries potential in the Indian waters has been estimated at 5.31 MMT constituting about 43.3 percent demersal, 49.5 percent pelagic and 4.3 percent oceanic groups, The trend analysis of Indian Fisheries sector reveals a paradigm shift from Marine dominated fisheries to a scenario where Inland Fisheries have emerged as a major contributor to the overall fish production in the country. As seen in the below chart, Inland Fisheries presently have a share of 75 percent in total fish production of the country.



1.1 percent is land 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 sea food in the country.

Although, Inland Fisheries has grown in absolute terms, however the rate of growth in terms of its potential has not been realized yet. The vast inland resources comprise of 0.28 million km of rivers and canals, 1.2 million ha flood plain lakes, 2.45 million ha of ponds and tanks and 3.15 million ha of reservoirs.



Subject matter of 'Fisheries' is listed in the State List (entry 21 under seventh schedule of Article 246) of the constitution of India; however, the Union Government supplements the efforts of the States/UTs for development of the fisheries and aquaculture 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 management of fisheries in the Exclusive Economic Zone (EEZ) waters beyond 12 nautical miles. 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 up land 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 rain bow 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 overall 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*, Seabass and other candidate fish species for saline water etc. Hatchery and seed production techniques have so far been standardized for few commercial varieties of shrimps, crabs and fin fishes.

Ornamental fisheries are the 2nd most popular hobby with approximately 100 million hobbyists in the world. However, India's share of global ornamental fish export is negligible (0.53 percent with an import share of 0.42 percent), despite 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. A proposal for value chain analysis has been sanctioned for ICAR-CIFA to estimate the opportunity areas.

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 sea weed 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 seed-banks etc. are being prioritized by the Department.

River ranching scheme has been taken up as a priority activity to replenish depleted fish stock in rivers. Production of native species in the rivers by seed ranching of native stock, upgradation of riverine landing centers and instruments to provide financial assistance for fishermen wellbeing are being targeted. As India is bestowed with 14 major, 44 medium, and numerous minor rivers that run through 2.52 lakh Kms, contribute to current production of 1 Lakh ton. For optimally harnessing the potential of riverine fisheries, the Department is focusing on

conservation of indigenous fisheries resources and restoration of natural productivity by practice of river ranching and 41 Conservation and Awareness in Riverine Fisheries programme sanctioned under Blue Revolution in 9 States /UTs. River ranching is being implemented in Ganges and the tributaries of Ganges river system, Brahmaputra and Barak river distributaries and other rivers, Mahanadi and tributaries of Mahanadi river system and Godavari, Cauvery, Narmada and Indus river.

Artificial reefs (AR's), a centuries-old technique, provides a firm substrate for marine life to inhabit, attract fish that can consume the algae and other organisms that populate the artificial substrate. AR's are used all over the world to increase the production and fishing potential of under-utilised areas. They also enhance the area's biological productivity and are widely used as spawning and nursery grounds for fishes. Their prime objectives are mitigation of habitat loss, enhancing biodiversity, enhancing aquatic creature populations by providing shelter for juvenile and mature animals, providing new substrates for algae and molluscs culture, establishing possible marine protected area (MPA) networks to regulate fish life cycles and connectivity, enhancing professional and recreational fisheries, creating suitable areas for diving and providing a mean to manage coastal activities and reduce conflicts and research and educational activities. The Department is taking up special projects to establish artificial reefs across the coastal belt in suitable places.

For FY 2022-23, the following studies have been launched:

1. Transforming Fisheries – booklet on PMMSY and achievements
2. Matsya Sampada: 3rd edition of DoF newsletter
3. Tilapia Action Plan as Part of Export Diversification

4. Plan for scaling up production of scampi in India

5. National Seed Plan: 2022-2025

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 3.26.

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.

Expansion of area under Aquaculture has to become an important option to boost fish production. In this context, derelict water bodies are expected to 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 2020-21 is about 540689.82 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 harbor 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/ sleepway/sleeplift/ drydock, agri-export management etc.

Major Schemes and Programmes of Department of Fisheries

3.1 Pradhan Mantri Matsya 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, modernize 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



VISION

"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".



MISSION

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

- 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 frame work

3.1.1 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)
- b. 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 harbors 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)
- l. Certification, accreditation, traceability and labeling
- m. Administrative expenses for implementation of PMMSY (to meet expenses of both CSS and components)

3.1.1.2 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 FY2020-21 to FY2024-25. 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:

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

For the Non-beneficiary oriented sub-components/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:

- North Eastern & Himalayan States: 90 percent Central share and 10 percent State share
- Other States: 60 percent Central share and 40 percent State share
- 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 fisher's families for conservation of fisheries resources during fish ban/lean period' under PMMSY is summarized as below:

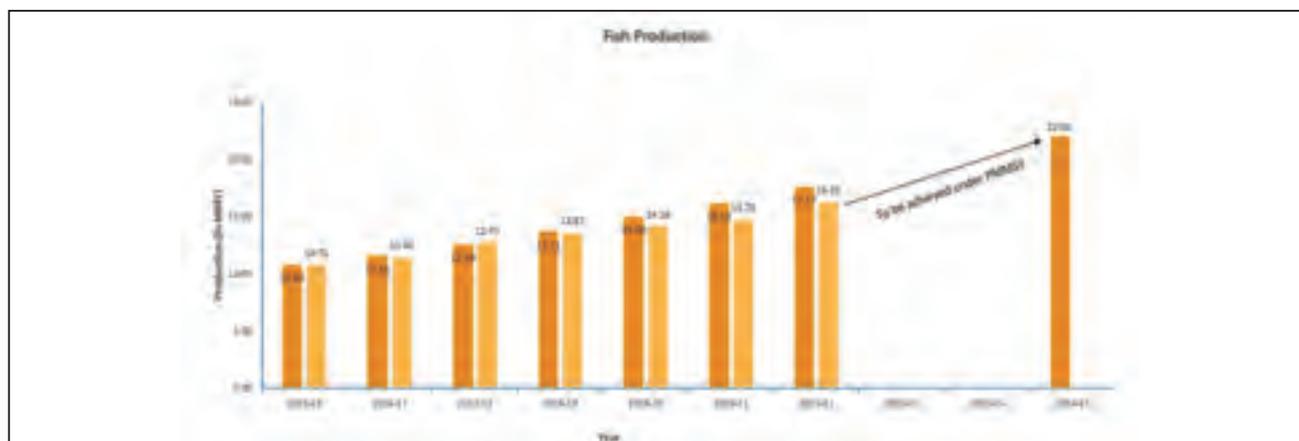
States/UTs	Funding pattern	Contribution
(i)	(ii)	(iii)
General States	50:50 Centre and General States	Centre share Rs. 1500 + State share Rs. 1500 + Beneficiary share Rs. 1500 = Rs. 4500/-year
North East and Himalayan States	80:20 Centre and NE & Himalayan States	Centre share Rs. 2400 + State share Rs. 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 22MMT 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 Lakh 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 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 resource 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 fishseeds 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 encourages to adopt Good Aquaculture Practice (GAP).

a. Pond Aquaculture: It is the most

common method of aquaculture and major source of fish production in the country. Effective utilization of the existing ponds and tanks resources through semi intensive to intensive aquaculture is one of the priority activities of the Department.

b. Culture based fisheries in wetlands and reservoirs: When the fish harvest in an open water system depends solely or mainly on artificial recruitment (stocking) 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 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.

- c. Fish seed production:** Quality fish seed is 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 carp-centric 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 (NMB) 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)

Disease outbreak as well as spreading of pathogens to new areas is the significant threat to growth of aquaculture due to intensification and diversification of aquaculture practices. National level disease surveillance provides information on the disease situation in the country. In case of aquatic animals, it allows better targeting of efforts to control and reduce the risk of spread of aquatic animal diseases, provides early warning of disease emergencies, facilitates more specific contingency planning and strengthens international confidence on country's aquatic animal health status.

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 implemented to cover 19 selected States and 3 Union Territories of aquaculture importance through the involvement of 31 identified collaborating centres in the country in a network mode involving ICAR Fisheries Institutes, Colleges of Fisheries, State Fisheries Departments and other relevant collaborating partners in the Phase-I till March, 2022.

The National Surveillance Programme on Aquatic Animal Diseases (NSPAAD) is being supported under Pradhan Mantri Matsya Sampada Yojana with active involvement of stakeholders. The programme in the second phase implemented through 59 centres including all the State Fisheries Departments and all the NSPAAD collaborating centres comprising 10 ICAR research institutes, 15 Colleges of Fisheries (CoFs) under State/Central Fisheries/Agricultural/Veterinary universities. Implementation of NSPAAD in Phase-II for a period of three years from 1st April, 2022 to 31st March, 2025 has been approved. 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.

It is envisaged that the programme would increase the capacity to detect and control diseases at national level, and will have a major

impact on reducing losses due to aquatic animal diseases and thereby, sustainable growth of aquaculture in the country.

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 & 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 Aquatic Animal Quarantine Unit (AAQU) and Disease Diagnostic Centre (DDL) facilities at Padappai, Chennai through CPWD at a cost of Rs. 19.27 Crore. 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 and is in the final stage of completion. 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. The transfer of the land for the said facilities is under active consideration. Besides, special focus is being given for establishment of aquatic quarantine facilities in the country for aquatic animals and their products under Pradhan Mantri Matsya Sampada Yojana. 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 75% in India contributing around of the total production in the country. To harness its 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 35 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. 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 hectares. 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%) 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%) is put to use. The Department is thus promoting technologies to harness the potential of unutilized saline-alkaline culture and brackish water body 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. 526 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 Himalayan 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 "low-volume, 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. 852 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. 576.00 Crore 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 endeavor, DoF have already accredited 52,700 nos of rafts and 64,231 nos monoline tubenet for seaweed cultivation.

For the purpose of minimizing the post-harvest losses, DoF is strengthening the supply chain gaps by providing efficient logistic solutions, modernization 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 modernization and development of Fishing harbors and fish landing centres. Entrepreneurship model for value addition and better price realization 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 720 FFPOs across the nation. The Department has conferred approval to National Co-operative for Disease Control (NCDC) for setting up of 70 FFPOs at a total cost of Rs. 37.80 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 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, fisher folk during lean and ban period and provides social safety and security net to the fishermen and fisher folk.

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 Group Accidental Insurance Scheme (GAIS) has also been launched for fishermen with a total cover of Rs. 5.00 Lakh against and permanent disability, Rs. 2.5 Lakh 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% of average annual growth rate and accomplish its production target of 220 lakh MT by year 2025, from its current production of 162.53 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 fisher folk.

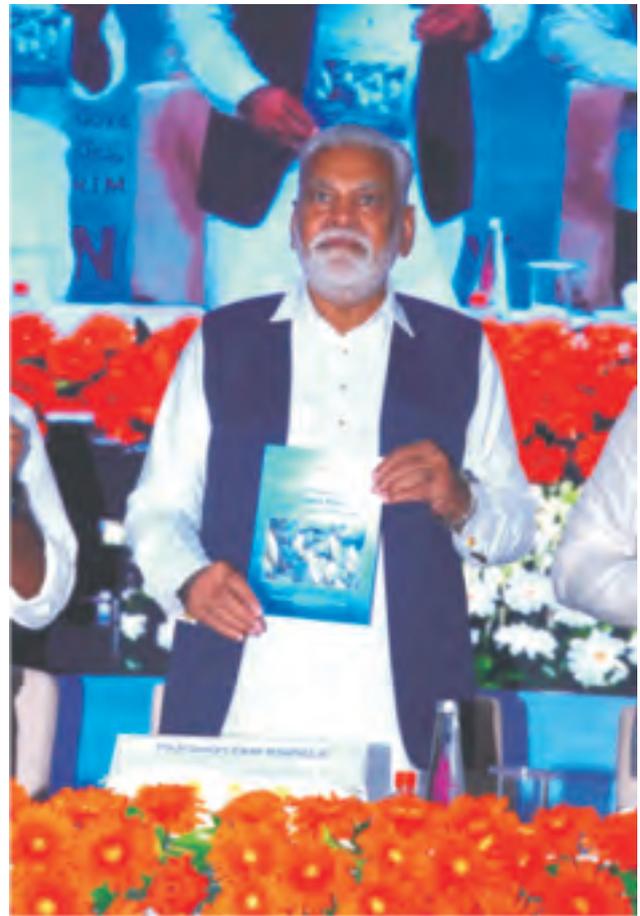
Major achievements in FY 2022-23 (as on 31st March, 2023) are as follows:

- a. Central assistance of Rs. 1,174.90 Crores released for Fisheries sector
- b. Assistance provided for bringing 4,449.75 ha area under Inland aquaculture
- c. 8,392 Nos of Recirculatory Aquaculture Systems (RAS) and 497 Nos of Biofloc approved.
- d. Approved installation of 11,075 Nos cages and 177 ha pens in reservoirs and other open water bodies
- e. Approved establishment of 317 Nos of fish/prawn hatcheries
- f. Approved 783.39 ha of pond area approved under saline-alkaline culture
- g. Approved 726 Ornamental Fish rearing units.
- h. Approved 180 Deep Sea Fishing Vessels and 500 up gradation of existing fishing vessels
- i. Constructed 42 Bio- toilets in mechanized fishing vessels
- j. 2,263 Nos replacement boats and nets for fishermen
- k. Approved 171 cold storages and 594 feedmill units
- l. 17 Fish retail markets and 3,127 fish kiosks including ornamental kiosks approved
- m. Livelihood and nutritional support for 5,87,198 fishers' families for conservation of fisheries resources during fishing ban/lean period

- n. 80 nos Matsya Seva Kendra for extension and support services

With the immense support from all States governments, UT administrations, apex research and government organizations and other stakeholders, the Department is determined to take the fisheries sector to newer heights and contribute towards making a 'Atma Nirbhar Bharat'.

3.1.10 Promotion of Tilapia culture

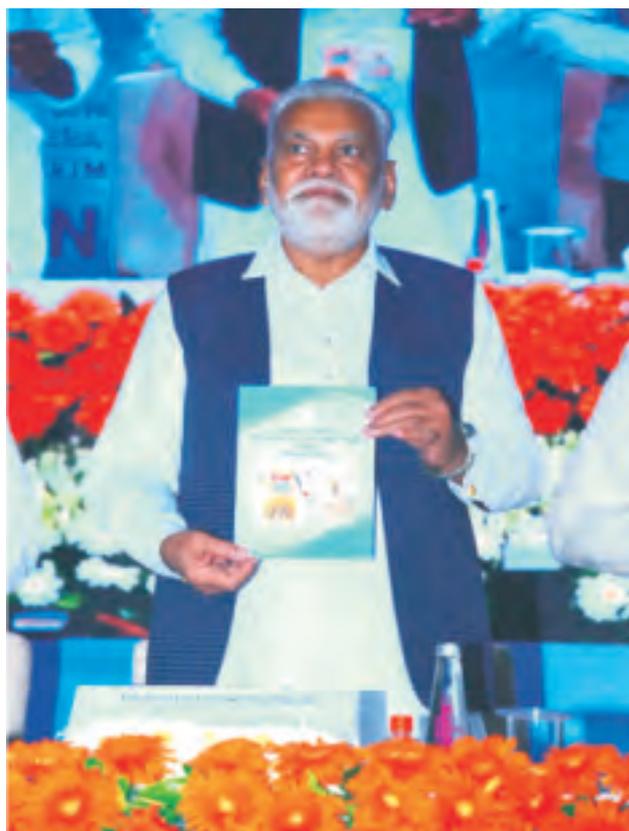


Tilapia holds vast promise to become an important species for aquaculture in India, considering the demand for more fish, Genetically Improved Farmed Tilapia (GIFT) is one of the important candidate species for aquaculture in India. It has become a fish of choice because it is fast growing and an affordable source of animal protein. Per hectare productivity of this species is more than Indian

Major Carps (IMC) and other carps. Tilapia has huge export potential in USA, Europe, Japan and Middle East. The primary focus of increasing tilapia production in India is to increase rural livelihoods and job opportunities to women and youth. In order to leverage the potential of tilapia, Department of Fisheries, Government of India has launched a plan with an ambitious target of producing 4 lakh tons of tilapia by Financial Year 2024-25. Government of India has permitted only culture of Genetically Improved Farmed Tilapia (GIFT) in closed or confined water resources. Tilapia culture is not allowed in open water bodies in India. The Department of Fisheries, Government of India under the flagship Scheme, Pradhan Mantri Matsya Sampada Yojana (PMMSY) has approved establishment of Brood Bank for Genetically Improved Farmed Tilapia (GIFT), establishment of hatchery for GIFT seed production. Re-circulatory Aquaculture System (RAS) and installation of cages in reservoir are priority activities under PMMSY. This GIFT species is an ideal species for culture in RAS and cages in reservoir. Further, existing ponds are also utilized for GIFT culture. Chhattisgarh, Jharkhand, Tamil Nadu, Odisha, Uttar Pradesh, West Bengal, Maharashtra, Madhya Pradesh, Bihar and Kerala are potential states that will be instrumental in achieving the target production of tilapia.

Promotion of Scampi culture

Scampi' is one of the most important cultivable native species in freshwater aquaculture systems due to its high price, large size, faster growth, good taste and high domestic and export demand. Further, this species can be cultured either in freshwater or slightly brackish water (<7 ppt) and both in monoculture or polyculture system. However, the major problem was the lack of availability of quality seeds for stocking. Farmers had to depend on the seed of unknown quality, probably inbred seeds which lead to slow growth and poor survival thereby decreasing production. Frequent outbreak of diseases also caused huge loss to farmers. Therefore, the



Department of Fisheries, Government of India has funded a project under Pradhan Mantri Mantri Matsya Sampada Yojana (PMMSY) to ICAR-Central Institute of Freshwater Aquaculture (ICAR-CIFA), Bhubaneswar at a total cost of Rs.400.07 lakh to Scaling up of the existing Genetic Improvement Programme of Freshwater Prawn *Macrobrachium rosenbergii* (Scampi) and to cater to the brooder seed demand in the country for production of quality and disease free scampi seed. The scaling up of the existing programme will produce 120 to 150 families of improved breed every year and will provide the quality and disease free brooder seed to private scampi hatcheries for acting as multiplier unit and further supply to scampi seed to aqua farmers. At present ICAR-CIFA has produced 100 families and signed MoUs with eight multiplier hatcheries and supplying breeder seed to these hatcheries for production of quality seed. National Freshwater Fish Brood Bank (NFFBB) at Bhubaneswar established by this Department also has provision for brood bank facility of Scampi in addition to

freshwater fish. The Department of Fisheries has launched a Plan for scampi to achieve one lakh tonne production.

3.2 Fisheries and Aquaculture Infrastructure Development Fund

In order to address the infrastructure requirement for fisheries sector, the Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying during 2018-19 has created dedicated fund namely Fisheries and Aquaculture Infrastructure Development Fund (FIDF) with a total funds size of Rs 7522.48 crore. FIDF provides concessional finance to the Eligible Entities (EEs), including State Governments/Union Territories and State entities for development of identified fisheries infrastructure facilities through Nodal Loaning Entities (NLEs) namely,

- National Bank for Agriculture and Rural Development (NABARD),
- National Cooperatives Development Corporation (NCDC) and
- All scheduled Banks

Under the FIDF, the Department of Fisheries provides interest subvention up to 3% per annum for providing the concessional finance by the NLEs at the interest rate not lower than 5% per annum. Loan lending period under FIDF is five years from 2018-19 to 2022-23 and maximum repayment period of 12 years inclusive of moratorium of 2 years on repayment of principal. Under the FIDF, so far proposals to the tune of Rs. 7649.58 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, Telanagana, Mizoram, West Bengal, Assam, Lakshadweep, Gujarat, Uttar Pradesh, Odisha and Haryana, Himachal Pradesh, Manipur, Andaman and Nicobar, Kerala, Tripura, Goa and Bihar. DoF has approved the proposals to the tune of Rs. 5588.63 Crores with Project cost

restricted for interest subvention of Rs. 3738.19 to various States/UTs including the proposals of private beneficiaries. An amount of Rs. 2233.81 Crores have been sanctioned by Nodal Loaning Entities (NLEs). NABARD has sanctioned an amount of Rs. 2221.98 Crores to the State Governments and Rs. 11.83 Crores has been sanctioned by Scheduled banks to private beneficiaries 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, GOI funding the State/UTs Projects under FIDF by NABARD. However, so far, only 12 States Governments namely Tamil Nadu, Gujarat, West Bengal, Andhra Pradesh, Karnataka, Kerala, Maharashtra, Haryana, Goa, UT of Jammu and Kashmir and Odisha and Himachal Pradesh 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, 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 Woman groups are eligible for availing the KCC facilities.

For Inland Fisheries and Aquaculture Fishers, Fish Farmers (individual & groups/partners/share croppers/ tenant farmers), Self Help Groups, Joint Liability Groups and women groups is eligible for availing the KCC facilities. The beneficiaries must own or lease any fisheries related assets such as pond, tank, open water bodies, raceway,

hatchery, rearing units, boats, nets and such other fishing gear as the case may be and possess necessary authorization/certification as may be applicable in respective states for fish farming and fishing related activities and for any other State specific fisheries and allied activities. For Marine Fisheries, beneficiaries listed above, who own or lease registered fishing vessel /boat, possess necessary fishing license/permission for fishing in estuary and sea, fish farming/mariculture activities in estuaries and open sea and any other State specific fisheries and allied activities.

The Fisheries related working capital components covered under KCC include recurring costs towards seed, feed, organic and inorganic fertilizers, lime/others oil 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, laboring charges, mooring/landing charges etc.

Credit limit of Rs. 3 Lakh 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 Lakh per annum has been fixed.

The Department of Fisheries ,Government of India had been pursuing with all the State Governments/UTs and State Level Bankers Committee (SLBC) to sensitize and disseminate information amongst the fishers and fish farmers about on KCC through special camps and other mode so 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.

In order to provide Kisan Credit Card facility to all

eligible Fishery Farmers and Animal Husbandry, Ministry of Fisheries, Animal Husbandry and Dairying in association with Department of Financial Services organized a "Nationwide AHDF KCC Campaign from 15th November 2021 to 31st July 2022. During this Campaign, District Level KCC Camps were organized weekly by KCC Coordination Committee coordinated by Lead District Manager (LDM) for on the spot scrutiny of applications sourced. "Nationwide AHDF KCC Campaign" resumed from 15.09.2022 for another six months. Till March, 2023, 1.30931 lakh KCC has been sanctioned to fishers, fish farmers and fishermen etc.

3.4 Important Programme Organised

3.4.1 Implementation of PM Gati Shakti National Master Plan

A meeting was held under the Chairmanship of Hon'ble Prime Minister to review the proposal of National Industrial Corridor Programme of the Department for Promotion of Industry and Internal Trade (DPIIT) on 25th June, 2020. DPIIT presented the identified project by depicting the flagship infrastructure scheme of Government of India viz: Bharatmala, Sagaramala, Dedicated Freight Corridors, National Gas-Grid and National Waters-ways for providing multi modal connectivity to the identified nodes. Accordingly, DPIIT was directed to prepare comprehensive master plan for providing backbone of seamless connectivity for the entire country for connecting transport related and other infrastructure network to provide multi modal connectivity to various types of economic & Industrial Zones. As a follow up to the directions, DPIIT requested concerned Departments for preparing details clusters and other infrastructure projects of respective sectors. Department of Fisheries (DoF) was also requested to prepare a nationwide map of the Fishing/Seafood Clusters (both existing as well as proposed) and activities being undertaken for promotion of Blue Economy in the following line:

- o Status as in 2014;
- o Achievements till 2020; and
- o The project under implementation and planned for completion by 2024.

As follow up to the request of DPIIT, DoF informed that as far as Fishing and Seafood Clusters are concerned, during the last 5 years the DoF had been implementing a Centrally Sponsored Scheme (CSS): Blue Revolution Scheme-Integrated Development and Management of Fisheries. Due to efforts of the government and stakeholders focused fisheries activities with 'critical mass' which can qualify to be 'clusters' have come up in states in recent years. Some worth mentioning organically developed clusters are vannamei shrimp clusters in Coastal districts like Krishna, Guntur and East and West Godavari of Andhra Pradesh, monodon shrimp clusters in Gujarat, Pangasius fish (basa) in Jharkhand and Chhattisgarh, Ornamental fish in West Bengal and Chennai, Tamil Nadu, seaweed cultivation in Mandapam area of Tamil Nadu, Tuna fishing in southern districts of Tamil Nadu and Kerala and seafood processing in Andhra Pradesh and Kerala. In addition, the new Pradhan Mantri Matsya Sampada Yojana (PMMSY) launched by the Government of India in May 2020 at an estimated investment of Rs. 20,050 Crores primarily focuses on adopting 'Cluster or Area based approaches' and creation of Fisheries clusters through backward and forward linkages including end to end solutions in order to enhance competitiveness of fisheries sector, facilitate economies of scale, generate higher incomes, accelerate growth and expansion of the sector in an organized manner, amplify outcomes, etc. Accordingly, a detailed note was shared with DPIIT along with the indicated Seafood clusters/Fishing Harbours/Fish Landing Centres. Total cumulative of existing fishing clusters, fishing harbours and fish landing centres during 2014, under development projects during 2020 and proposed for development during 2024 was 153 numbers. In addition, it was envisaged to

have new fishing harbours and major fish landing centres under Pradhan Mantri Matsya Sampada Yojana and Fisheries and Aquaculture Infrastructure Development Fund (FIDF) was 49 numbers, counting the total to 202 numbers. Subsequently, a Cabinet Note was shared by DPIIT on the same which was examined and DoF supported the same. The National Master Plan for clusters was subsequently renamed as The PM GatiShakti National Master Plan.

Hon'ble Prime Minister Launched the PM GatiShakti National Master Plan for Multimodal Connectivity on 13th October, 2021 in New Delhi. It was envisaged that the National Master Plan will bring in holistic planning and development across the country. Department for Promotion of Industry and Internal Trade (DPIIT) is the nodal Ministry and other infrastructure Ministries are the lead for the plan. The National Master Plan will also aid concerned Ministries/Departments to prioritize connectivity enhancements for ensuring last mile connectivity to economic zones in a defined time frame. Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying has also been taken onboard of the PM GatiShakti National Master Plan. All economic zones and infrastructure developments depicted in a single integrated platform will provide spatial visibility of physical linkages to promote comprehensive and integrated multi-modal national network of transportation and logistics with the aim to enhance ease of living, ease of doing business, minimize disruptions and expedite cost efficient completion of works. The development of a GIS based ERP system, in collaboration with BISAG-N (Bhaskaracharya National Institute for Space Applications and Geo-informatics), will enable all stakeholders and the Network Planning Group consisting of Infrastructure connectivity Ministries in spatial planning, evidence-based decision-making, administration and effective monitoring of the Master Plan on a periodic and real time basis. With over 200 layers, the Portal will provide

visibility of all the critical network linkages and support the Network Planners for decision making for better efficiencies in the logistics sector. Development in infrastructural projects costing above Rs. 500.00 Crores across the country are considered as high priority projects under the PM GatiShakti National Master Plan. The Empowered Group of Secretaries (EGoS) on PM GatiShakti National Master Plan was constituted by DPIIT under the Chairpersonship of Cabinet Secretary and the Secretary, Department of Fisheries is one of the members.

Although Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying is not considered as a lead infrastructure Ministry, number of actions have been taken by Department of Fisheries. Zonal Conferences were organized to understand the technological solutions and spatial planning tools designed by BISAG-N for efficient implementation and timely clearances of the projects. Fishery Survey of India (FSI) and National Fisheries Development Board (NFDB) represented the Department of Fisheries in the Zonal Conference. DoF had several meetings with BISAG-N and shared layers of data with them for mapping in the PM GatiShakti NMP portal including details of the Fishing Harbours (FHs) and Fish landing Centres (FLCs), barckishwater hatcheries, farms etc. As follow up to the target on the GatiShakti NMP, the Department of Fisheries has so far accorded approval to 5 fishing harbour proposals for modernization at a total cost of Rs. 615.28 Crores under the Pradhan Mantri Matsya Sampada Yojana (PMMSY) in a convergence mode of implementation by sharing the central financial liability equally between the PMMSY of DoF and Sagarmala of Ministry of Ports Shipping and Waterways (MoPSW). In addition, under Centrally Sponsored Scheme, sanctions have been given to develop/ upgrade 5 Fishing Harbours & 12 Fish Landing Centres at a total cost of Rs. 1433.95 Crores. Joint Secretary (Inland Fisheries) has been designated as Nodal Officer from Department of

Fisheries for PM-Gati Shakti Master Plan. Under the chairmanship of Joint Secretary (Inland Fisheries), an exclusive Cell for PM GatiShakti National master plan has been constituted. States/UTs have been regularly requested to provide information relevant to them for uploading/mapping in the said portal. Besides, a Workshop on PM GatiShakti NMP for Training and Capacity Building of Officers of Ministry of fisheries, Animal husbandry and Dairying was held on 27th October, 2022 under the Co-chairmanship of Fisheries Secretary and Secretary (AHD).

3.4.2 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 is 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 programs are to continue for 75 weeks. The Department of Fisheries has proposed events along with the tentative schedule for the Mahotsav. The objective of the campaign, as under taken by this Department, is to showcase the development in the Fisheries Sector and highlights its contribution towards the Aatma Nirbhar Bharat vision.

In continuation to last year, with the aim to

disseminate information and engage with stakeholders at one platform, the following webinars were organized:

- a) Webinar on "Neoteric Techniques and Technologies in Fisheries and Aquaculture" organized on 30th April, 2022.
- b) Webinar on "Potential & Role of Fisheries Cooperatives" organized on 22nd July, 2022
- c) Webinar on "Women as Catalyst for Change -A Webinar on Narrowing Gender Gap in Fi-SHE-ries Sector" organized on 8th August, 2022
- d) Webinar on "Sustainable Development & Management of Artificial Reefs" organized on 29th August, 2022
- e) Webinar on "WTO-Fisheries Subsidies Agreement" organized on 21st October, 2022
- f) Webinar on "Promotion of Frozen Fish and Fish Products" was organized on 29th November, 2022.
- g) Webinar on ""Insurance Coverage for Fisheries & Aquaculture" was organized on 29th December, 2022.

PMMSY ACHIEVEMENTS



DOF Gallery 2022-23

Fish Harbour located at chennai port



Modern Fishing harbour at Poompohar in Nagapattinam, Tamil Nadu



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



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



Fish Mobile Van Jharkhand



Fish Mobile Van Uttar Pradesh



DOF Gallery 2022-23

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



Shelf Help Group of fisherwomen, Fakirpada village,
Khordha District, Odisha



Fisherwomen working in Shrimp processing plant,
Kochi, Kerala



Fisherwomen in seaweed cultivation Mandapam
coast, Tamil Nadu



Farm pond Aquaculture in Bhalaguri village,
Baska District, Assam



Biofloc Tanks, Arnia District, J&K



DOF Gallery 2022-23

Fish farmer getting KCC facility at PNB bank in Uttarakhand



Support to fishermen for nets and boats



Sea Cage culture in Kochi, Kerala



Mechanised Fishing Vessels, Kochi Harbour



Motorised Fishing Vessels, Kochi Harbour



Prashikshani- Modern Deep Sea fishing Vessel, Kochi Harbour



DOF Gallery 2022-23

Boat and net replacement



Fish production using Biofloc, Bhagabanpur



Srinibas Batula, Large Bio Floc Unit, Ganjam



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 till 31st March, 2023

INLAND FISHERIES

14685.47 hectares of pond area approved under inland aquaculture

2825 Biofloc units and **11013** Nos of RAS have been sanctioned.

30288 Nos of cages and **376** hectares pens in reservoirs and other water-bodies approved.

13 brood banks unit approved

1790 hectares of pond area approved under Saline-alkaline culture.

629 Nos of fish & **4** Scampi hatcheries approved.

MARINE FISHERIES

Bio-toilets constructed in mechanized fishing vessels

2,250

Sea Cage for fish culture

1,466

Hectares of pond area brought under brackishwater aquaculture

1,301

Large Marine finfish hatcheries

5

Deep Sea Fishing Vessel

453

Brackishwater hatcheries

13

Small Marine finfish hatcheries

5

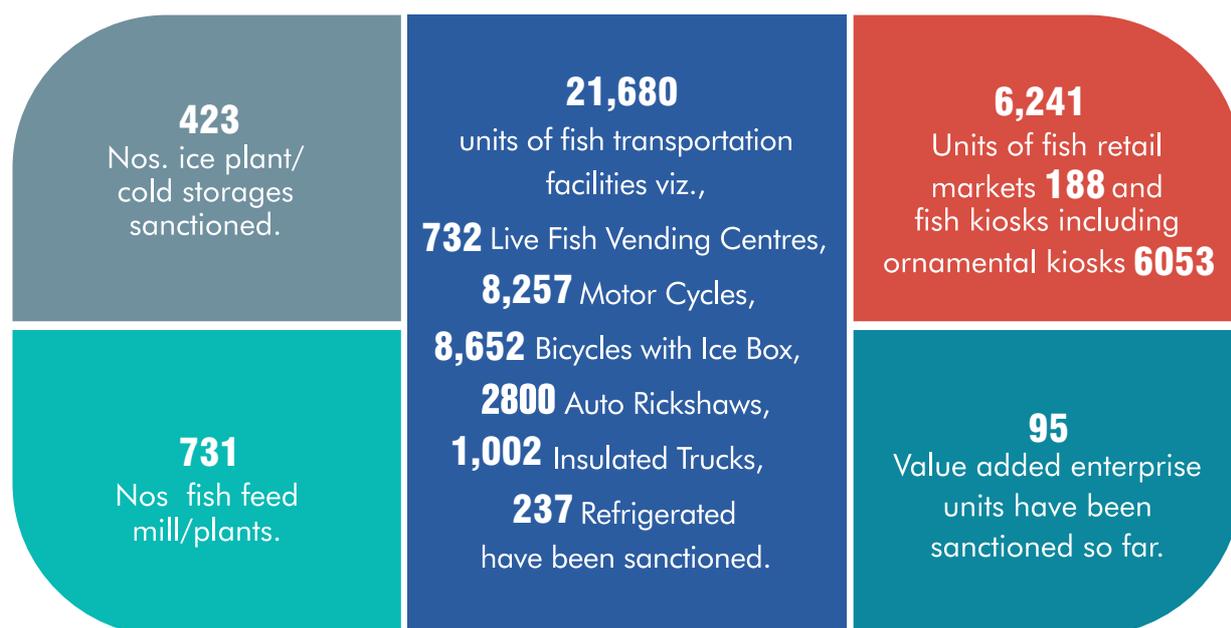
Up gradation of existing fishing vessels

1038

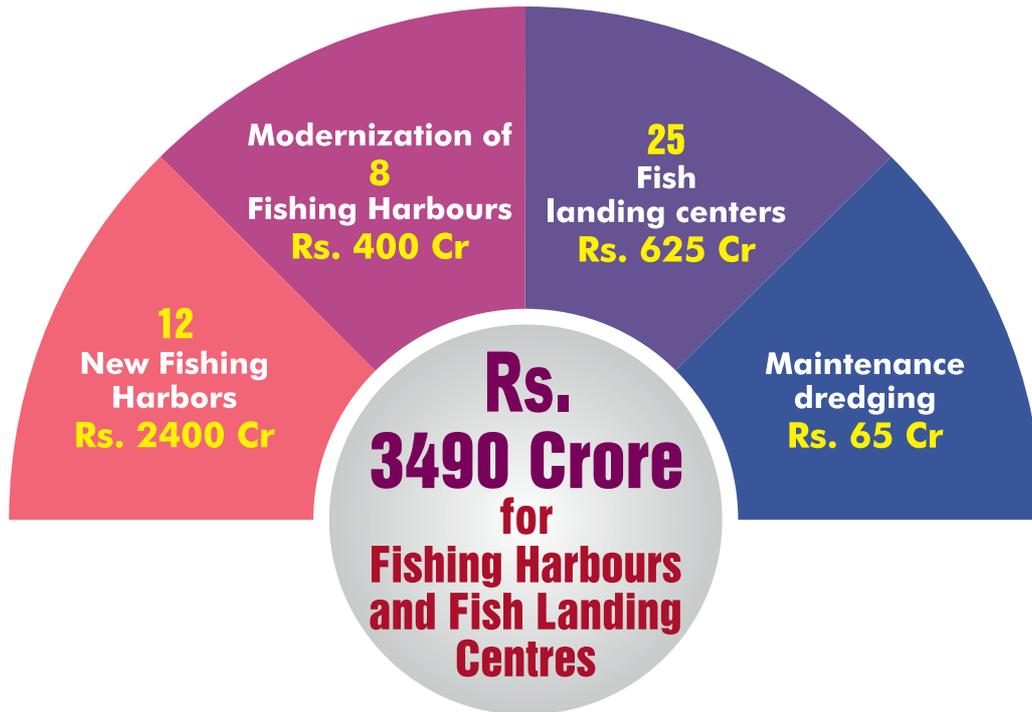
FISHERMEN WELFARE



FISHERIES INFRASTRUCTURE



Fishing Harbours and Fish Landing Centres



AQUATIC HEALTH MANAGEMENT



ORNAMENTAL FISHERIES

1806

Ornamental fish rearing units have been approved.

139

Integrated Ornamental fish units (breeding and rearing) have been approved.

SEAWEED CULTIVATION

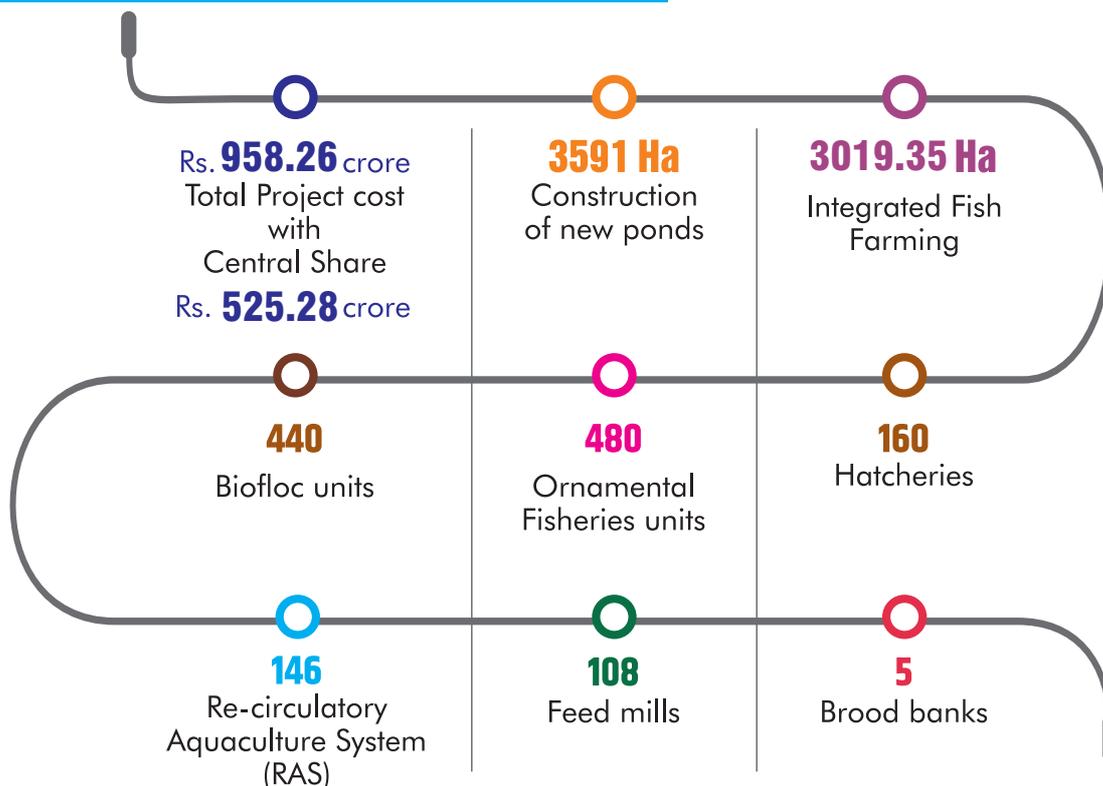
64,231

Monoline tubenet approved for seaweed culture.

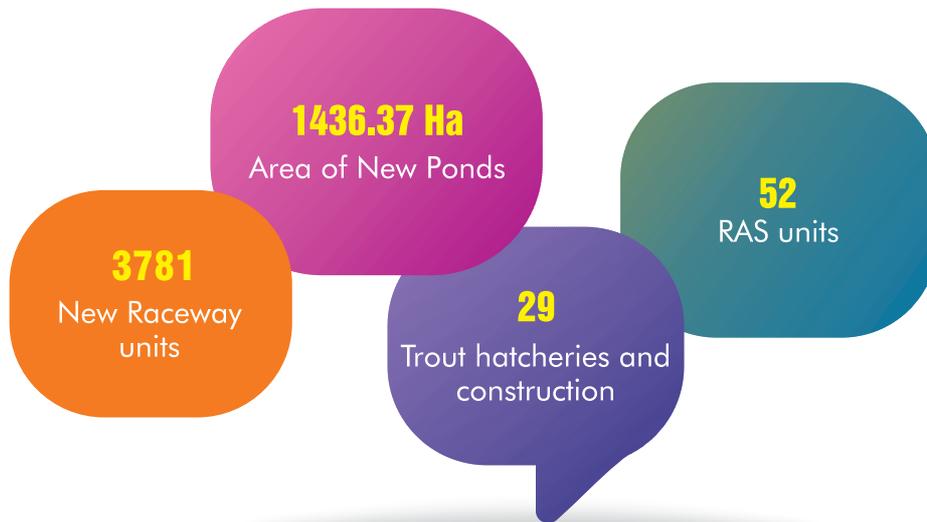
52,700

Rafts approved for seaweed cultivation.

DEVELOPMENT IN NORTH EAST REGIONS



COLDWATER FISHERIES



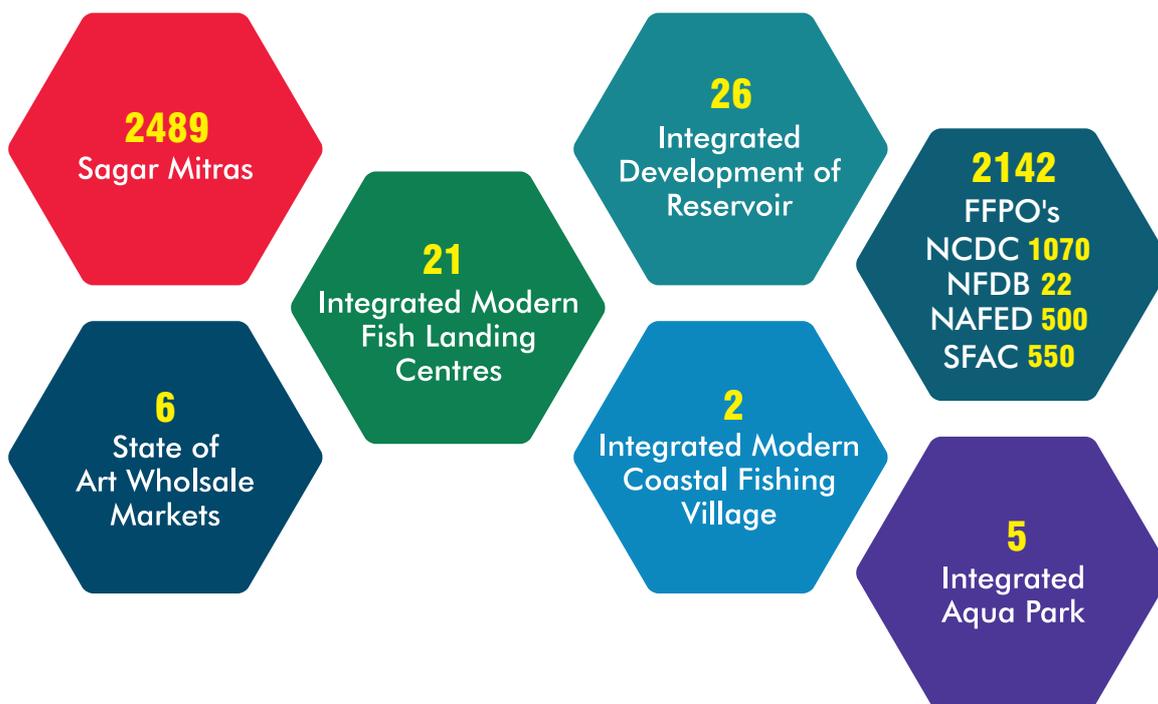
RIVER RANCHING



ARTIFICIAL REEF

631
reef units

OTHER IMPORTANT ACTIVITIES



Chapter-4

Sagar Parikrama Yatra Program

The Indian Ocean is vital to the economies, security and livelihoods of its coastal states. The Country has a coastline of 8118 km, covering 9 maritime States/4UTs and providing livelihood support to millions of coastal fisher folk. As a mark of gratitude to our seas the Department is organizing "Sagar Parikrama" program on occasion of 75th Azadi Ka Amrit Mahotsava. The objective of the "Sagar Parikrama" is to make awareness among fishers and other stakeholders on the proper and stable use of marine fisheries, to raise the standard of living of the fish farmers living in the coastal areas, to maximize the benefits of public sector schemes, protect marine life and to solve the problems of fish farmers.

Sagar Parikrama is envisaged to be celebrated in all coastal states/UTs through a pre-decided sea route down right from Gujarat, Diu, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odisha, West Bengal, Andaman & Nicobar and Lakshadweep Islands to have interaction programme with fishermen, fisher communities and stakeholders in these locations and districts in order to know the problems of Coastal Fisher folk and also to disseminate information of various Government schemes for the benefits of the fishers, fish farmers and stakeholders.

The first phase of 'Sagar Parikrama' was started on 5th March 2022, with the theme of "KRANTI se SHANTI" wherein Hon'ble Minister of Fisheries, Animal Husbandry & Dairying visited Mandvi, Gujarat (Memorial of Shyamji Krishna Varma), Okha-Dwarka, and completed at Porbandar the birth place of Gandhi ji on 06.03.2022. The journey continued in Phase-II organized during 23rd to 25th September 2022, which covered 07 locations from Mangrol, Veraval, Diu, Jafrabad, Surat, Daman & Valsad in Gujarat and UT of Daman & Diu. Phase-III of 'Sagar Parikrama' was started from Surat, Hazira Port Gujarat on 19th February 2023, followed by journey of Hon'ble Minister, FAHD towards coastal belt of Maharashtra covering visit of Satpati, Vasai, Versova, Bhaucha Dhakka and Sasson Dock, Mumbai during 20-21 February 2023.

The three phases of Sagar Parikrama Yatra have been a successful program which created lot of awareness among the public especially coastal communities and fishermen. Sagar Parikrama program is also helping the Department in understanding and connecting with the ground challenges that are being faced by the fisher folk. This would enable the Department in devising better policy for improving the quality of life and economic well-being of people of the coastal community especially fishermen.





Subordinate and autonomous organisations of Department of Fisheries

Introduction

The Department of Fisheries (DoF) Ministry of Fisheries, Animal Husbandry & Dairying, Government of India has two organizations/institutions namely the National Fisheries Development Board (NFDB), Hyderabad and the regulatory body Coastal Aquaculture Authority (CAA), Chennai that have autonomous/ authority status with respect to their functioning. 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 as follows:

5.1 National Fisheries Development Board (NFDB)

5.1.1 History of the Institution:

The 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, Govt. 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 post-harvest & marketing facilities. After the launch of Pradhan Mantri Matsya Sampada Yojana (PMMSY), NFDB has been entrusted the work of appraisal of proposals received from the States/UTs under the components of Centrally Sponsored Scheme

(CSS) of PMMSY. As per the provisions of PMMSY, a Project Appraisal Committee (PAC) headed by the Chief Executive has been constituted in NFDB for the 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 the nodal agency for implementation of Insurance schemes, Entrepreneur Development Model, River Ranching, Training & Capacity Building, Certification & Traceability, Awareness & publicity campaign on PMMSY.

5.1.2 Mandate:

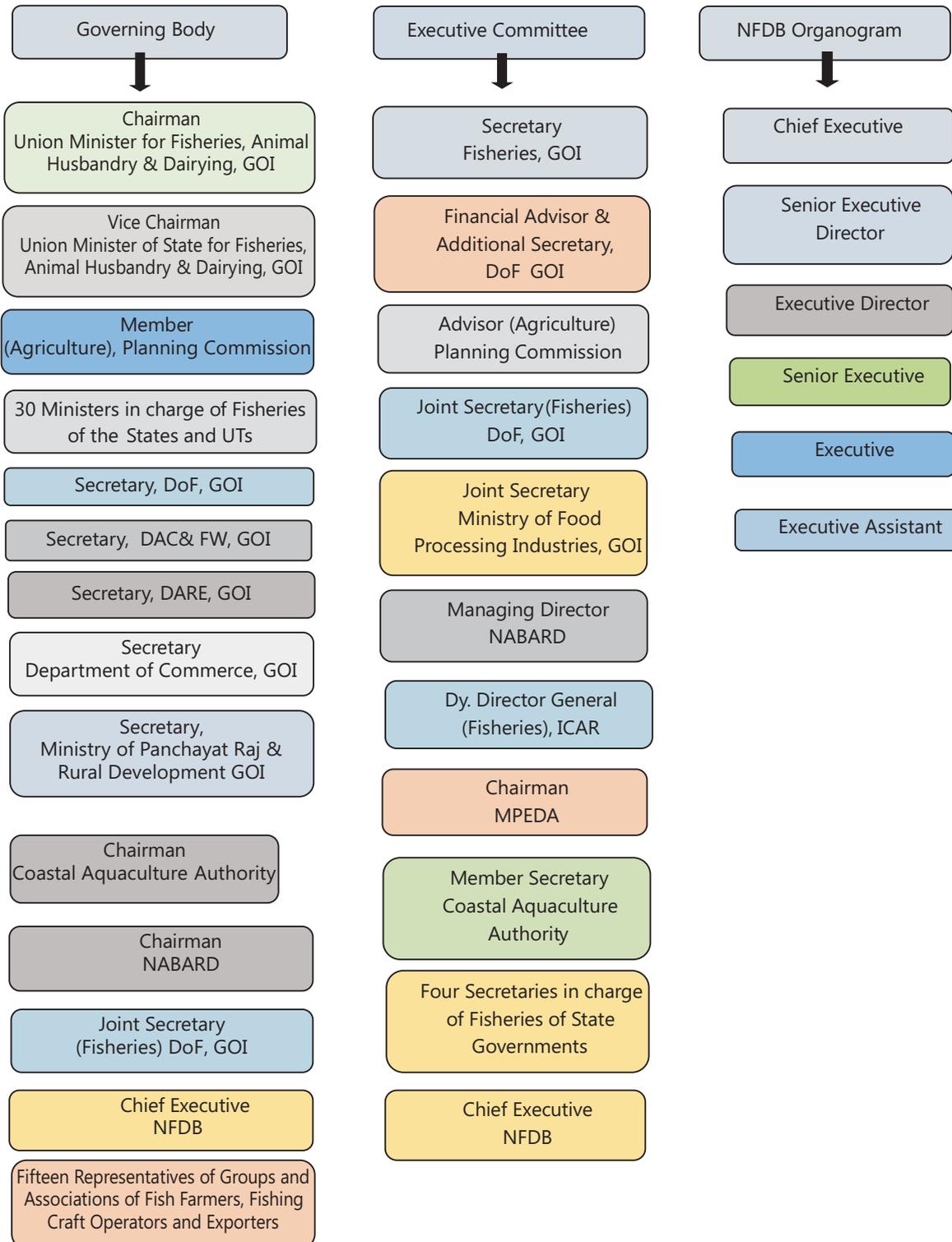
- a) To bring major activities relating to fisheries and aquaculture for focused attention and professional management
- b) To coordinate fisheries activities undertaken by Central Government and also coordinate with the State/Union Territory
- c) To improve production, processing, storage, transport 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

5.1.3 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



5.1.4 Major Initiatives & Achievements of NFDB

NFDB has received proposals from various States/UTs under CSS of PMMSY. NFDB has provided necessary handholding & advisory to States/UTs wherever required to prepare and submit proposals. As per the Annual Action Plan FY 2022-23, NFDB is undertaking various need-based activities under the Central Sector component of PMMSY and the activities entrusted by DoF from time to time.

Under NFDB Action Plan FY 2022-23, 13 projects are proposed to implement with a total amount of Rs. 90.59 Crores, the same is approved in the 43rd Executive Committee of NFDB, subsequently DoF has issued order during January 2023. NFDB is in the processes of implementing the same.

The details of the projects/activities undertaken by NFDB during the FY 2022-23 are given below:

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

NFDB has requested all the States/UTs to submit the proposals as per the State wise allocations made by the DoF. During the FY 2022-23, 100 Self Contained Proposals (SCPs)/DPRs under PMMSY were received from 35 States/UTs and scrutinised by NFDB. 10 meetings of PAC under the Chairmanship of the CE, NFDB were held and recommended 814 projects under CSS component to DoF for a total outlay of Rs. 3677.786 Crores with Central share of Rs. 1469.912 Crores. NFDB further issued technical advisories to States/UTs and handholding in preparation of State Action plans/proposals in implementing various activities under PMMSY.

B. NFDB-PMMSY-Project Monitoring Unit (PMU Cell) at NFDB

The Project Monitoring Unit (PMU) has been constituted at NFDB with CE, NFDB as the Chairperson. 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. The PMU-State Monitoring Teams have conducted virtual meetings with the respective State Nodal officers and ascertained the progress of PMMSY projects. Based on the financial and physical progress obtained from States/UTs the data were analyzed by the PMU periodically. The PMU-State Monitoring Teams also conduct field visits to assess the progress of PMMSY activities.



PMU team visits to units sanctioned

As on 31st December 2022, 5 Quarterly PMU review meetings were conducted with States and UTs, and field visits were conducted for 30 States while advisories are being sent to States/UTs, salient observations are being furnished to DoF periodically.

C. 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 the fisheries and aquaculture sector. By the end of December 2022, NFDB sanctioned 27 projects with a total outlay of Rs. 64.99 Crores and an eligible subsidy of Rs. 17.86 Crores.

D. Group Accident Insurance Scheme (GAIS)

Insurance of fishers is one of the sub-components of PMMSY scheme under the 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 Lakh against the death or permanent total disability, (ii) Rs. 2.50 Lakh against the permanent partial disability and Rs. 25,000/- against the accidental hospitalization. The scheme is implemented through M/s Oriental Insurance Company Limited with an insurance premium of Rs. 72.44 per fisher per annum. During FY 2021-22, a total of 29.11 lakh fishers belonging to 18 States and 7 UTs and in FY 2021-23, as on 31st December, 2022, a total of 31.89 lakh fishers belonging to 22 States and 7 UTs have been insured. Total of 227 claims have been settled and an amount of Rs.10.91 Crore has been disbursed.

E. Capacity Building & Outreach activities

For the benefit of fishers/fish farmers/students/youth etc. across the country, NFDB in collaboration with States/UTs fisheries departments, various central & State academic, training & research Institutions, Universities and Colleges, Fisheries Research Stations, KVKs, Aqua One Centres (AOCs) etc. conducted awareness and training programmes on different topics of the fisheries sector and PMMSY scheme activities. NFDB has sanctioned awareness/training programmes to 55 Institutes/States/UTs/Fishery Universities/Colleges/AOC/AAHLs/KVKs with a total of 316 webinars/training programmes and has sanctioned an amount of Rs. 208.56 Lakh that has benefitted 16,880 participants. For the benefit of Scheduled Caste participants, a total of 584 programmes were conducted on PMMSY benefiting 30,785 Scheduled caste people, out of which 282 programs were organized covering 19,736 participants under SCSP trainings. Overall, a total of 86,410 were covered under training and

capacity building programmes.

F. Fish Festivals:

NFDB has sponsored 11 fish festivals during FY 2022-23 in Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Sikkim along with CIFE, Mumbai, Tripura, Kerala, Jammu & Kashmir, Uttarakhand, Telangana and Meghalaya to create awareness and enhance the fish consumption. Out of the planned festivals, 9 fish festivals have been conducted.

G. Publicity of PMMSY & Promotion of Domestic Fish Consumption:

For the outreach and publicity of PMMSY among the fishers, fish farmers and other stakeholders, various outreach activities were taken up such as webinars, World Fisheries Day (WFD), National Fish Farmers' Day (NFFD) celebrations, Fish Festivals and Expos, summits, digital campaigns, mass media campaign, publicity through electronic media, posters on PMMSY schemes & Virtual Learning through MatsyaSetu App. NFDB funded states/UTs to celebrate 75 years 'Azadi Ka Amrit Mahotsav' and to organize fish festivals, celebrate WFD and NFFD. Two phases of Sagar Parikrama have been successfully completed covering Gujarat, Diu & Daman and Swatch Sagar Surakshit Sagar at Chennai, Gujarat, Andhra Pradesh and Goa. 26 jingles in 16 States in 9 vernacular languages and social media, etc. have been broadcasted. 2 songs on Sagar Parikrama were created. One song sung by Shankar Mahadevan has been translated in 7 vernacular languages and one song on Swatch Sagar Surakshit Sagar in Tamil have been created and used during campaigns of these programs. These aim at promotion of domestic fish consumption and popularization of PMMSY scheme in reaching more fishers and public. Thus, has reached out to 46,33,632 stakeholders through multiple outreach activities.

H. New Projects/Activities undertaken by NFDB:

- i. "Innovations and Innovative Projects/ activities, Technology demonstrations including start-ups, incubators and pilot projects".
- NFDB during 2022-23 has taken up various initiatives to popularize new and innovative technologies emerging in the field so as to improve fish production and productivity in the country. The following projects have been sanctioned during April 2022 to December 2022 (Rs. 2.56 Crores)
 - Demonstration of growth performance, health status and meat quality of Biofloc raised fish in Northern India (Rs. 19.47 Lakh)
 - Demonstration of viable farming protocols for indigenous brackish water seaweed species for income generation among coastal folks (Rs. 21.95 Lakh)
 - Pilot scale implementation of "Smart Packing technology: fish freshness indicator" at field level to enhance domestic fish consumption (Rs. 40.50 Lakh)
 - Demonstration of Seed Production of critically endangered catfish *Glyptothorax kashmirensis* for conservation and culture in Jammu & Kashmir (Rs. 26.40 Lakh)
 - Pilot scale demonstration of seaweed based feed production for fish and shrimp (Rs. 36 Lakh)
 - Technology Demonstration of Singhi catfish culture in Recirculatory aquaculture system (RAS) and entrepreneurship development in the region (Rs. 38.95 Lakh)
 - Demonstration of ornamental fish culture and breeding technique through incorporation of natural carotenoids in fish feed for improvement of the pigmentation to the rural youths of Telangana (Rs. 23.50 Lakh)
- Technology demonstration of premium quality Masmin production in Lakshadweep for domestic and export markets (Rs. 23.54 Lakh)
- Technology demonstration of emerging fish species in Biofloc culture system (Rs. 26 Lakh)
- (ii) Cage culture demonstration of Indian pompano in Chandipur coast, Bahabalpur, Odisha by CMFRI

NFDB had sanctioned the project 'Cage Culture Demonstration of Indian pompano in Chandipur coast' at a cost of Rs. 257.32 Lakh for a period of 3 years with 100 percent Central assistance to ICAR-CMFRI during FY 2020-21. The project was able to establish a model Indian pompano marine cage farming unit at Bahabalpur along Balasore of North Odisha, which would act as a nuclear centre for large-scale dissemination of the technology within the state. The project witnessed a 2nd and final crop harvest of 20 MT from 30 cages with a price realization of Rs. 59.53 Lakh. The project has been extended into its 2nd Phase with a project cost of Rs. 75 lakh as one time subsidy assistance toward operational cost by involving fishermen society/societies with sharing pattern as fixed under PMMSY with central share Rs. 45 Lakh (60 %) and rest Rs. 30 Lakh will be the beneficiary share. MoU was signed with 36 (18 fishermen and 18 fisherwomen) beneficiaries for distribution and undertaking of cage culture demonstration at Bahabalpur, Balasore for 30 cages. The project shall be implemented with the technical expertise of ICAR-CMFRI.
- (iii) River ranching

To address the depleted fish stock in rivers and to improve the livelihood of fishers, river ranching scheme has been incorporated under PMMSY. The scheme is a continuous program, initial year the program was implemented in three river

basins namely (i) Ganges and the tributaries of Ganges river system (ii) Brahmaputra and Barak river distributaries and other rivers and (iii) Mahanadi and tributaries of Mahanadi river system. During FY 2021-22, the scheme was extended for two years, covering 4 more rivers namely Godavari, Cauvery, Narmada and Indus covering the states of Karnataka, Tamil Nadu, Maharashtra, Gujarat, Sikkim, Himachal Pradesh and Assam. The States have implemented the activities as per timelines under frequent monitoring and guidance. A total of Rs. 16.05 Crores has been sanctioned for 13 states to ranch 555.05 lakh fingerlings. As on December FY 2022-23, 311.53 lakh fingerlings (57 percent) are being ranched in UP, Chhattisgarh, Uttarakhand, Tripura, Odisha, Bihar, Assam, Himachal Pradesh and Sikkim in major areas of Ganges and its tributaries, Mahanadi, Brahmaputra and Barak



River Ranching Program implemented in three Rivers basin and their tributaries i. Ganga, ii. Brahmaputra and Barak
iii. Mahanadi

- (iv) 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, and culture expansion of these species still remains low due to the 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 support the establishment of the breeding units for locally important indigenous fish species, NFDB sanctioned and released Rs 64.40 Lakh for establishment of 17 breeding units covering 4 states namely Assam (5 units), Meghalaya (2 units), Sikkim (3 units) and Tripura (7 units) through the respective state fisheries department. Breeding units have been implemented and civil works are ongoing reporting an average 90 percent progress.

- (v) Fish Farmer Production Organisations (FFPOs):

NFDB issued notification for the selection CBBOs on 30th May, 2022, with the last date being 08.07.2022. Received 53 applications under various categories i.e. Category I-27 Nos, Category II-2Nos & Category III-24 Nos. Scrutinized and further evaluated the applications with experts from MANAGE and IIM, Hyderabad. Shortlisted and awarded 6 agencies as CBBOs on 1st Nov, 2022 for the formation of 20 Nos of FFPOs covering 10 states namely AP, Odisha, Assam, Bihar, Maharashtra, Tamil Nadu, Puducherry, Manipur, Tripura and Uttar Pradesh. Execution of MoA with selected CBBO's is under process by NFDB. The selected CBBOs have initiated identifying locations in the States and are in the processes of FFPOs mobilisation & formation.

(vi) Certification, Accreditation, Traceability and Labelling in Aquaculture Sector

NFDB has empanelled 8 certifying bodies namely Bureau Veritas (India) Pvt Ltd (Telangana), Control Union, CU Inspections and Certifications India Pvt Ltd (Maharashtra), Cotecna Inspection India Private Ltd (West Bengal), Intertek India Private Ltd (Delhi), Quest Certification Private Limited (Tamil Nadu), SGS India Private Ltd (West Bengal), Tata Projects Limited (Telangana) and TUV India Private Ltd (Maharashtra) through appropriate EoI to act as certifying bodies to participate in the implementation of the project 'Certification, Accreditation, Traceability and Labelling' under PMMSY–Central Sector, which would be closely monitored and coordinated at field level and state level. NFDB received willingness from 6 states covering about 3040 Nos of beneficiaries- both individuals and groups in various activity areas such as hatcheries, feed mills and fish farms for certifying 1740 Nos of units. The scheme is being taken forward to implement on pilot basis to understand the implications and to gain experience in the subject.

(vii) 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, 42 wholesale fish markets, 64 retail fish markets, 17 Fish Landing Centers and 18 fishing harbours from 29 States and UTs are under the ambit of FMPIS.

(viii) Aquatic Animal Health & Quality Testing Laboratory (AAH & QTL)

The national level laboratory under the aegis of NFDB, Hyderabad is an ISO 9001-2015 certified lab offering various testing services to the fishers, farmers and other stakeholders involved in fisheries. The lab is well equipped with the Molecular Diagnostics, Microbiology, Feed, water & Soil and Residual testing divisions. The lab is operational with sophisticated instruments for gene sequencing, quantification of heavy metals, profiling of amino acids and vitamins etc. AAHQTL offers training programmes with hands-on approach on RT-PCR and its applications, PCR and its applications, Bio techniques, nutrient profiling of fish and fish products, water quality parameters. A total of 7 training programmes were conducted during May–December 2022 for 47 trainees.

AAHQTL also conducting a study titled 'Assessment of pathogenic micro organisms along with nutrient and residual contaminant profiling in fish and aqua feeds'. Under the project a total of fish, shrimp, potable water, ice and retailer's hygiene related samples were collected and tested for microbial prevalence. A total of 151 samples from Andhra Pradesh, Telangana, Karnataka, Kerala, and Maharashtra were collected from various wholesale, retail, landing centres and street markets. The project also brings out the nutrient and amino acid profiling with due importance to presence of heavy metals like Hg, Pd, As, Cd wherein 40 samples from the farms of Andhra Pradesh were analysed.

AAHQTL, NFDB has entered into a MoU with Environment Protection Training and Research Institute (EPTRI), Govt. of Telangana for undertaking various fisheries and environment related research. AAHQTL in collaboration with EPTRI is undertaking a project titled 'Aquatic biodiversity studies of Godavari river stretches at the sites viz; Medigadda barrage, Annaram barrage and Sundilla barrage, Telangana'.



Visit of Shri Jatindra Nath Swain, IAS, Secretary Fisheries, Govt. of India to AAHQTL-NFDB



Sample collection by the AAHQTL team under the projects

(ix) 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. Now with the addition of 6 Quarantine cubicles and the supporting infrastructure in Phase-IV, the facility has the

annual capacity to accommodate 7,33,400 numbers of imported *L. Vannamei* brood stock. The facility is commissioned by the Shri Jatindra Nath Swain, IAS, Secretary Fisheries, Govt. of India, GoI on 10th January 2022.

NFDB signed an MoU with MPEDA-RGCA to share 2.5% of Gross revenue generated by AQF to NFDB every year. Accordingly, MPEDA-RGCA shared an amount of Rs.17,88,275/- for the FY-2020-21 and Rs. 20,63,541/- for the year 2021-22 towards NFDB's share from AQF.

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

As per NFDB Action Plan 2020-21 and 2021-22, NFDB was accorded approval for the Development and operation of Coastal Aquaculture at Mulapolam in AP (Phase-D). NFDB has taken up infrastructure development for nursery and grow out ponds for rearing fingerlings and farming marketable size marine finfish (Cobia, Pompano and Sea bass) and mud crab, with required site levelling, engineering drawings, cost estimations along with common minimum facilities such as seawater and freshwater intake, filtration, storage & supply arrangements, internal roads, electricity, generator drainage, office building etc. Development of aquaculture infrastructure facilities for Phase-I was entrusted to CPWD, Vijayawada and 65% of the construction work is completed.

ELA studies and CRZ reports completed CAA permission for taking up aquaculture and NOC from APPCB obtained. APCZMA has considered the proposal and recommended to MoEF for permission. Stage-I Forest Dept. permission for laying of seawater intake and outlet pipelines through forest land has been obtained and Stage-II permission is under progress additionally, working permission to lay inlet and outlet pipelines issued by forest Dept. and the work is under progress.

As per the direction of 40th and 41st Executive Committee, NFDB has prepared the RFP document for operation and management of Phase-I and Develop, Finance, Build, Operation&

Management and Transfer (DFBOT) of Phase-II of 'Coastal Aquaculture Facilities' at Mulapolam to be implemented in PPP mode, which is under processes.



Development of aquaculture infrastructure facilities at Mulapolam in Andhra Pradesh

xi) Fisheries and Aquaculture Infrastructure Development Fund

To address the gaps in fisheries infrastructure, the Government created the Fisheries and Aquaculture Infrastructure Development Fund (FIDF) during the FY 2018-19 with a fund amounted to Rs. 7522.48 Crores. FIDF provides concessional finance/loan to the Eligible Entities (EEs) including State Governments/UT Administrations and State entities for the development of identified fisheries infrastructure facilities. Cumulatively, 31st December, 2022, NFDB received 236 proposals from 25 states and UTs for the total project cost of Rs. 7880.20 Crores. NFDB recommended 121 proposals to CAMC and 110 proposals were recommended by CAMC and in-principle approval was accorded by DoF (GoI) for the project cost of Rs. 5247.85 Crores.

I. EVENTS/CAMPAIGNS ORGANISED BY NFDB

(i) National Fish Farmers Day 2022

On 10th July 2022, NFDB celebrated the 25th National Fish Farmers Day in hybrid mode at NFDB, Hyderabad. The programme was graced virtually by Dr. Sanjeev Kumar Balyan, Hon'ble Minister of State for Fisheries, Animal Husbandry & Dairying from Muzaffanagar, UP and Dr. L. Murugan, Hon'ble Minister of State for Fisheries, Animal Husbandry and Dairying from Vellore, Tamil Nadu. More than 1000 fish farmers, aquapreneurs, fisher folks, professionals, officials and scientists from across the nation participated in the event. During the event, 4 posters for outreach on domestic fish consumption and sustainable production have been released. Two posters on 'Fish for Motherhood' and 'Fish Nutrients and their Wellness Benefits' were released by Dr. Sanjeev Kumar Balyan, Hon'ble Union Minister for Fisheries, Animal Husbandry and Dairying and two posters on 'Sustainable Fishing Practices' and 'State Fishes of India' were released by Dr. L. Murugan, Hon'ble Minister of



Establishment of fishing harbour at Tharagambadi, Tamil Nadu

State for Fisheries, Animal Husbandry and Dairying. Project on 'Assessment of pathogenic microorganisms along with nutrient and residual contaminant profiling in fish and aqua Feeds' was launched by Shri Jatindra Nath Swain, IAS, Secretary, Department of Fisheries, GoI. Around 30 States/UTs participated virtually in groups, which had a gathering of about 570 numbers and 50 participants from 3 states viz Telangana, Andhra Pradesh and Karnataka have participated physically. On this occasion, signing of MOU between NFDB and State Bank of India to facilitate FIDF and Entrepreneur Models scheme has taken place. Publicity of the program was done through various social media plat forms and the program was streamed live that was viewed by 580 participants.



Celebration of National Fish Farmer's Day 2022 in hybrid mode at NFDB, Hyderabad



Four poster for outreach domestic fish consumption and sustainable production have been released during an event

(ii) World Fisheries Day 2022

NFDB and DoF (GoI) celebrated the 'World Fisheries Day' on 21st November, 2022 at Swami Vivekanand Auditorium, Daman. The event was conducted in two sessions, the inaugural and the technical session. More than 800 fishers, fish farmers including fisheries officials from different states/UTs physically attended in the event. 28 awards under various categories were given for the best performance in the fisheries sector that included cash award covering both government and private sectors. During the event, Gujarati

version of 'Sagar Parikrama Song' was launched and 3 books brought out by CIFNET, 1 book by NFDB named 'Super Success Stories @ 100' (English and Hindi) and few books by DoF (GoI) such as Handbook on Fisheries Statistic-2022, Communication and Navigational Equipment on board fishing vessel, Defect rectification and maintenance of boat engine, Capacity building on monofilament long line fishing and handling of tuna on boards and posters on seaweed, Wealth from waste and value addition in English, Hindi and Gujarati were launched.



NFDB & DoF (GoI) celebrated World Fisheries Day 2022 on 21st November, 2022 at Swami Vivekanand Auditorium, Daman

(III) Publication on 100 Success Stories 'SSS@75'

NFDB collected 134 success stories from 28 States and 6 Union Territories and picked the best success stories of 100 Nos and published 'SSS India@75; 100 Super Success Stories from Indian Fisheries' and the book was released in both Hindi and English languages on 21st November 2022, on the occasion of World Fisheries Day 2022. The book depicts the stories of successful fisheries and aquaculture activities carried out by individuals, FFPOs, SHGs, NGOs, and government organizations across India in recent years. The major successful fisheries activities by individuals or groups on integrated fish farming, ornamental fish culture and marketing, seaweed culture, shrimp hatchery, fish seed production, use of shrimp toilets, feed manufacturing, RAS culture, bio-floc culture, fish products preparation, seafood outlets, etc. Of the 100 stories, 31 stories have been based on women fish farmers, 31 based on marginal farmers /entrepreneurs, 10 based on SC fishers & 20 on stories pertaining to ST fish farmers and 8 stories based on SHGs.

A. Other Activities :

(i) Empanelment of Equipment Manufacturers/Suppliers:

NFDB has empanelled 67 firms under various categories such as Shri Jatindra Nath Swain, IAS, Secretary Fisheries, Govt. of India aquaculture, RAS/Biofloc, sea cage/reservoir, cage/pen, cold chain facility (cold storage/ice plant), fish feed mill, hatcheries, marine fisheries, refrigerated vehicles/Insulated vehicles, bio toilet etc. The list is available on NFDB website for benefit of States/UTs and stakeholders.

(ii) Empanelment of Consultants:

53 individual consultants & consulting firms in the fisheries & aquaculture sector have been empanelled and uploaded on NFDB website. These consultant services are being utilised by stakeholders.

(iii) Empanelled Private Agencies/Institutes/

Organizations as "Implementation Partners" for implementing training, awareness and capacity-building activities. A total of 8 firms have been empanelled as implementing agencies for organizing specialized training programs.

B. NFDB ACHIEVEMENTS :

Indian Chamber of Food and Agriculture (ICFA), an Indian Government body on technical collaborations with large number of national/international industrial associations and related organizations organized "Agro World 2022"-India International Agro Trade and Technology Fair – 2022 from 9th-11th November 2022 at Indian Agriculture Research Institute, Pusa Campus, New Delhi for showcasing the development and modernization achieved by key stakeholders in major sectors like food, agriculture, horticulture, animal husbandry, fisheries & allied.

As a part of this event, NFDB was awarded "India Agribusiness Awards 2022" for the good work done in the fisheries sector. Dr. Suvarna Chandrappagari, IFS, Chief Executive NFDB attended the event at Delhi and received the award from Dr. Sanjeev Kumar Balyan, Minister of State for Fisheries, Animal Husbandry & Dairying and Dr. Ramesh Chand, Member, NITI Aayog at New Delhi.



Dr. Suvarna Chandrappagari, IFS, Chief Executive NFD received "India Agribusiness Award 2022" from Dr. Sanjeev Kumar Balyan, Minister of State for Fisheries, Animal Husbandry and Dairying & Dr. Ramesh Chand, Member NITI Aayog

C. NFDB-Regional Centres

(i) NFDB-Eastern Regional Centre, Bhubaneswar

NFDB-ERC was established at Bhubaneswar. The Centre coordinates with the States of Odisha, Chhattisgarh and West Bengal for 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 the accredited hatcheries. During the FY 2022-23, NFDB-Eastern Regional Centre (NFDB-ERC) - has disseminated improved fish seed varieties by supplying 107.7 crores (Spawn- 93%, Fry- 4% and Fingerlings- 3%) and 18,306.35 kg brood stock of Jayanti Rohu, Improved catla, Amur common carp, CIFA GI Scampi (Only Brood stock), Mrigal, Grass carp and Java Putti to hatchery operators and seed growers PAN India since its inception. In order to reach maximum beneficiaries for supplying quality seed and achieving higher production, it has now strengthened its distribution of seed by registering 70 network hatcheries in 14 states and 50 seed growers in 13 states across the country. NFDB has entered MoU with ICAR-CIFA for the

supply of nucleus seed of GI scampi. ICAR-CIFA shall supply 70000 PL of GI scampi seed.

(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 the development of fisheries in the region through technical guidance awareness programs, training, workshops, financial support etc. NFDB-NERC conducted exposure visit for 8 ST women associated with fisheries and participated in the National Convention on Climate Resilient Tribal Development Blending Indigenous Knowledge with appropriate Technology and Empowering Women during 9th-11th August 2022 at Kolkata organised by Indian Institute of Bio-Social Research & Development. Agri and Rural Expo, Industrial Expo and North East Development Meet at Vibrant North East 2022 were held during 25th- 27th August 2022 at Veterinary ground, Khanapara. As co-partners organised RASHI 2022 during 13th-16th December 2022 by College of Fisheries (CAU-I), Lembucherra, Tripura.



Agri and Rural Expo, Industrial Expo and North East Development Meet at Vibrant North East 2022 held on 25th-27th August, 2022 at Veterinary ground, Khanapara



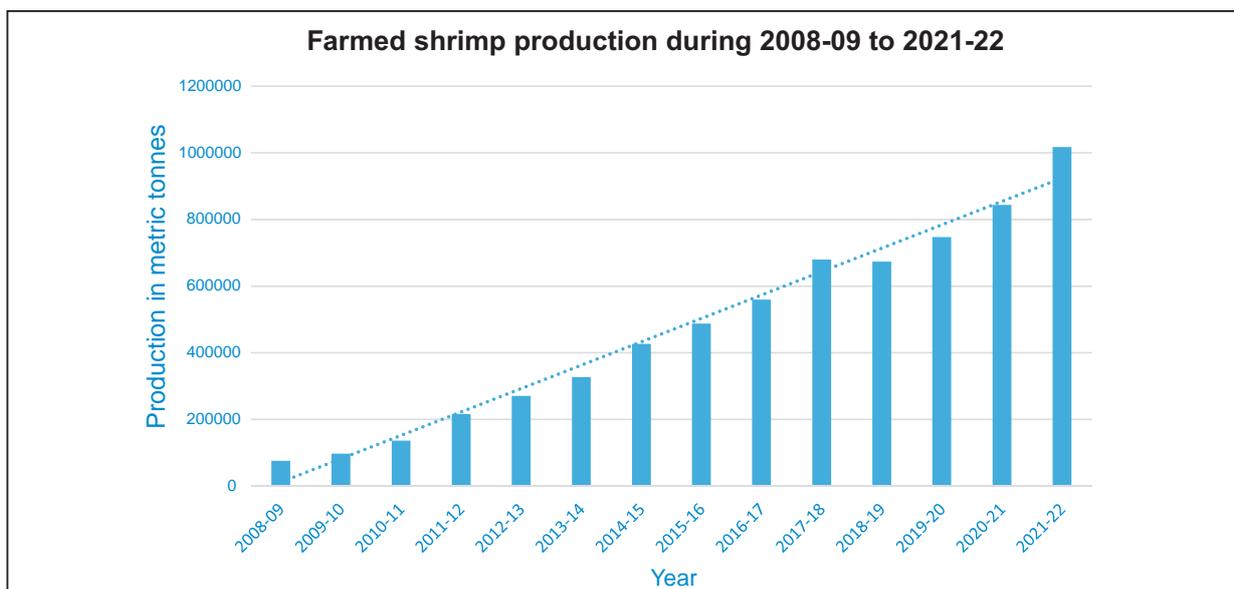
5.2 COASTAL AQUACULTURE AUTHORITY (CAA)

5.2.1. The 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.

It is mandatory for all persons carrying on 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 was assigned the task of regulating the commercial introduction of the exotic shrimp viz 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 10.2 lakh MT during the year 2021-22. Given the available potential for coastal aquaculture it is expected to grow further. It is significant to note that during past 10 years, no other food production sector in the country has achieved growth rates as rapid as aquaculture.



ACHIEVEMENTS OF COASTAL AQUACULTURE AUTHORITY

(January 2022 – December 2022)

AMENDMENT OF CAA RULES, 2005

CAA is assisted by the maritime states/UTs for registration and renewal of farms as described in Chapter V, Rule 10 (sub Rule 9) of CAA Rules, 2005. For the first time, after 15 years, the CAA Rules were amended. The Government of India in the Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD), has notified the Coastal Aquaculture Authority (Amendment) Rules 2022 vide G.S.R. 216(E) on 15th March 2022 which would ease the registration process and support the farmers who are the major stakeholders of the aquaculture sector without compromising the requirements to be met for registration of coastal aquaculture farms. Salient features of Coastal Aquaculture Authority (Amendment) Rules, 2022 are given below. These amendments are expected to hasten the process of registration of coastal aquaculture farms in the country.

- i) Provision for online filing and processing of application, constitution of Sub-Divisional Level Committee (SDLC), replacement of State Level Committee with the reconstituted District Level Committee simplifies the process of registration of coastal aquaculture farms.
- ii) The SDLC is authorized to receive all applications for registration of coastal aquaculture farms irrespective of their size or extent of water spread area (WSA) and recommend the applications of farms of up to 5 ha area directly to CAA and others to the District Level Committee (DLC).
- iii) The DLCs shall further recommend the applications of farms of above 5 ha area to CAA, requirement of 'Quorum' at DLC to

recommend the application to CAA, provision for change of ownership of certificate of registration within the validity period and authorizing CAA to process the renewal applications directly without SDLC/DLC are the salient features of the CAA (Amendment) Rules, 2022.

Subsequently in the Notification, CAA requested all maritime states and UTs to constitute SDLCs. CAA also started processing the renewal applications which were received directly from the farmers.

REGISTRATION/RENEWAL OF REGISTRATION OF FARMS:

- i) A total of 45,113 farms with total farm area of 69,526.08 ha (WSA – 47,112.84 ha) received from SLCs/DLCs/SDLCs of states were registered since inception to December 2022. Out of this, a total of 1,604 farms with total farm area of 2,405.31 ha (WSA-1,615.76 ha) were registered from January to December 2022.
- ii) Renewal of registration of 1,1871 farms with total farm area of 24,584 ha (WSA – 17165 ha) was done from 2013 to December 2022. During the period, January to December 2022, registration of 1,250 farms with total farm area of 3,417.7 ha (WSA – 2359.7 ha) were renewed.
- iii) As per CAA (Amendment) Rules, 2022, CAA started receiving applications directly from the farmers for Renewal of Registration of their coastal aqua farms from April 2022. Accordingly, applications from 186 farms with total farm area of 380.67 ha (WSA – 283.16 ha) were received and registration of these farms were renewed for during the period April to December 2022.

Table.1. State wise registration details of coastal aquaculture farms since inception to December 2022 and from January to December 2022

State /UT	From Inception till December 2022			From January to December - 2022		
	No.of Farms	TFA	WSA	No.of Farms	TFA	WSA
ANDAMAN &NICOBAR ISLAND	5	23	6	0	0	0
ANDHRA PRADESH	22395	32855	22861	1763	3321	2241
DIU & DAMAN	12	60	38	0	0	0
GOA	46	170	121	0	0	0
GUJARAT	1111	5166	3683	47	227	176
KARNATAKA	321	468	356	2	2	1
KERALA	1489	2984	2055	41	66	49
MAHARASHTRA	312	2322	1474	8	11	8
ODISHA	12478	14960	9334	666	701	420
PUDUCHERRY	81	135	102	5	9	7
TAMILNADU	2205	6183	4245	233	591	390
WEST BENGAL	4658	4201	2837	0	0	0
Grand Total	45113	69526	47113	2765	4929	3293

REGISTRATION/RENEWAL OF REGISTRATION OF HATCHERIES/NRHS:

- i) A total of 314 SPF *L. vannamei* hatcheries and 183 Nauplii Rearing Hatcheries (NRH) spread across the coastal states with a total production capacity of appr. 80,000 million seeds (including NRH) for the seed production of *L. vannamei* were approved by CAA from 2009 till December 2022
- ii) A total of 25 hatcheries and 29 NRH which were newly established in Tamil Nadu, Andhra Pradesh and Odisha were inspected and processed for Registration for seed production of SPF *L. vannamei* during the period from January to December 2022
- iii) A total of 11,37,000 nos. of *L. vannamei* brood stock were permitted for import through the registered hatcheries. A total of 2,43,176 nos. of broods tock were imported from the empanelled overseas
- iv) CAA received applications for renewal of hatcheries and NRHs and these were inspected by the designated Committee
- v) 11 hatcheries and 22 NRHs for which the validity of registration expired on 31st March, 2022 were advised to submit a self-declaration 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 these units. All the 33 hatcheries and NRHs have since been inspected by the designated Committee to process Renewal of Registration
- vi) A total of 6 hatcheries and 5 NRHs located

suppliers during the period January to December 2022

at Tamil Nadu and Andhra Pradesh were processed for Registration for seed production of SPF *P. monodon* during the period from January to December, 2022

- vii) The Inspection Committee of CAA in collaboration with the DLC, MPEDA and CIBA had inspected one production facility located at East Godavari district of Andhra Pradesh for the registration of Artemia Nauplii Center during this period



Figure. Inspection of hatchery facilities by inspection committee



Figure. Inspection of hatchery facilities by the designated committee prior to renewal

Inspection of the BMC Facility of M/s.Vaishnavi Aquatech at Dehgam Village, Jambusar Tehsil, Bharuch District, Gujarat for *P. monodon*

As per the decision of the virtual meeting with Joint Secretary (Marine Fisheries) Department of

Fisheries (GoI) held on 12th April 2022 and Letter no.SPA/Dir/3-142 dated 19th April 2022 received from the Director, CIBA, the Technical and Inspection Committee comprising of Scientists from CIBA, NBFGR and the Director (Tech), CAA, Department of Fisheries, Govt. of India inspected SPF Shrimp Broodstock Multiplication Centre of M/s.Vaishnavi Aquatech, Dehgam Village, Jambusar Tehsil, Bharuch District, Gujarat on 28th April, 2022 and submitted the report.

Approval of Overseas Suppliers of SPF *L. vannamei*/SPF *P. monodon* broodstock

- i) CAA empanelled suppliers of SPF *L. vannamei* & SPF *P. monodon* broodstock based on the genetic base and disease status in consultation with CIBA, NFDB and MPEDA. Based on the recommendations of the Committee, 15 suppliers (13 suppliers for SPF *L. vannamei* and 2 suppliers for SPF *P. monodon*) were empanelled for supply of SPF broodstock to CAA permitted hatcheries.
- ii) M/s. Blue Genetics, Mexico was suspended from the empanelment for the detection of IHHNV in their consignment on 27th August, 2020. After the completion of two years of sampling and testing M/s. Bluegenetics, Mexico requested for revoking the suspension. Accordingly, the Technical Committee headed by the Member Secretary, CAA along with the members conducted the evaluation.
- iii) Based on the presentation at CAA 3rd November 2022 and verification of documentary proofs submitted by the firm the Committee assessed the origin, genetic base, disease surveillance, bio-secured facility, performance and production details, experience for marketing of SPF brood stock and their capacity to supply broodstock. The

Committee also evaluated the facility through a live virtual tour of the facility which was made on during the presentation and on satisfaction, recommended for re-empanelment of M/s. Blue Genetics, Mexico as suppliers of SPF *L. vannamei* broodstock and PPL to India.

Issuance of Certificate of Compliance for Antibiotic Free Aqua Inputs:

CAA issues Certificate of Compliance for coastal aquaculture inputs namely feed, growth supplements and chemicals/medicines (antibiotic free) for healthy maintenance of the ecological and environmental balance of water bodies and the organisms reared therein and other aquatic life. CAA has so far issued Certificate of Compliance to the 3,904 aqua inputs in eight categories (up to December 2022). During the period from January to December 2022, Certificate of Compliance has been issued to 418 products based on applications from 94 manufacturers.

Surveillance and Monitoring Activities

Action Taken against hatcheries for unauthorised seed production of *L. vannamei*

A Committee comprising of the officials from CAA, Department of Fisheries, Andhra Pradesh, MPEDA and CIBA conducted a surprise inspection of eleven (11) hatcheries located at U. Kothapalli and Thondangi Mandals of East Godavari District, Andhra Pradesh on 3rd February 2022. The team witnessed larval stages (Zoea, Mysis and PL) of *L. vannamei* in the five hatcheries which had not been registered with CAA and did not have permission to produce seed of *L. vannamei*. The Committee destroyed the spurious stocks of the above hatcheries. Subsequently, they were advised to seek help of DLC for applying for Registration.

Action taken on *P. monodon* hatcheries in Nellore District, Andhra Pradesh

CAA officials along with Fisheries Development Officer (FDO), Nellore district of Andhra Pradesh conducted a surprise inspection of four registered hatcheries located at KothaKoduru, Venkannapalem, Mypadu, Kudithipalem villages in Nellore District of Andhra Pradesh on 7th to 8th February, 2022 for spurious seed production of *P. monodon*. The team found spurious seed of *P. monodon* in three hatcheries. All the stocks were destroyed by applying bleaching powder and instructed the operators to drain all the LRT section water into ETS without causing damage to the environment. Further, Action was initiated on the registered hatcheries to suspend the operation of the hatcheries and to invoke their performance Bank Guarantee.

Action on detection of EHP in SPF Brood stock in AQF

The SPF broodstock consignment of *L. vannamei* on 24th December 2022 from the supplier of M/s. Kona Bay, Hawaii was found positive for the *Enterocytozoon hepatopenaei* (EHP) in the Aquatic Quarantine Facility, Neelankarai, Chennai and infection was validated by the CIBA referral laboratory. The Technical Committee (TC) constituted to oversee and monitoring of AQF was convened by CAA on 29th December 2022 and as per the decision taken by the TC, the stock was culled and incinerated in the presence of the representatives from CAA, CIBA, AQCS, AISHA and the overseas supplier on the same day. Simultaneously, visit by an Expert Committee of Pathologists to evaluate the bio security of AQF for opening of cubicles immediately for consignment from other suppliers was facilitated on 30th December 2022. As per the expert committee opinion, the activity of AQF was resumed the same day without any delay.



Culling of infected stock and evaluation by expert committee at the AQF

Environmental monitoring

CAA officials visited hatcheries and farms located at Andhra Pradesh, Gujarat, Odisha, Tamil Nadu, Maharashtra, West Bengal and Goa and collected

water samples from the final discharge point of ETS of Hatcheries and Farms for analysis as per given below. The water quality parameters showed no deviation from the prescribed standards.

Sl. No.	Name of State	FARMS		HATCHERIES		TOTAL	
		No. of farms monitored	No. of Samples collected	No. of hatcheries monitored	No. of Samples collected	Monitored	Samples Collected
1	Andhra Pradesh	5838	440	906	61	6744	501
2	Gujarat	713	44	3	0	716	44
3	Odisha	1193	119	67	9	1260	128
4	Tamil Nadu	2467	189	150	12	2617	201
5	Maharashtra	336	24	0	0	336	24
6	West Bengal	172	15	3	0	175	15
7	Goa	44	0	0	0	44	0
	Total	10763	831	1129	82	11892	913

Antibiotic residue monitoring: CAA officials visited 197 hatcheries and farms located at Andhra Pradesh and Tamil Nadu along with MPEDA officials and collected samples under NRCP Programme during the period from January to December 2022.

Meetings Organised/participated

CAA Authority meetings: The four Meetings of the Coastal Aquaculture Authority (CAA) with the members of newly constituted Authority were convened in virtual mode through video

conferencing on 14th March 2022, 3rd June 2022, 22nd September 2022 and 2nd December 2022. The meetings were chaired by Justice Amar Singh Chauhan, Chairperson, CAA.

TC Meeting of AQF: The twenty second meeting of the Technical Committee to oversee and monitor the functioning of Aquatic Quarantine under the Chairmanship of the Member Secretary, CAA cum Chairperson, TC of AQF was held on 5th April 2022 through a hybrid model (physical and online).

Meeting of the Expert Committee constituted to examine import of shrimp broodstock from AHPND affected countries

The Expert Committee constituted vide Order no. 35027/6/2013-Fy (H&D)Pt. (E-20392) dated the 5th July, 2022 by the Department of Fisheries (GoI) to assess the possible risks of import in the present situation and suggest measures to be adopted in case of lifting the existing ban in India deliberated on the issue in the virtual meetings convened by Member Secretary CAA. The report by the expert committee was submitted by Dr I. Karunasagar, Chairman of the committee to Secretary (Fisheries), Government of India on 19th September, 2022.

Opening and closing meeting of Audit of India by DG-SANTE of European Commission

The Export Inspection Council, New Delhi invited CAA to participate in the opening and closing meeting of Audit by the Director-General of Health and Safety (DG-SANTE) of European Commission scheduled on 12th and 29th September 2022 respectively. The Director (Technical) participated the opening meeting of Audit in EIC office at New Delhi and delivered the presentation on the 'Role of Coastal Aquaculture Authority on Antimicrobials Residue Control in Coastal Aquaculture'. The Member Secretary, CAA participated in the closing meeting held virtually on 29th September 2022 and put forth the views and comments.

Gujarat – Meeting and site inspection regarding NGT O.A. 476/2022

Member Secretary CAA attended the meeting convened by Shri R. B. Barad (IAS), Chairman – GPCB at the Head office, Gujarat Pollution Control Board, Gandhinagar on 28th August, 2022 for discussion on the NGT O.A. 476/2022. Subsequently on 20th September, 2022, the area in dispute in Navsari District, Gujarat was inspected by the joint inspection committee in which representative of CAA participated. It was

observed that the land in which the aquaculture activity is being carried out are allotted by the Government for the said purpose and the applications for registration with CAA is pending with District Level Committee (DLC) of Navsari.

Meeting with the Chairman, MPEDA at Cochin, Kerala: The Member Secretary and the Director (Tech), CAA visited Cochin, Kerala on 22nd April 2022 and discussed with the Chairman, MPEDA regarding issues on farm registration, seed production, antibiotic residue and other issues and resolved to jointly address these in a harmonious manner for growth of the industry.

Meeting with the Secretary (Fisheries) and Director of Fisheries, West Bengal: The Member Secretary and Sr. Technical Assistant, CAA visited Kolkata, West Bengal on 2nd November 2022 and discussed with the Secretary (Fisheries), Director of Fisheries and other officials of Fisheries Department, issues related to registration and renewal of registration of coastal aqua farms. Points of concern specific to West Bengal were noted and it was decided to mutually address the issues and carry out more awareness programs in the state.

Interactions with District Level Committees

Orientation Programme on CAA (Amendment) Rules, 2022

In view of the implementation of the provisions in the CAA (Amendment) Rules, 2022 notified vide G.S.R. 216(E) dated 15th March 2022, CAA organized an orientation programme for the Member Conveners of the SDLCs and DLCs in the coastal districts of Tamil Nadu at the office of the Commissioner of Fisheries, Chennai, through hybrid mode (both physical and online mode) on 29th June 2022. The Member Secretary, CAA, the Commissioner of Fisheries, Tamil Nadu and Director (Tech), CAA provided an insight into the new amended provisions in CAA Rules. All the conveners of DLCs and SDLCs in Tamil Nadu participated in the meeting.

Review meeting: A meeting with the Member Conveners of the SDLCs and DLCs of the coastal districts of Maharashtra, Goa, Karnataka and Gujarat was held through video conferencing on 22nd December 2022. The Member Secretary, CAA has provided an insight into the new amended provisions in CAA Rules that deals with the registration of coastal aquaculture farms. Further, status of constitution of the SDLCs and status of applications for renewal of registration of coastal aquaculture farms pending at SDLCs/DLCs were reviewed.

Process of Drafting Amendments to CAA Act (2005)

Understanding the need to amend the CAA Act (2005), the Department of Fisheries initiated action in the year 2021 itself and in 2022 various activities were implemented to meet this target. Support was provided by CAA throughout the year in convening stakeholder meetings, placing the draft in public domain for comments, compiling the responses received and drafting the Coastal Aquaculture Authority (Amendment) Bill, 2022.

Meeting of the Sub-committee to develop the zero draft of the CAA Amendment Act: Meeting of the sub-committee to develop a Zero draft of the CAA Amendment Act headed by the Member Secretary, CAA was convened on 22nd February 2022 with the representatives from CIBA, NCSCM, MPEDA and Director (Tech) CAA. A zero draft of proposed amendment prepared by CAA was deliberated by the Committee and the suggested modifications were incorporated.

Meeting of the Expert Committee constituted to draft the Coastal Aquaculture Authority (Amendment) Bill, 2022

The meeting of the Expert Committee constituted vide DoF's Order No. 1903336/4/2021-Fy (E-19119) dated 6th December, 2021 to draft the Coastal Aquaculture Authority (Amendment) Bill, 2022 was convened under the Chairmanship of

the Joint Secretary (Marine Fisheries) on 22nd July 2022 through video conferencing. Representatives from CIBA, MPEDA, NCSCM and officials representing Department of Fisheries of Andhra Pradesh, Odisha, Maharashtra and Gujarat participated and put forth their views and suggestions to draft the Coastal Aquaculture Authority (Amendment) Bill, 2022.

Participation In International Meeting

35th Session of the Committee on Fisheries Rome, Italy, 5th to 9th September 2022

As per the letter received from the Dept. of Fisheries, Govt. of India, the Director (Technical), CAA participated in the 35th Session of the Committee on Fisheries at Rome, Italy during 5th-9th September 2022 as a part of Indian Delegation Headed by the Joint Secretary (Marine Fisheries) DoF, Ministry of Fisheries, Animal Husbandry and Dairying, Govt. of India

Other Activities

Celebration of "YOGOTSAV" the countdown programme for International Day of Yoga-2022 at Shore Temple Mahabalipuram, Tamil Nadu on 9th May 2022

CAA organized Yogotsav-2022 on 9th May 2022 at the historical venue of Shore Temple, Mahabalipuram, Tamil Nadu.

The event was presided by the Hon'ble Minister of State for Fisheries, Animal Husbandry and Dairying & Information and Broadcasting. The Hon'ble Chairperson, CAA, the Additional Chief Secretary to Government, Dept. of Animal Husbandry, Dairying and Fisheries & Fishermen Welfare, Govt. of Tamil Nadu, Member Secretary, CAA, Superintending Archeologist, Archeology Survey of India, representatives from All India Shrimp Hatchery Association, TN Chapter and officials from central and State Govts. and around 150 participants including hatchery operators, farmers, fishermen and officials participated with great enthusiasm.



Celebration of "YOGOTSAV" with Hon'ble Minister of State for Fisheries, Animal Husbandry and Dairying at Shore Temple Mahabalipuram, Tamil Nadu.

The Hon'ble Minister distributed Yoga mat to the participants. The participants along with the dignitaries have performed yoga as instructed by the Yoga Instructors from Morarji Desai National Institute of Yoga at the historical venue of the Shore Temple, Mahabalipuram, Tamil Nadu.

Observation of the 8th International Day of YOGA on 21st June 2022: CAA had observed 8th International Yoga Day in the office premises with great enthusiasm and conducted a yoga session lead by yoga instructor from M/s. Krishnamacharya Yoga Mandiram, Chennai.

Coastal cleanliness campaign on 'International Coastal Clean Up' Day on 17th September 2022 at Besant Nagar Beach, Chennai

CAA organized the Chennai Coastal Cleanup

Awareness 6K RUN 2022 in Besant Nagar Beach, Chennai to make awareness on coastal cleanup on behalf of NFDB. Dr. L. Murugan, Hon'ble Minister of State (MoS) for Fisheries, Animal Husbandry and Dairying & Information and Broadcasting, GoI inaugurated the event in which more than 3000 people participated. Padmashri Ms. Anitha Pauldurai (renowned basketball player from Chennai) and Mr. Purushthama, National basketball player graced the occasion. The first 10 winners in both men and women categories were awarded Special Medals and Cash prizes. Further, all the finishers were honoured with medals and certificates.



Winners (Female Category) of Cleanup Awareness 6K RUN 2022 in Besant Nagar Beach, Chennai

Observance of important national programs

As per the official orders CAA observed the Vigilance Awareness week, Rashtriya Ekta Diwas (National Unity Day), Swachhata hi Seva Abhiyaan and Constitution Day during the year.

Details of Unspent Balances and Utilisation Certificate (UC) in r/o Coastal Aquaculture Authority (Figures in Crores)

Scheme Name	As on 31 st March, 2022			As on 31 st December, 2022		
	UC due upto 2019-20	UC not due	Unspent balance	UC due upto 2020-21	UC not due	Unspent balance
Coastal Aquaculture Authority	-	3	Rs.0.13	-	-	-

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

5.3.1 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). 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 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, PISFH was renamed as Central Institute of Coastal Engineering for Fishery (CICEF) and its technical expertise was further developed in the subsequent years and from 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 UNDP/FAO assistance in the form of equipment and consultants from 1986 to 1991 for the development of coastal aquaculture farms.

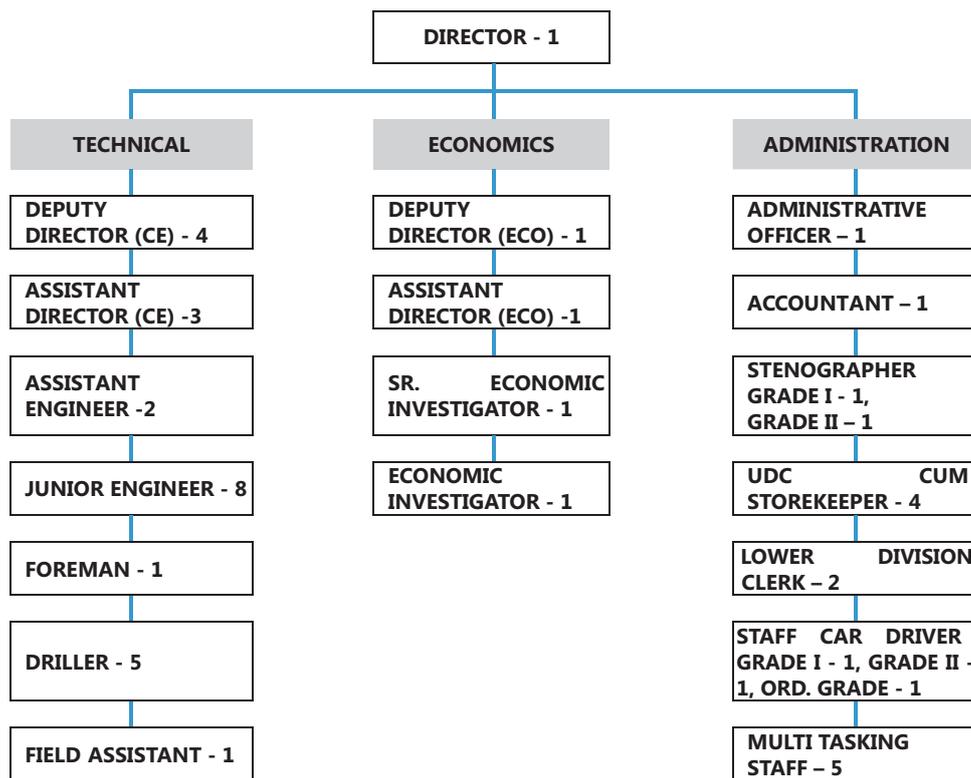
5.3.2 Organisation

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 is as follows:

Group	Non-Plan	
	Technical	Non -Technical
A	10	-
B (Gazetted)	03	01
B (Non - Gazetted)	09	02
C	07	15
Total	29	18

An interdisciplinary team comprising Engineers and Economists who have specialised knowledge and vast on- field experience in conducting necessary pre-investment studies to identify sites for the development of Fishery Harbours, Fish Landing Centres and Brackish water Shrimp

Farms, preparation of techno-economic feasibility reports, detailed construction plans for the projects and other supporting facilities are on the roll of this Institute. The Organisation Chart of the Institute is as shown below.



Mandate

The Objectives of the Institute in respect of development of fishery harbours/fish landing centres, coastal aquaculture farms and hatcheries are as below:

5.3.3 Fishery Harbours

- i) To carry out reconnaissance surveys/pre-feasibility 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.
- ii) To prepare preliminary construction plans and supporting facilities etc., for fishery harbours.
- iii) To give technical advice on engineering and economic aspects wherever required for the development of fishery harbours and fish landing centres.
- iv) 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 and Dairying.

5.3.4 Coastal Aquaculture Farms and Hatcheries

- i) To conduct economic and engineering investigations, prepare suitable designs for farms and prepare techno-economic feasibility reports.

5.3.5 Achievements of the Institute

The Institute, till end of March 2022 has carried out investigations at 104 sites and prepared project reports for 122 (including revised) for the development of Fishery Harbours/Fish Landing Centres.

During UNDP/FAO assistance, four pilot brackish water shrimp farms and one shrimp seed hatchery were developed. Under the World Bank-assisted Shrimp Culture Project, the Institute carried out survey and sub-soil Investigations at 13 sites covering a total area of 9640 ha. Techno-

economic feasibility reports were prepared in respect of 10 sites covering a total productive pond area of 3826 ha. Trial culture operations were carried out at Digha, Canning, and Dighirpar in West Bengal and Bhairavapalem in Andhra Pradesh.



Map showing fishery harbour sites investigated by CICEF

5.3.6 Achievements during 2022-23 (Till 31st December 2022)

5.3.7 Techno-Economic Feasibility Reports (TEFRs)

- i) Submitted Techno-Economic Feasibility Report (TEFR) for development of fishery harbour at Belambar in Uttara Kannada District of Karnataka
- ii) Submitted modernisation/ up gradation proposal of Petuaghat fishery harbour in Purba Midinipur district in West Bengal
- iii) Submitted modernisation/ up gradation proposal of Shankarpur fishery harbour in Purba Midinipur district in West Bengal
- iv) Submitted modernisation/ up gradation proposal of Kakdwip fishery harbour in South 24 Parganas district in West Bengal

- v) Submitted modernisation/ up gradation proposal of Frasergunj fishery harbour in South 24 Parganas district in West Bengal

5.3.8 Pre-feasibility Reports

- i) Issued pre-feasibility report for Valiyathura fishery site in Thiruvananthapuram in Kerala
- ii) Issued pre-feasibility report for Mayabunder site in Andaman & Nicobar Island for the development of fishery harbour
- iii) Conducted pre-feasibility site visits to Rameswaram and Pulicat Lake in Tamil Nadu for development of fishery harbour

5.3.9 Technical Comments and Appraisals

- 4.3.9.1.** Scrutinised and issued the technical

comments/recommendations for the following proposals in Tamil Nadu:

- i. Modernisation of Nagapattinam Fishing Harbour in Nagapattinam District
- ii. Construction of Fish Landing Centre at Sattankuppam in Thiruvallur District
- iii. Construction of Fish Landing Centre at Sunnambukulam Thiruvallur District
- iv. Establishment of Fish Landing Centre at Mudhaliyarkuppam and Chettynagar villages in Villupuram District
- v. Establishment of Fish Landing Centre at Pudhukuppam and Anichankuppam Villages in Villupuram District
- vi. Establishment of Fish Landing Centre at Chithiiraipttai and Nanjalingampettai villages in Cuddalore District
- vii. Establishment of Fish Landing Centre at Tsunami Nagar and Akkaraigori villages in Cuddalore District
- viii. Establishment of Fish Landing Centre at Sothikuppam and Rasapettai villages in Cuddalore District
- ix. Establishment of Fish Landing Centre Sonankuppam village in Cuddalore District
- x. Providing Additional Infrastructure Facilities (Auction Hall, Net mending Shed, Compound Wall Over Head Tank and U.G. Sump) to the Thoothukudi Fishing Harbour in Thoothukudi District

5.3.9.2 Scrutinized and offered technical comments for the following projects in Maharashtra:

- i) Jeevana in Raigad district in Maharashtra
- ii) Bharadkhol in Raigad district in Maharashtra
- iii) Harnai in Ratnagiri district in Maharashtra
- iv) Sakharinate in Ratnagiri district in Maharashtra

- v) Satpati in Palghar district in Maharashtra

5.3.9.3 Scrutinized and offered technical comments for the Arthungal fishery harbour in Alappuzha district Kerala.

5.3.9.4 Project Monitoring/Third party inspection of on-going projects.

- i) 3rd party inspection of all ongoing fishery related works in Dakshina Kannada, Udupi and Uttara Kannada districts of Karnataka.

5.3.9.5 Field visit to Fishery Harbours and Fish Landing Centres

- i) Inspected FSI office buildings in Goa and Chennai to prepare estimates for undertaking repair and renovations.
- ii) Visited Paradip in connection with modernization of fishery harbour proposal.
- iii) Visited Andaman and Nicobar Islands for identifying suitable sites for development of fishery harbours.
- iv) Visited Vellapallam fishery Harbour site in Nagipattinam district of Tamil Nadu as decided during CMAC Meeting.
- v) Visited Valiathura fishery centre in Thiruvananthapuram district of Kerala in connection with pre-feasibility studies for development of a fishery harbour.

5.3.9.6 Conference, Workshop and Training

- i) Conducted a training program on Initiation and DPR preparation of high value infrastructure projects under FIDF and PMMSY for the coastal states of India held at NFDB, Hyderabad during June 2022.
- ii) Participated in 23rd Congress of the International Association for Hydro-Environment Engineering and Research Asia and Pacific Division held at IIT, Madras during December 2022.

5.3.9.7 Visitors

The officers from the Ministry of Fisheries, Animal Husbandry and Dairying, Government of India and Maritime States/UTs, who visited this Institute for discussions, inspections, meetings etc., are given below:

Government of Tamil Nadu, Kerala & Karnataka

- i) Engineers from State Fisheries Department visited in connection with development of fishery harbour projects proposed under FIDF.

4.3.9.8 Financial

During FY 2021-22, Rs. 400.61 lakhs was incurred by CICEF, while Rs. 372.51 lakhs has been incurred during FY 2022-23, till 31st December 2022.

5.3.9.9 Events

- Observed International Yoga Day on 21st June 2022
- 75th Independence Day on 15th August 2022 was celebrated in the Institute with patriotic fervour
- Hindi Diwas celebrated on 14th September 2022
- Vigilance Awareness week celebrated

from 26th October to 1st November 2022

- Kannada Rajyotsava was celebrated on 1st November 2022
- Constitution Day was observed on 22nd November 2022
- Swatchatha Pakhwada was observed between 16th to 31st December 2022.

5.3.9.10 Implementation of Official Language / Hindi Teaching Scheme

As per the guidelines issued by the Government of India, various activities concerning the implementation of Official Language were carried out at the Institute.

An Official Language Implementation Committee was constituted with the following members. The committee periodically met and reviewed the progressive use of Hindi in official correspondence.

Shri N. Venkatesh Prasad, Director	Chairman
N. Ravi Sankar, Deputy Director (CE)	Member
M.B. Belliappa, Deputy Director (CE)	Member
N.K. Patra, Deputy Director (Economist)	Member

The Institute celebrated Hindi Divas on 14th September 2022 and Hindi fortnight between 13th and 24th September 2022.

4.11 Photos



Visit to Paradip Fishery Harbour for modernization proposal



Pre-Feasibility studies in Andaman & Nicobar Island



Pre-Feasibility studies at Bihar

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

5.4.1 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

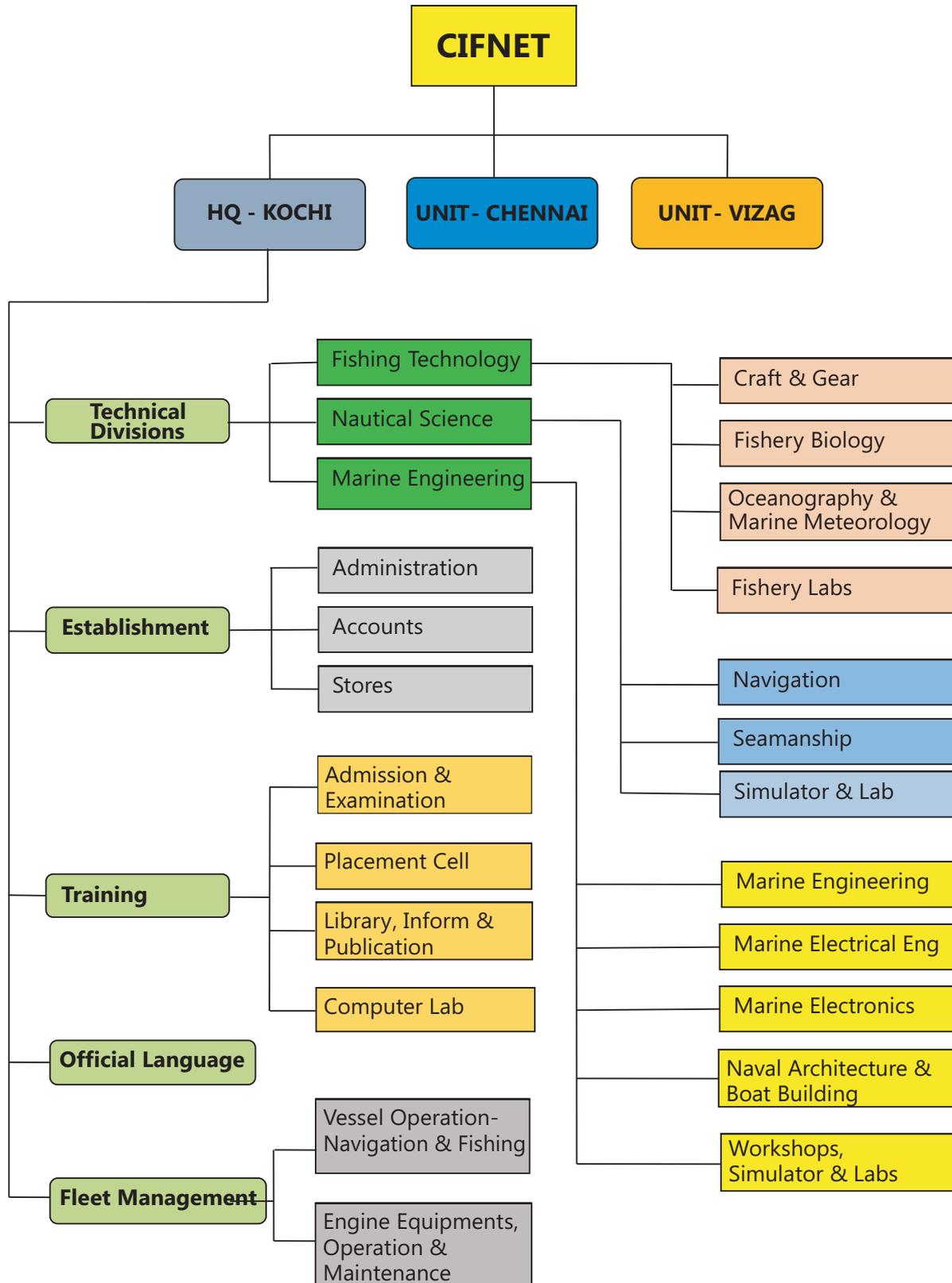
organizing suitable fisheries training system at the national level to meet the demands of Fishing Industry, the Government of India established the Central Institute of Fisheries Nautical and Engineering Training - CIFNET) in 1963 at Kochi to meet the statutory manning requirements of deep sea fishing 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 adequate 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 increased demands of trained manpower in the country.

5.4.2 Mandate

- i) To create technical manpower for the operation of ocean going /deep sea fishing vessels and to run infrastructure establishments
- ii) To create trained manpower to manage fishery establishment
- iii) To train the fishermen of the coastal states through capacity building training programme under Blue Revolution /Pradhan Mantri Matsya Sampada Yojana (PMMSY)
- iv) To provide training for technical teachers for manning the fishermen training centers attached to Maritime States and Union Territories
- v) To conduct studies on fishing craft, fishing gears and equipments and provide extensive training to accelerate advancement in fishing technology for enhancing productivity of fishermen and increasing marine fish production
- vi) To help developing nations in the South-East Asian, Middle East and African regions to create technical manpower for development of Marine Fisheries
- vii) To provide technical consultancy service in all matters with special reference to technical manpower requirements

5.4.3 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 2022

Category of post	Sanctioned Strength	Posts filled	Total vacant
Group "A"	40	21	19
Gr."B"(G)	6	2	4
Gr."B"(N.Gaz)	66	27	39
Group "C"	167	97	70
Total	279	147	132

5.4.5 Courses offered by CIFNET

The Institute conducts various courses as stated below:

- i) Bachelor of Fishery Science (Nautical Science) of 4-year duration, approved and affiliated by Cochin University of Science & Technology, Kochi recognized by UGC.
- ii) Two trade courses, Vessel Navigator Course (VNC) & Marine Fitter Course(MFC) of 2 years duration, approved by Ministry of Labour, affiliated to National Council for Vocational Training(NCVT).
- iii) Short term training programmes for fishermen of coastal states under PMMSY through outreach and in-house programmes.
- iv) Short term training programmes for Training of Trainers (TOT) of officials from sister organizations, fisheries departments of the States Govt. and short-term course for Coast Guard officials and students from VHSS and professional colleges.

- v) Ancillary course Shore Mechanic Course (SMC) of 1 year duration for the sponsored candidates.
- vi) 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.

5.4.5.1 Student's strength of CIFNET

During the year FY 2022-23 (up to 31st December 2022), 143 students of B.F.Sc. (NS) and 196 trainees of VNC/MFC and a total of 18 students of Shore Mechanic Course (SMC) attended the regular courses.

5.4.5.2 Training and Vessel Target and Achievements

The performance of CIFNET for the FY 2022-23 (upto December 2022) including training and operational parameters is furnished below.

Performance of CIFNET 2022-2023 (Upto 31 st December 2022)			
S.No	Parameters	Annual Target 2022-2023	Total Achievement up to 31 st December 2022
I. Target for Institution Training Programmes			
1	No. of students under Degree course – B.F.Sc. (NS)	149	143
2	No. of students under Trade Courses (NCVT) Vessel Navigator Course/ Marine Fitter Course	240	196
3	No. of students under Ancillary Course (Shore Mechanics Course) (As Per Demand)	20	18
4	Statutory & Refresher Course (As Per Demand)	10	1
II. Target for Other Training Programmes			
5	Short Term training courses (STC)	1400	1172
(a)	Fishermen training(In house)		338
(b)	Extension training for fishermen (Outreach)		678
(c)	STC for officials(Coast Guard, Fisheries officials)		27
(d)	Professional students/VHSS		129
III. Target for fishery training vessels			
1	Days out at sea	400	291
2	Fishing Days	320	220
3	Fishing Effort(hrs)	1100	695.5
4	Fishing Effort(Hooks)	5000	1725
5	Catch(Kg)	14000	17020
6	Institutional trainee Days	2500	1432
7	Post Institutional trainee days	3500	2373

The summary of short term training programmes of CIFNET upto December 2022

SI No	Training Programmes	Total No of Programmes	Total no of Participants			TOTAL
			Kochi	Chennai	Vizag	
1	Fishermen Training programmes for coastal states	12	97	338	80	515
2	Fishermen Capacity Building training on Tuna longline	3	71	-	-	71
3	Fishermen Training for UT of Andaman & Nicobar	2	74	-	-	74
4	Fishermen Training for UT of Puducherry	13	-	396	-	396
5	Course for Professionals and B.F.Sc. students	5	27	-	89	116
TOTAL		35	269	734	169	1172

5.4.5.3 CIFNET fishermen training at Andaman and Nicobar Islands under PMMSY scheme

CIFNET continued the conduct of fishermen training programme, commenced from March 2022 for the fishermen of Andaman & Nicobar

Islands. The institute conducted two more batches during April 2022 at FSS, Campbell Bay and Fish Landing Center, TeeTop, Car Nicobar for 74 Nos of fishermen. Altogether 387 fishermen were trained through 10 different batches under this programme.

Training programmes for the Fishermen of A&N Islands



5.4.5.4 CIFNET fishermen training at Puducherry under PMMSY scheme

CIFNET launched a month long skill development training programs for the fishermen of Puducherry on 2nd November 2022 under PMMSY Scheme, organized in association with Department of Fisheries, Puducherry, at Fishing

harbour Thengaithittu. 396 fishermen attended the training program in 13 different batches of 3 days duration at various centres across Puducherry namely Puducherry, Karaikal, Mahe, Yanam during the period from 2nd to 30th November, 2022

Training programmes for the fishermen of Puducherry



5.5.5 V. Other Events/ Meetings organized at CIFNET

I. Memorandum of Understanding (MOU) between CIFNET and MPEDA-NETFISH for fishermen training under PMMSY.

CIFNET and MPEDA-NETFISH signed a Memorandum of Understanding (MOU) to conduct training programmes jointly for fisher community in all coastal states and Union territories in India. This initiative has been taken in the best interest of fisher community and aims at welfare and socio-economic upliftment of the fisher community, as well as resource conservation and post-harvest quality management by imparting adequate skill development training programmes under Pradhan Mantri Matsya Sampada Yojana (PMMSY) scheme.

The MoU was signed by Shri. A.K. Choudhury, Director CIFNET and Dr. Joice V. Thomas, Chief Executive MPEDA-NETFISH in a function organized in MPEDA headquarters Kochi on 13th April 2022



MOU between CIFNET and MPEDA-NETFISH for fishermen training under PMMSY on 13th April 2022 at MPEDA, Kochi.

II. Experimental study on efficacy of LPG in OBM of fishing boats by CIFNET at Kerala

As per the directives of Ministry, CIFNET undertook an operational trail of OBM fitted with LPG Kit of M/s Surya Marin energy Pvt. Ltd using 9.9 HP and 25 HP OBM with LPG. The trail was conducted for the period from 20th April to 14th May 2022. The Director and other coordinating officers of CIFNET visited the site at Anchuthengu Beach, Trivandrum on 10th May 2022 and report submitted to the Ministry.

III. Celebration of World Environmental day 2022 at CIFNET Kochi, Chennai and Vizag on 5th June 2022.

The World Environmental Day 2022 was celebrated at CIFNET Kochi, Chennai and Vizag on 5th June 2022. Various teaching faculties of all



the three centres delivered talks on various topics such as Climate Change and pollution, Ozone depletion and Global Warming, Zero waste, Only One Earth, Cocktail of contaminants - Ocean suffer with white pollution (plastic fragments), presence of micro plastics in marine ecosystem. A

procession was undertaken on the harbour road at CIFNET Vizag Unit by displaying the message for protection of environment on the placard. The programme was concluded by planting a tree at all the three campuses.

World Environmental Day 2022 celebrations at CIFNET HQ Kochi and two units at Chennai and Vizag on 5th June 2022



Presentations on the environmental day topics by faculty members of CIFNET Kochi

IV. Celebration of the World Ocean Day

The World Ocean Day was celebrated at CIFNET headquarters Kochi on 8th June 2022. Director, CIFNET inaugurated the function that was attended by faculties and MFC/VNC students presented papers about the importance of oceans.

Celebration of The World Ocean Day at CIFNET head quarters Kochi on 8th June 2022



IV. Celebration of National fish farmers Day

National fish farmers Day was conducted at CIFNET, Kochi on 11th July 2022. The faculty members and students of B.F.Sc. and VNC/MFC courses delivered talk on the various aspects of Fish Culture and farming.

V. Celebration of World fisheries Day 2022 on 21st November 2022

World fisheries Day 2022 was celebrated on 21st

November 2022. At CIFNET Kochi, Sh. A.K Choudhury, Director CIFNET, inaugurated the function. Technical paper was presented by the Faculties namely Dr Bijumon KB, SI(FT) and Smt. Amrithavarshini, Instructor FT (FT) on the topics. B.F.Sc. (NS) students also presented papers on various topics.

At CIFNET Unit, Vizag, function was conducted at the institute where all the faculties, staff and vessel staff attended the programme. Senior faculties shared views on the need to protect the

Marine environment and conservation of resources. Selected trainees of VNC/MFC delivered speech on the importance of the World Fisheries Day and prizes were distributed to the participated trainees to encourage and motivate their talent. A rally comprising of all staff and trainees, with placards, banner, commenced from the office premises to the fishing harbour and back was organized to raise awareness among the fisher folk and stakeholders.

Celebration of World Fisheries Day 2022 on 21st November 2022 at CIFNET, Kochi



VII. CIFNET participation in the World Fisheries Day, celebrations 2022 organized by NFDB at UT of Daman

CIFNET joined in the World Fisheries Day, celebrations 2022 organized by NFDB at UT of Daman on 21st November 2022 and put up a stall in the exhibition ground. CIFNET study materials

in Telugu for Fishermen were released by Shri Jatindra Nath Swain, IAS Hon'ble Secretary Department of Fisheries (GoI), at Daman in presence of Shri Sagar Mehra, JS (IF&A) and Dr Suvarna, Chief Executive, NFDB & Sh. Saurabh Mishra, IAS, Department of Fisheries, UT of Dadra and Nagar Haveli and Daman and Diu

CIFNET participated in the World Fisheries Day celebrations 2022 organized by NFDB at UT of Daman



VIII. Swachh Sagar Surakshit Sagar - Clean Coast Safe Sea Campaign by CIFNET

As per the directive of Ministry, CIFNET Conducted 'Swachh Sagar Surakshit Sagar Clean Coast Safe Sea' Campaign". On 26th August 2022 walk to the beach with placards and banners with captions relevant to Clean Coast Safe Sea were conducted by officers, staff and students to create awareness amongst the public. On 17th September 2022, a beach cleaning drive was conducted at Kuzhuppilly Beach and Cherai Beach at Kochi. All the staff and students actively participated in the event.

In this connection a poster drawing competition on the theme 'Clean Coast Save Sea' (Plastic se Azaadi) was organized for the students B.F.Sc.

(NS), VNC and MFC students at CIFNET Kochi on 12th August 2022.

As a part of International Coastal Clean-up Day on 17th September 2022, the Coastal Aquaculture Authority, CIFNET Unit Chennai and FSI on behalf of Ministry of Fisheries, Animal Husbandry and Dairying and the National Fisheries Development Board, Hyderabad have organized a Chennai 6K RUN for creating awareness on the importance of 'Swachh Sagar, Surakshit Sagar' campaign at Olcott Memorial Higher Secondary School Ground, Besant Nagar, Chennai. Dr. L. Murugan, Hon'ble Union Minister of State, Ministry of Fisheries, Animal Husbandry and Dairying & Information and Broadcasting, Govt. of India graced the occasion and flagged off the run.

Swachh Sagar Surakshit Sagar/ "Clean Coast Safe Sea" Campaign



Walk to the Beach with placards and Banners with captions relevant to Clean Coast Safe Sea

conducted by CIFNET Kochi at Kuzhipally Beach and Cherai Beach Ernakulam on 26th August 2022



Clean Coast Safe Sea Beach Cleaning programme conducted by CIFNET Kochi on 17th September 2022 at Kuzhuppilly Beach and Cherai Beach at Kochi

IX. CIFNET attended Parliamentary committee meeting on official language

Inspection by the committee of parliament on official language was held on 24th September 2022 at Trivandrum. The committee reviewed the report regarding implementation of official language at CIFNET headquarters Kochi.



X. CIFNET conducted 'Special Campaign on Swacchata and Disposal of Pending matters 2.0 from 2nd to 31st October 2022'

As per the directives of Ministry, CIFNET conducted the event on 'Special Campaign on Swacchata and Disposal of Pending matters 2.0' at CIFNET Headquarters Kochi and two units from 2nd to 31st October 2022. All staff and students were categorized into various groups and areas to be cleaned were allocated. All the staff members and students actively participated in the cleaning programme.

As part of the campaign Shri Jatindra Nath Swain, IAS, Secretary, Fisheries, Govt of India, visited CIFNET Unit Vishakhapatnam on 20th October 2022 to review the conduct of Special Campaign 2.0.

Dr. L. Murugan, Hon'ble Minister of State (MoS), Ministry of Fisheries, Animal Husbandry & Dairying visited CIFNET Unit, Chennai on 21st October 2022. The Hon'ble Minister reviewed the special campaign 2.0 activities carried out by CIFNET Unit, Chennai and inspected all places of the CIFNET, Chennai Campus.

Shri Sagar Mehra, Joint Secretary (Administration & Inland Fisheries) Dept. of Fisheries, Ministry of Fisheries, AH&D, Govt. of India visited CIFNET, Kochi on 29th October 2022 to inspect / review the 'Special Campaign on Swacchata 2.0' conducted at CIFNET Kochi. JS (IF&A) inspected all the sections and the entire campus of CIFNET, Kochi. He had a meeting with the Director and senior officers of CIFNET. A coconut sapling was planted in the campus by the JS (IF&A).

Special Swacchata Campaign 2.0 at CIFNET Kochi



XI. Dignitary visit to CIFNET

1. Shri Jatindra Nath Swain, IAS, Secretary, Department of Fisheries (GoI) visited CIFNET Unit Vishakhapatnam on 20th October 2022
2. Dr. L. Murugan, Hon'ble Minister of State (MoS), Ministry of Fisheries, Animal Husbandry & Dairying visited CIFNET Unit, Chennai on 21st October 2022
3. Shri Sagar Mehra, Joint Secretary (Administration & Inland Fisheries) Department of Fisheries, MoFAH&D, GoI visited CIFNET, Kochi on 29th October 2022
4. Dr. L. Murugan, Hon'ble Minister of State for Fisheries, AHD and I&B Govt. of India visited CIFNET, Kochi on 31st December 2022



Shri Jatindra Nath Swain, IAS, Secretary, Department of Fisheries (GoI) visited CIFNET Unit Vishakhapatnam on 20th October 2022



Dr. L. Murugan, Hon'ble Minister of State (MoS), Ministry of Fisheries, Animal Husbandry & Dairying visited CIFNET Unit, Chennai on 21st October 2022





Shri Sagar Mehra, Joint Secretary (IF&A) Department of Fisheries, MoFAH&D, GoI visited CIFNET, Kochi on 29th October 2022

Visit of Dr. L. Murugan, Hon'ble Minister of State for Fisheries, AHD and I&B (GoI) to CIFNET Kochi on 31st December 2022

xii. CIFNET participation in exhibitions

1. CIFNET participated in the exhibition 'Garavi Gujarat' from 8th to 10th July 2022 at Mehsana, Gujarat. CIFNET has put up a stall to display its activities
2. CIFNET participated in the '13th Krishi Fair 2022', Puri, Odisha from 20th to 24th June 2022. CIFNET has put up a stall to display the various posters/models/exhibits
3. CIFNET participated in the Exhibition 'Kerala Fish Fest 2022' organized by Department of Fisheries, Govt. of Kerala at Putharikandam Maidanam, Trivandrum from 18th to 21st November 2022. CIFNET has put up a stall at the exhibition.

4. CIFNET participated in the 'Rise in Uttarakhand 2022 exhibition' at Dehradun 7th to 9th July 2022 by putting up a stall.

5.5 Fishery Survey of India

5.5.1 Introduction

The Fishery Survey of India is the nodal agency under the Govt. of India to carry out 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 geo-referred information on the marine fishery resources for sustainable utilization. Besides, the

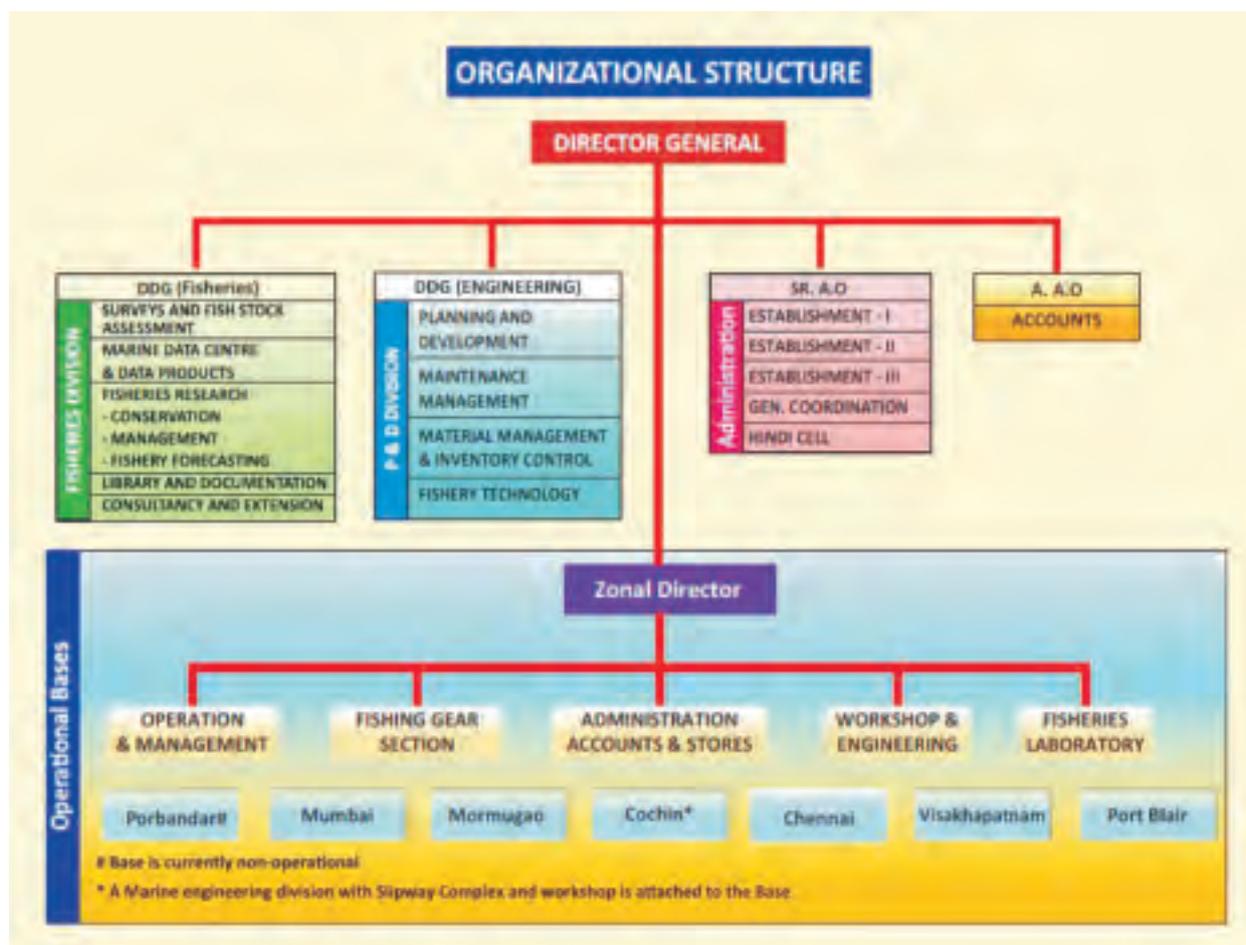
institute is also involved in the implementation of regular survey projects and conduct diversified experimental fishing to identify the resources in different bathymetric zones. FSI has been bestowed with the responsibility of collecting data on tunas in Indian waters and submit the same to the Indian Ocean Tuna Commission (IOTC) in the form of India's National Report. The Institute also impart training onboard survey vessels to the students sponsored by the CIFNET on tenure basis. FSI has a fleet of 11 deep sea survey vessels with the state of art technology consisting of 2 multifilament tuna longliners, 2 monofilament tuna longliners and 7 Stern Trawlers which are being deployed from six operational bases; Mumbai, Mormugao, Cochin, Chennai, Visakhapatnam and Port Blair in order to accomplish the mandate of the Institute.

5.5.2 Mandate

The mandate of the Institute is tuned from 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:

- i) 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
- ii) 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
- iii) 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
- iv) 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
- v) Assessment of suitability of fishing gear, accessories and equipment with special reference to the preservation of environment and ecology of marine habitat
- vi) Fish stock identification and biodiversity studies including application of genetic tools and techniques
- vii) Marine Fisheries forecasting including application of Remote Sensing for the benefit of Artisanal, Mechanized and Industrial sectors
- viii) Human Resources Development through the practical training of fishing operatives, fishermen, fisheries officials and students

5.5.3 Organogram/ Organizational Chart of the Institute, along with the Detailed Write-up on the Total Employees of the Institute



5.5.4 Staff strength (up to December, 2022)

Group	Category	Sanctioned posts	Filled Posts	Vacant Posts
A	Scientific	25	11	14
	Technical	16	12	04
	Administrative	01	01	-
B	Scientific	29	23	06
	Technical	41	21	20
	Administrative	33	23	10
	Floating	91	23	68
C	Scientific	01	-	01
	Technical	163	66	97
	Administrative	139	65	64
	Floating	184	38	146
Total		713	283 (39.70%)	430 (60.30%)

5.5.6 Major Initiatives and Achievements during the year against the targets

i. Target and Achievements of Survey vessels

During FY 2022-23, survey vessels achieved 910 fishing days (upto December 2022) against the target of 1685 by expending total fishing effort of 3025 hours (including 605 hrs of Mammal Survey) against the target of 5025. The tuna longliners combined together, operated a total of 90,495 hooks (up to December 2022) against target of 3,57,040.

II. Expenditure

Expenditure incurred in 2022-23 up to (31.12.2022) is ₹ 6,490.32 (₹ in Lakhs)



Presentations on the environmental day topics by faculty members of CIFNET Kochi

5.5.7 Meetings

- i) Annual Review of Operational and Scientific Activities (ROSA) meeting of FSI for the year 2021-22 was held during 18th – 19th April 2022 at Cochin Zonal Base of FSI under the Chairmanship of Dr. R. Jeyabaskaran, Director General, FSI.
- ii) The half yearly ROSA meeting for the year 2022-23 was held on 23rd November 2022 under the Chairmanship of Dr. R. Jeyabaskaran, Director General, FSI at its Mumbai Base .
- iii) The Consultative Committee Meeting (CCM) of this Cochin Base of FSI was conducted on 7th April 2022 under the Chairmanship of Dr. Adeela Abdulla IAS, Director of Fisheries, Govt. of Kerala.



The Consultative Committee Meeting of Cochin Base of FSI held on 7th April 2022

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

As part of the extension activities, bases of FSI conducted 3 regional workshops/open house and seminar. Total of 300 participants including

fishermen, school/college students and state officials attended the workshop. 2100 visitors benefited from the open-house that were conducted onboard the survey vessels and office premises. The details are furnished below:

Sl. No.	FSI Base	Subject	Place and Date
1	Mormugao	Seminar on the "Modern Fishing Technologies"	Goa, 27 th April 2022
2		Workshop on "Marine Fishery Resources of Goa Coast: Conservation and Sustainable Utilization"	Goa, 5 th May 2022
3	Cochin	Workshop on "Marine Fisheries Resources of South-West Coast of India"	Cochin, 2 nd December 2022



Seminar on the "Modern Fishing Technologies" at Goa on 27th April 2022



Workshop on "Marine Fishery Resources of Goa Coast: Conservation and Sustainable Utilization" at Goa on 5th May 2022



Workshop on "Marine Fisheries Resources of South West Coast of India" at Cochin on 2nd December 2022



5.5.9 Salient Observations of Scientific Findings

FSI has undertaken project 'Marine Mammal stock assessment in India' under the central sector scheme component of the Pradhan Mantri Matsya Sampada Yojana (PMMSY) in collaboration with ICAR-CIFT (Central Institute of

Fishing Technology) & MPEDA-NETFI SH (Marine Fisheries Research Institute and Marine Product Export Development Authority).

The survey done by the vessels attached to Chennai Base of FSI recorded an occurrence of approximately 1387 nos. of marine mammals. The species identified were *Stenella attenuate*,

Stenella longirostris, *Tursiops truncatus*, *Grampus griseus*, *Tursiops aduncus*, *Stenella coeruleoalba* and *Globicephalus macrorhynchus*. Whereas Cochin Base, Mormugao base and Port Blair Base recorded 11,08, 845 and 41 numbers of marine mammals respectively.



Survey done by the vessels attached to Chennai Base of FSI

5.5.10 Visit of Dignitaries

- i) Shri. Jatindra Nath Swain, IAS, Secretary, Fisheries, Govt. of India along with Dr. (Smt.) Suvarna Chandrappagiri, IFS, Chief Executive, National Fisheries Development Board (NFDB), Dr. Atul Patne, IAS, Commissioner of Fisheries Maharashtra & Shri. Pankaj Kumar, IAS, Managing Director, Maharashtra Fisheries Development Corporation (MFDC) visited FSI, Mumbai (HQs.) and Mumbai Base on 24th April 2022.
- ii) A team of delegates from Agence Française de Développement (AFD), comprising Mr. Bruno Bosle, Ms. Lusía Terranova, Ms. Marion Velut, Ms. Akshita Sharma and Ms. Moulshree Dagar visited the Cochin Base of FSI on 29th June 2022 and Mumbai (HQs.) on 30th June 2022 to discuss about the avenues for collaboration, including funding for capacity building for FSI and Blue Economy.
- iii) Dr. Jujjavarapu Balaji, IAS, Joint Secretary (Marine Fisheries), Dept. of Fisheries, Govt. of India and Shri Shankar Laxman, Joint Commissioner (Fisheries Harbour), DoF visited FSI, Mumbai on 26th September 2022 to review the IMO GloLitter Project and overall FSI activities.
- iv) Dr. L. Murugan, Hon'ble Minister of State (MoS) for Fisheries, Animal Husbandry & Dairying visited MFV Blue Marlin attached to the Port Blair Base of FSI on 15th July 2022.
- v) Shri T. Rahul Kumar Reddy IAS and Ms. Sarjana Yadav IAS, Assistant Secretaries visited this Cochin Base of FSI on 2nd August 2022 under the programme for the IAS officers of 2020 batch.
- vi) Dr. Adeela Abdulla IAS, Director of Fisheries, Govt. of Kerala accompanied by Shri. Saju, Joint Director of Fisheries,

- Ernakulam District, Govt. of Kerala visited Cochin Base of FSI on 28th September 2022.
- vii) Smt. S. Rashmi, Assistant Director (Official Language), Ministry of Fisheries Animal Husbandry and Dairying, Dept. of Fisheries carried out an inspection on the Official Language in FSI (HQs), Mumbai during 29th to 30th August 2022
- viii) Shri Jatindra Nath Swain, Secretary to the Govt. of India visited Versova old jetty as well as new planned jetty to see the progress of the works and discussion with the local fishermen on 30th September 2022.
- ix) Shri Jatindra Nath Swain, I.A.S., Secretary to the Govt. of India, Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying, New Delhi visited Visakhapatnam Base of FSI on 20th October 2022.
- x) Dr. L. Murugan, Hon'ble Union Minister of State, Ministry of Fisheries, Animal Husbandry and Dairying, Ministry of Information and Broadcasting, Govt. of India FSI, Chennai on 21st October 2022.
- xi) Shri Sagar Mehra, Hon'ble Joint Secretary (Inland Fisheries & Admn.), Ministry of Fisheries, Animal Husbandry & Dairying, Department of Fisheries visited Cochin Base of FSI on 29th October 2022 to review the activities conducted under the Swachhata Special Campaign 2.0.
- xii) Shri Shankar L, Joint Commissioner (Fisheries), Government of India, Department of Fisheries visited the Cochin Base of FSI-Marine Engineering Division on 4th November 2022 to review the activities of the FSI-MED.
- xiii) The Hon'ble Union Minister of State Dr. L. Murugan, Ministry of Fisheries, Animal Husbandry & Dairying and Ministry Information and Broadcasting along with

the officials from the Ministry visited to the vessels MFV Sagarika and MFV Yellow Fin berthed at finger jetty, Mormugao Harbour Goa on 7th November 2022.

- xiv) Hon'ble Union Minister of State for Fisheries, AH&D and Information Broadcasting, Govt. of India, Dr. L. Murugan arrived Kochi on 30th December 2022 on his official visit in connection with modernization of Cochin fishing harbour.
- xv) Shri V. Srinivasa Rao, Deputy Secretary, Ministry of Fisheries, Animal Husbandry and Dairying, Department of Fisheries visited Visakhapatnam Base of FSI on 14th December 2022. During his visit, he inspected the workshop, net mending section, establishment section and the departmental museum.



Delegation from France Embassy and French Development Agency (AFD) visited FSI, Mumbai on 30th June 2022



Dr. L. Murugan, Hon'ble Minister of State (MoS) for Fisheries, Animal Husbandry & Dairying visited MFV Blue Marlin attached to the Port Blair Base on 15th July 2022



Shri Jatindra Nath Swain, I.A.S., Secretary to the Govt. of India, Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying, New Delhi held discussion with FSI officials at Visakhapatnam Base on 20th October 2022.

5.5.11 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 2022. 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 'Marine Fisheries Resources of Andaman and Nicobar Islands :Sustainable Development, Management and Conservation', 'Marine Fishery Resources of Andhra Pradesh Coast' and 'Code of Conduct for Responsible Fisheries (CCRF)' were conducted. Fishermen rallies and workshops for the benefit of fishermen were also organized. Bases of FSI also participated in the events organized by National Fisheries Development Board (NFDB) at Swami Vivekananda Auditorium, Daman, Gujarat and seafood festivals.



Celebrated World Fisheries Day in FSI (HQs) & Base Offices



Celebration World Fisheries Day in FSI (HQs) & Base Offices

5.5.12 Sagar Parikrama

During September 2022, the vessel MatsyaVrushti was deployed for the Hon'ble Union Minister's programme named "Sagar Parikrama Phase-2" aimed to facilitate interaction with fishermen, coastal communities and stakeholders so as to disseminate information of various fisheries related schemes and programs being implemented by the Government, demonstrating solidarity with all fisher folk, fish farmers and concerned stakeholder's as a spirit of Aatmanirbhar Bharat, promote responsible fisheries with focus on sustainable balance between the utilization of marine fisheries resources for food security of nation and livelihoods of coastal fisher communities and protection of marine ecosystems. The vessel sailed for the programme on 23rd September 2022 and she returned to port on 30th September 2022 after completion of Second phase of Sagar Parikrama.



FSI participated in the event of Sagar Parikarma phase-II

5.5.13 Participation in Global Patidar Business Summit 2022

Mumbai Base of FSI participated in Global Patidar Business Summit 2022 held at Sarsana International Exhibition Centre, Surat, Gujarat from 29th April 2022 to 1st May 2022. More than 1500 people including students from nearby schools, colleges and other institutions visited our stall. They were briefed about the work of FSI, vessels operated and various fishing methods and gears popularized by FSI.



Mumbai Base of FSI participated in Global Patidar Business Summit 2022 organised in Surat, Gujarat

5.5.14 IMO-GloLitter Project

A workshop of the National Task Force of IMO – GloLitter project was organized at Ambassador Hotel, Mumbai during 12th – 13th September 2022. Dr. C. Suvarna, IFS, Chief Executive, NFDB was the Chief Guest and Shri Gopikrishna C., Deputy D. G., DG Shipping was the Guest of honour of the workshop. Dr. S. Sundermoorthy, National Consultant of the GloLitter project, officials from Ministry of Fisheries, various States

and Union Territories' Fisheries departments and institutes like CIFT, CMFRI, MPEDA–Netfish participated in the workshop. The 2nd Day of IMO – GloLitter Project National Task Force Workshop was graced by Dr. Atul Patne, IAS, Commissioner of Fisheries, Maharashtra and Dr. Ravishankar C. N., Director/Vice Chancellor, CIFE, Mumbai.



Workshop of the National Task Force of IMO – GloLitter project organized in Mumbai

5.5.15 Official Language Activities

a. Hindi Pakhwada/ Workshops

The Fishery Survey of India, HQs, Mumbai and its Base offices observed "**Hindi Divas**" on 14th September 2022 and "**Hindi Pakhwada**" during 14th – 28th September 2022. 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 15 Hindi workshops on various topics were organized for the benefit of Officers and staff of FSI.

b. Official Language Inspection

Smt. S. Rashmi, Assistant Director (Official Language), Ministry of Fisheries Animal Husbandry and Dairying, Dept. of Fisheries carried out an inspection on the Official Language in FSI (HQs), Mumbai during 29th –

30th August 2022. She also conducted a workshop on 'Check Points in Official Language' on 29th August 2022 for the benefit of Officers and staff of FSI (HQs.), Mumbai.

c. Hindi awards/ shields received by Bases

The Visakhapatnam Base of FSI stood second (consecutively for the second year) for effective implementation of Official Language (Hindi) amongst the Central Govt. Offices in Visakhapatnam. Cochin base bagged the first prize for Official Language Implementation among all Central Government offices in Kochi for the year 2020-2021. Mormugao Base of FSI bagged first prize in official language implementation for the year 2019-20, 2020-21 and second prize for the year 2021-2022.

5.5.16 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.

SI. No.	Subject/ Event	Date
1	International Yoga Day	22 nd June 2022
2	Vigilance Awareness Week	31 st October 2022 to 6 th November 2022
3	Swachhata Hi Seva Abhiyaan/ Swachhata Bharat Fortnight Clean Safe Sea Campaign	2 nd – 31 st October 2022 17 th September 2022
5	National Unity Day	31 st October 2022
6	Constitution Day	26 th November 2022



Celebration of International Yoga Day in FSI(HQs.) and its base offices



Observed Vigilance Awareness Week in FSI(HQs.) and its base offices



Swachhata Hi Seva Abhiyaan/ Swachhata Bharat Fortnight and Clean Safe Sea Campaign programme organized in Mumbai(HQs.) and base offices



Observed Constitution Day in FSI(HQs.) and its base offices

5.6 National Institute of Fisheries Post-Harvest Technology and Training (NIFPHATT)

5.6.1 Introduction



NIFPHATT campus

Integrated Fisheries Project, the forerunner of NIFPHATT was established in the year 1952 at Quilon as Indo-Norwegian Project as the offspring of a tripartite agreement between Government of India, Norway and the UNDP. The basic objective was to develop the area and communities in general particularly fisheries. The Headquarters of the project along with the Norwegian experts were shifted to Kochi in 1963. Due to the positive impact on the sector, 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 they were handed over to the respective state governments in 1972.

The administration of the project in Kochi was taken over by the Government of India and renaming it as Integrated Fisheries Project (IFP) and it continued the programmes as a Central Government scheme under the Ministry of Agriculture. The Government of India, recognising activities of the project in the development of Indian fisheries and its enduring need for the development activities in the various realms of the fisheries industry, declared

Integrated Fisheries project as a permanent organization with effect from 26th December 1974. Thereafter, the programmes and policies of the project 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 in 2005. 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). 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.

5.6.2 Mission and Mandates

- i) Up gradation 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
- ii) Development of value-added products through process and product diversification of all varieties of fish including low value, unconventional and seasonally abundant fishes
- iii) Imparting training in post harvest technology, refrigeration technology, quality control and value-added products
- iv) Providing consultancy services and training for rural development programmes/ women empowerment programmes in fish processing, supporting local fish farmers, self-help groups of fishermen community, fishermen's cooperative societies

functioning under Panchayathi Raj Institutions

- v) Popularization and test marketing of value-added products from fish varieties including low value, unconventional species and seasonally abundant fishes
- vi) 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

5.6.3 Schemes for achieving the mandated target

- i) Schemes for introduction of new generation technologies and processes in post-harvest sector.
- ii) 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.
- iii) Schemes for Human Resource Development activities in fisheries science and technology in post-harvest sector.
- iv) Scheme for establishing rural appropriate technology designing and dissemination center.
- v) Scheme for extending assistance to small scale industries, export houses & fisherwomen groups by way of consultancy services and job works.
- vi) Scheme for strengthening the laboratory in order to undertake various research programmes related to the development of novel products like canned/dried/pickled/battered and breaded fish.
- vii) Extending strategic inputs and support for implementation of key components under PMMSY

5.6.4 Major activities and performance during 2022-23

1. Processing Section

This section carries out the mandates mentioned in serial no. 1 & 2.



Fish slicing in processing hall

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 keema conforming to the national and international standards.



Preparation of battered and breaded products

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, and fish curry etc. The above facility along with pilot scale kitchen in the plant is used for research, development and standardisation of new products.



Tuna canning operation

Canning plant of NIFPHATT has machineries like pre-cooking 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, Retort pouches etc.

A Tuna processing plant is made available to entrepreneurs who export fish and fishery products from the country on a dry lease basis as a promotional and marketing measure for encouraging fresh fish export.



Preparation of tuna loins

A total of 81.75 tonnes of raw materials (including 9.810 tonnes of product used for further value addition) was processed by NIFPHATT during the financial year 2022-23 (up to 31st December 2022). 61.60 tonnes of various frozen products, dried products, and value-added products and canned products were developed.

2. Marketing Section: This section carries out the test marketing of the products developed in connection with product development and training activities

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.

During this year, a total quantity of 134.54 tonnes (up to December 2022) landed from fishermen cooperative societies and department vessels in Kochi and Visakhapatnam unit.

A total of 129.43 (up to 31st December 2022) tonnes of fish and fishery products test marketed through Ernakulam stall, Palai stall, Dealers, and Visakhapatnam unit and fetched a revenue of Rs.103.46 Lakh.

3. Training Section

This section carries out activities in connection with the mandates mentioned in aforesaid sections. For a broader perspective, this section has two separate target groups, University/

College students and fisherwomen self help groups (conducted as in plant and on-site)

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

NIFPHATT HQ, Kochi and Visakhapatnam have conducted on-job training programme for 611

students in 52 batches from various Universities and colleges all over the country and fetched a total revenue of Rs. 5.35 Lakhs during the reported period. The trainees were given hands-on experience in various aspects of fisheries post-harvest technology. The list of participating Universities and colleges is listed below:

Colleges attended	Discipline	No. of batches	Total	Trainee days	Revenue
Annamalai University, Tamil Nadu	B.F.Sc	3	60	316	60000
MES Asmabi College, Thrissur, Kerala	B.Voc Fish Processing Technology	3	33	238	31000
Dhanalakshmi College of Engineering, Trichy, Tamil Nadu	B.Tech. Food Technology	3	12	97	12000
St.Albert's College, Ernakulam, Kerala	M.Sc Applied Fisheries & Aquaculture	4	68	562	73000
KuriakoseGregorious College, Pampady, Kerala	B.Sc.Food Science & Quality control	1	6	42	6000
MES Ponnani, College, Malappuram, Kerala	M.Sc.Aqua& Fishery Microbiology	2	34	287	34000
VNS College, Konni, Kerala	B.Sc. Industrial Micro. &Zoology	2	35	263	35000
Fatima Matha National College, Kollam, Kerala	M.Sc.Zoology	1	1	8	1000
KUFOS, Panangad, Kochi, Kerala	M.F.Sc.Fish Processing	4	16	118	16000
Vimala College, Thrissur, Kerala	B.Voc. Food Processing Technology	1	1	8	1000
Cochin University of Science & Technology, Kochi, Kerala	M.Sc. Microbiology	1	1	8	1000
CIFNET, Kochi, Kerala	B.F.Sc	3	11	83	11000
Madurai Kamaraj University, Tamil Nadu	M.Sc.Marine Biology	1	3	21	3000
Karunya University, Kerala	M.Sc. Food Science & Technology	1	5	35	5000
University of Calicut, Malappuram, Kerala	M.Sc.Food Science & Technology	1	31	155	32000
NIFTEM, Haryana	B. Tech Food Technology and Management	1	1	9	1000
St. Thomas College, Palai, Kerala	B.Voc. Food Processing Technology	1	7	56	7000
MES Asmabi College, Thrissur, Kerala	B.Voc. Fish Processing Technology		5	40	5000
University of Kerala,	M.Sc. Aquatic Biology and Fisheries	1	16	144	16000
ST. Teresa College, Ernakulam, Kerala	B.Voc. Food Processing Technology	1	20	100	20000

Colleges attended	Discipline	No. of batches	Total	Trainee days	Revenue
Ashutosh College, Kolkata, West Bengal	B.Sc Industrial fish and fisheries	2	43	386	43000
Lovely Professional University, Punjab	M.Sc Microbiology	1	2	20	2000
SN College, Cherthala, Kerala	MSc. Zoology	1	6	30	6000
SN College Nattika, Kerala	B.Sc. Food Processing and Safety	1	8	40	8000
T.K. Madhava memorial College, Alapuzha, Kerala	B.Sc Zoology	1	24	112	24000
St.Joseph College for Women, Visakhapatnam, AP	B.Sc.CBT	1	36	504	36000
Centurion University, Odisha	B.F.Sc	1	1	14	1000
The Neotia University, West Bengal	B.F.Sc	1	1	14	1000
St. Joseph College for Women, Visakhapatnam, AP	B.Sc CBT	1	36	360	
Dr. V.S Krishna College, Visakhapatnam, AP	B.S.C Voc. Aquaculture	1	25	325	25000
RDS College, Bihar	B.Sc. Industrial Fisheries	1	2	26	2000
Dr. L. Bullayaa College, Visakhapatnam, AP	BSc (CBZ)	1	20	220	20000
Sri VenkateswaraPolytehcnic College, Tamil Nadu	Fishery polytechnic	1	3	33	
Total		49	575	4674	540000



Hands on training on value addition



Introduction of refrigeration equipments to trainees



Packing of Minced meat



Technical session on value addition



Technical session on value addition



Training on value added product development for fisherwomen at Thiruvananthapuram

DHAN Foundation, Visakhapatnam. During the training, participants were enlightened on the importance of hygienic handling while handling a highly perishable commodity like seafood. Trainees were also equipped with the knowhow

for producing various seafood value added products such as cutlets, pickles, wafers, mixture, fingers, rolls, samosa, fish curry, fish pollichathu, dried prawns with spices, prawn chutney powder, etc.

Value added products prepared during training programmes



Fish cutlet



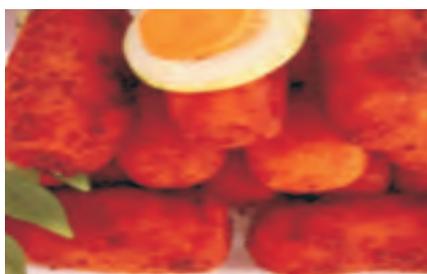
Fish curry



Fish Samosa



Fish Finger



Fish Roll



Fish Mixture

Development (VAP) training are listed below:

Sponsoring Agencies	Nos.	Trainee days	Revenue (Rs.)
St. Xaviers college, Vaikom	13	26	13000
TSSS, Thiruvananthapuram	23	69	4600
NIFAM	30	90	30000
TSSS, Thiruvananthapuram	17	51	3400
Nayaramblam service co-op Bnk	10	30	10000
St. Theresa College, Ernakulam	10	20	2000
Individual training	1	2	1000
DHAN Foundation, Visakhapatnam	33	99	0
Total	137	387	64000

5.6.5 Short-term training in Fisheries Post-Harvest Technology

NIFPHATT, Kochi conducted short-term training programme on Fisheries Post-Harvest Technology for 29 BSc. Zoology and Industrial Microbiology students from St. Berchmans College Changanassery, Kottayam. During the

programme, the trainees are given hands-on experience in various aspects of fisheries post-harvest technology.

5.6.6 Fairs and Exhibitions participated

NIFPHATT has actively participated in 12 exhibitions and fairs organised by various

Government and Non-Government agencies during the period under report for popularising and test marketing various fisheries products developed by NIFPHATT with a message 'fish is a healthy food.'



Global Patidar Business Summit, Surat



Fisheries Exhibition in Orissa

Sl. No.	Particulars	Organized by	Period	Place
1.	Global Patidar Business Summit (GPBS 2022-23)	ICAR-CIFRI	29 th April to 1 st May 2022	Surat, Gujarat
2.	World Food Safety Day Seminar – Safe Fish for Healthy Life	CIFT, Kochi	7 th June 2022	CIFT, Kochi
3.	13 th Krish Fair	Govt. of Odisha	20 th to 24 th June 2022	Jaganath Dham Puri, Odisha
4.	MatsyikiKaryashala 2022	Director of Fisheries, Bhopal	24 th September 2022	Brilliant Convention Centre, Indore
5.	25 th National Agriculture Exhibition	Centre Culture Science for Youth, Kolkata	24 th to 27 th August 2022	Central Park Maidan, Salt Lake, Kolkata
6.	Mathrubhoomi Agriculture Fest 2022	Mathrubhoomi	7 th to 11 th October 2022	Indira Gandhi Municipal Stadium, Palakkad
7.	Vision Rajasthan 2022	Govt. of Rajasthan	1 st to 3 rd November 2022	Sirohi, Rajasthan
8.	Krishi Mela 2022	University of Agriculture Science, Bangalore	3 rd to 6 th November 2022	GKVK Campus, Bangalore
9.	Kerala Fish Fest 2022	Dept. of Fisheries, Kerala	18 th to 21 st November 2022	Putharikandam Maidan, Thiruvananthapuram
10.	World Fisheries Day	Ministry of Fisheries & NDFB	21 st November 2022	Swami Vivekananda Auditorium, Daman
11.	8 th Global Conference on Gender in Aquaculture & Fisheries	SOFII, CIFT, GAP	21 st to 22 nd November 2022	IMA Hall, Kaloor

Sl. No.	Particulars	Organized by	Period	Place
12.	International conference on Responsible Aquaculture & Sustainable Fisheries Interact (RASHI)	College of Fisheries, Tripura	13 th to 16 th December 2022	College of Fisheries, Tripura

5.6.7 Visit of Ambassador of Norway in NIFPHATT



Visit of His Excellency Hans Jacob Frydenlund, Ambassador of Norway and Ambassador Venu Rajamony, officer on special duty to Govt. of Kerala to NIFPHATT, Kochi

His Excellency Hans Jacob Frydenlund, Ambassador of Norway to India visited the office the NIFPHATT in Cochin on the 30th May 2022. NIFPHATT formerly known as Indo- Norwegian Project, Norway's first foreign aid development project established in the year 1952 at Neendakara, Quilon, Kerala for the development of the fishing industry in the country and to improve living conditions in the communities associated with the fishing activity. The Ambassador was accompanied by officials from Embassy of India Norway. Ambassador Venu Rajamony, officer on special duty to Govt. of Kerala for external cooperation also visited NIFPHATT.

files and registers, competitions on quiz and drawing etc. were conducted. Posters on 'Swachhta Hi Seva' were displayed in different areas.



Pledge during Swachhta Abhiyan

5.6.8 Swachhta Campaign 2022 Phase I and II

NIFPHATT initiated cleanliness drive at NIFPHATT HQ campus at Kochi and Vizag unit. The first phase of Swachh Bharat Abhiyan Special Campaign 2.0 was observed from 2nd to 31st October 2022 and 2nd phase from 16th to 31st December 2022. Cleaning up of campus, collection and disposal of wastes, weeding out of



Cleaning the surrounding areas



Cleaning near chilled tuna plant



Cleaning the surrounding areas



Cleaning of office premises

Trade Matters

6.1 Introduction

In the recent decades, international trade of fisheries and aquaculture products has grown significantly and expanding over continents and regions. This expansion has been fueled by economic growth and cultural and technological advancement associated with globalization. Further, liberal trade policies, as well as logistical and technological advancement that enable globalised communications, have accelerated economic interdependence and cultural dissemination across borders, including food habits. Presently, producers have been able to access increasingly distant markets, while consumers have seen their aquatic food options greatly diversified beyond the species caught or farmed in local waters. In addition, income growth, a larger middle class, and urbanization, particularly in low- and middle-income countries, have resulted in a significant increase in aggregate demand for traded aquatic food products.

Currently, trade in aquatic products is an important source of export revenue, employment, and value addition, as well as a contributor to global food security, involving diverse and interconnected stakeholders across the value chain. This is especially significant for several small island developing countries where aquatic product exports account for a significant portion of total merchandise trade and gross domestic product (GDP).

World exports of aquatic products during 2020, totaled 59.8 million tonnes live weight (excluding algae), worth USD 151 billion. This represents a major decline (8.4 percent in value and 10.5

percent in volume) from the record high of 67 million tonnes, worth USD 165 billion, reached in 2018. In 2020, 225 states and territories reported some trading activity of fisheries and aquaculture products. The value of traded aquatic products accounted for 11 percent of total agricultural trade (excluding forestry) and about 1 percent of total merchandise trade in 2020. These shares are much higher in many countries, exceeding 40 percent of the total value of merchandise trade (E.g., Cabo Verde, Iceland and Maldives etc). Further, it is estimated that a stable share (36 percent) of total production will be exported in 2030 with an increasing contribution from aquaculture.

In general, from 1976 to 2020, the value of global exports of fisheries and aquaculture products (excluding algae) increased at an average annual growth rate of 6.9 percent in nominal terms and 3.9 percent in real terms (adjusted for inflation), corresponding to an annual growth rate of 2.9 percent in terms of quantity over the same period (SOFIA, 2022).

About 90 percent of the quantity (live weight equivalent) of traded aquatic products consists of preserved products, the majority of which frozen. However, demand for fresh aquatic products and the advancement of packaging and logistical technologies have seen the proportion of fresh products in trade volumes increase over time.

During 2020, China remains the world's largest exporter of aquatic animal products, followed by Norway and Viet Nam, with the European Union the largest single importing market. The largest importing countries are the United States of America, followed by China and Japan. In terms of

volume (live weight), China is the top importing country of large quantities of species not only for domestic consumption but also raw material processing and re-export.

6.2 Export Scenario in India

Exports of fish and fisheries products are important to the Indian economy in terms of employment, income generation and increasing foreign exchange earnings.

During the financial year 2021-22, India exported 13,69,264 MT of Seafood worth US\$ 7.76 Billion (Rs. 57,586 Crores) which is all time high exports by value. USA and China are the major importers of Indian seafood. Frozen Shrimp continued to be the major export item. In 2021-2022, India exported fish and fisheries products to 123 nations. India's export basket includes shrimp, finfish, cuttlefish, squid, dried fish, chilled items and live items. Shrimp export accounted to 53.18 percent of total export in terms of quantity and 74.16 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.

6.3 Initiative undertaken in Export Sector

Target of increasing fish production to 22 MT and doubling export from the present value has been set by the government under PMMSY. Further, the Government of India has launched a number of initiatives to fully realize the potential of the fisheries sector in a sustainable and responsible manner. The following targets have been specified with regard to fisheries exports:

- a. Enhancing export of fisheries products to 1 Lakh Crore in the next five years (FY 2020-25)
- b. Diversify 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 mechanism for easing markets access, minimizing trade barriers, minimizing issues related to sanitation and phytosanitation
- g. Enabling fishers and farmers to get benefits of export opportunities

6.4 Import and export regulation

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, Ministry of Commerce and Industry. 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 importance 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 fall 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. Notification S.O. 1495(E) and 1496(E) dated 10th June, 2014 under Section 3 of Livestock Importation Act were 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.

Livestocks and fish/fishery products are categorized under Open General License (OGL) as per EXIM Policy. In this regard, the Ministry has issued notification S.O. 2666(E) dated 17th October, 2014 listing out the livestock products and procedure for import of live-stocks 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 accompanies with the import of livestock products. The Department issues SIPs for live-stock and fish products that are valid for one year or six month depending upon the nature of products and may be used for multiple consignment.

SIP is not a license but a certificate certifying India's sanitary requirement. 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 States 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 Ministry 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 application received for issuance of SIP to import various livestock products including fish and fishery products. After necessary amendment in notification S.O. 2666(E) dated 16th October, 2014, the Ministry 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 of issuances, 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 the Department of Fisheries, the applications are approved. In order to facilitate the ease of doing business in the fishery sector, Department of Fisheries has done away with the requirement of SIP for import of SPF shrimp brood stock from the CAA approved overseas suppliers. However, at the port of entry, 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.

Chapter 7

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

The Department of Fisheries aims at strengthening the infrastructure of the States/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 Caste Sub Plan (SCSP).

The Department has earmarked Rs. 236.81 Crores in FY 2022-23 in RE under different schemes/programmes pertaining to SCSP component. As against the allocated amount Rs. 8.23 Crores that has been incurred under different schemes in FY 2022-23 as of 31st December, 2022.

The Department had been exempted from 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. 127.78 Crores in RE during FY 2022-23, of which Rs. 33.84 Crores has been already incurred (as of 31st December, 2022).

Empowerment of Women

8.1 Role of Women in Fisheries Sector

Women constitute approximately half of the 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 ecosystem.

Women in the small-scale and artisanal fisheries sector have difficulty securing their rights as

workers because their role is often unrecognized. They have limited or no access to social security, capital and credit and face hardship in security land rights and access to fishery resources. They also face unsafe, unhygienic and unfair working conditions. In most, places, women in post harvest 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 endeavor 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, the Board has extensively funded 108 projects amounting to a total project cost of Rs. 7955.45 Lakhs for women entrepreneurs/farmers. NFDB provided financial assistance and technical hand holding for activities varying from seaweed culture in the coastal areas, culture encouraging SHGs women and breeding ornamental fish, the culture of food fish in ponds and tanks, paddy cum fish culture, cage culture in reservoirs, setting up of backyard RAS units, establishing breeding units for native species in Northeast states, procurement of fish marketing vehicles, cold chain management, fish drying and processing besides conducting various awareness programs, workshops/ seminars,

capacity building and training & exposure visit programs specifically for women in Fisheries sector and also to create opportunities to women for developing as startup/ entrepreneurs for implementing various fisheries and aquaculture projects, to uplifting women under business sector and also promotion of women FFPOs of 5 No in states Tamil Nadu, Tripura and, Manipur. NFDB organized a 'National workshop exclusively for women on Entrepreneur model' to encourage and empower women on business models, 'Gender Inclusive models for fisheries Development', 'National Convention on Climate Resilient Tribal Development Blending Indigenous Knowledge with appropriate Technology and Empowering Women' for creating awareness and exposure to women on the opportunities in the fisheries sector.

NFDB has covered 9.61 lakhs of women beneficiaries under Group Accident Insurance Scheme for ensuring safety and security of the lives of fisherwomen and dependent family members during accidental disability and deaths and NFDB documented success stories of 31 cases of successful women entrepreneurs & fishers women across the country in the form of "SSS India @75; Annual Report 2020-21 100 Super Success Stories from Indian Fisheries".

8.2 Role of Women in the Fisheries and Aquaculture sector

8.2.1 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 pearls mussel species namely *Lamellidens marginialis*, *L. corrianlis* and *Parreysia corrugate*. These different varieties of pearls are cultured using three different 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.

8.2.2 Backyard Ornamental Fish culture

A 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.

8.2.3 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 costs. These initiatives will lead to sustainable economic development.

8.2.4 Seed Collection and grading

As alternative 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.

8.3 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.

8.4 Occupational Roles in Post Harvest

India 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 is 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 Group (SHGs) and sell their value-added products through exhibitions, fairs and now days their products are seen in supermarkets and are also exported.

8.5 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)

Chapter 9

International Cooperation

9.1 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 livelihood 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 livelihood, 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 requirement of a growing world, well-managed fisheries can deliver millions of tones 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 re-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 stocks 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 a 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 Product in the Asia and Pacific Region (INFOFISH); Indian Ocean Tuna Commission (IOTC), South Indian Ocean Fisheries Agreement (SIOFA) and the Bay of Bengal Programme Intergovernmental Organization (BOBP-IGO). Besides, it is also a member of other regional bodies that deal with environmental (e.g. South Asian Cooperative Environment Programme, International Union for Conservation of Nature)

and Trade (Bay of Bengal Initiative for Multi-Sectoral Technical Economic Cooperation-BIMSTEC). Even economic and geopolitical setups such as South Asian Association for Regional Cooperation (SAARC) have undertaken initiatives in both fisheries and environmental related matters from time to time.

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

9.2 Role of Regional Fisheries Management Organisation

Regional Fisheries Management Organization (RFMOs) are international organization 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 conservations 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 has a mandate on tuna and tuna like species in the India Ocean under its area of competence.

India is a member as Contracting and Cooperative Party (CPC) in the IOTC and the Department has plans to play a leadership role particularly in the IOTC. The Department officials have actively participated in the IOTC meetings and made necessary interventions in order to protect the country's national interest and that of the small-scale fisher communities. India has recently in 2022 joined the South Indian Ocean Fisheries Agreement (SIOFA) as the Cooperating Non-Contracting Parties (CNCP), and the Department is taking steps to become a contracting party.

9.3 Engagement with World Trade Organisation and other global organization

Globally, fish is an important source of affordable protein, nutrition, income and livelihood to billions of people. More than 3.3 billion people depend on fish for at least 20% of their total animal protein. Fisheries sustain millions of jobs, pass down traditions and knowledge from generation to generation.

Fish is also one of the most traded food commodities in the world. The international trade of fisheries and aquaculture products generated around USD 151 billion in 2020, (FAO-SOFIA, 2022). Countries across the world provide subsidies to their marine fisheries sector running into billions of dollars. Numerous studies indicate that some of the capacity enhancing subsidies given to marine fisheries sector contribute to Overfishing and Overcapacity, Overfished stocks (depletion of stocks) and Illegal, Unreported and Unregulated (IUU) fishing. Therefore, the WTO members decided to find a solution to tackle fisheries subsidies within the framework of international trade rules and WTO Negotiations on fisheries subsidies were launched to clarify and improve existing WTO disciplines on fisheries subsidies.

UN SDG 14.6 states "By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, and eliminate subsidies that contribute to illegal, unreported and unregulated (IUU) fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective S&DT for developing and least developed countries should be an integral part of the WTO fisheries subsidies negotiation."

Department of Fisheries has been working with Department of Commerce for securing the interest of the country and that of the poor

fisherfolk. On the WTO front, the Department has held Secretary level consultation 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 State's participation to arrive at the reasonable position to be taken by India in respect of the negotiations on fisheries subsidies disciplines with particular references to securing appropriate and effective Special & Differential Treatment (S&DT) in order to protect interest of Indian Fisher folk and secure policy space for development 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. A delegation led by Hon'ble Commerce & Industry Minister participated in the 12th Ministerial Conference (MC-12) of the WTO held at Geneva during 12-17 June, 2022 including the members from Department of Fisheries. The MC-12 of the WTO after detailed deliberations adopted the Agreement on Fisheries Subsidies on 17th June 2022. One of the key issue of prohibiting subsidies for 'Overcapacity and Overfishing' has not been concluded in the current Agreement as several WTO Member countries had diverse positions. Therefore, WTO Members including India have agreed to continue to negotiate in future on the outstanding issues including the matter of prohibiting subsidies under Overcapacity and Overfishing pillar.

Similarly, India is also represented in the World Trade Organization for animal health formerly known as the Office International des Epizooties (OIE) which is the international organization 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 organisation 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 MoU is at various levels through the Joint Working Group (JWG). As the MoU 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. 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 Government of India to jointly explore and implement mutually beneficial projects. Officers from Department of Fisheries participated in SIPO meeting held on 10th March 2022 to discuss on Fisheries and Aquaculture (RAS, Disease Management and Soft Shell Crab). Meeting between SIPO and DoF and other Fisheries organization/ institutes (ICAR & CIFE) was held on 27th May 2022 at CIFE, Rohtak to discuss the proposal regarding pilot project on low-cost RAS for saline water aquaculture.

Department of Fisheries officers attended EAS Workshop on IUU Fishing held on 12th April 2022 through virtual mode.

An expression of Interest (EoI) for India's participation as the Lead partnering Country (LPG) in the GloLitter Partnership (GLP) Project, Agriculture Organization (FAO) and International Maritime Organization (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 follow:

- 5th JWG between India and Sri Lanka on Fisheries 25th March 2022 in hybrid format with MEA, MHA, Coast Guard and State Government
- Meeting of the Joint Working Group (JWG) on development of port infrastructure in and around Sabang in physical format in Sabang (Aceh province of Indonesia) on 14th to 16th March 2022
- 32nd session of the G16 Indian Ocean Coastal States held on 25th to 26th April 2022 in Male, Maldives
- 11th Governing Council Meeting of BOBP-IGO held on 5th May 2022 and International Symposium on Insulating Marine Fisheries Sector on 6th May 2022 at Chennai
- Standing Committee on Administration and Finance (SCAF19) of IOTC held on 11th May 2022 through virtual mode
- 19th session of the Compliance Committee (CoC19) of IOTC scheduled during 8th-10th May 2022 through virtual mode
- Technical Committee meeting of IOTC held on 13th - 14th May 2022 on Management Practices (TCMP05)
- 11th session of the COFI Sub-Committee on Aquaculture held on 25th May 2022 in Amsterdam, Berlin, Rome, Stockholm, Vienna, on 26th May 2022 in Amsterdam, Berlin, Rome, Stockholm, Vienna and 27th May 2022 in Amsterdam, Berlin, Rome, Stockholm, Vienna
- IORA-Training Program on enhancing by-catch landing, valorization, traceability and quality, including the development of safe handling guides and species identification guides held in Seychelles from 29th March - 1st April 2022
- Asia Pacific Fishery Commission (APFIC)-78th Session of Executive Committee held virtually during 21st to 23rd June 2022
- IORA participation in UN Ocean Conference during 27th June to 1st July 2022 in Lisbon, Portugal
- Twelfth Ministerial Conference (MC-12) of the WTO held during 12th to 15th June 2022 at Paris, France and informal WTO Ministerial Meeting held on 9th June 2022 at Paris, France
- UN Ocean Conference held during 27th June to 1st July 2022 in Lisbon, Portugal
- 9th meeting of the Parties of the Southern Indian Ocean Fisheries Agreement (SIOFA) during 4th to 8th July 2022 at La Reunion, France
- 33rd session of G-16 held in Bangkok, Thailand from 31st October to 2nd November 2022
- Virtually attended online knowledge co-creation programme for young leaders on "Sustainable Fisheries Development" held from 4th to 21st November 2022

- 35th session of the Committee on Fisheries, Rome, Italy from 5th to 9th September 2022
- 'World Aquaculture Singapore 2022: Next Generation Aquaculture Innovation and Sustainability will Feed the World' from 29th November to 2nd December 2022 in Singapore
- 23rd meeting of the International Council for the Exploration of the Sea (ICES)-FAO Joint Working Group on Fishing Technology and Fish Behaviour (ICES-FAO WGFTFB23) and International Symposium on Innovations in Fishing Technologies for Sustainable and Resilient Fisheries from 13th to 17th February 2023 at Kochi, Kerala.

The Department has been negotiating a project proposal for World Bank assistance on 'Blue Revolution: Tranch-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 Organization of the United Nations (FAO) and its bodies like Committee on Fisheries (COFI), its sub-committee namely Sub-committee on Aquaculture (COFI-AQ) and Sub-Committee on Fish Trade (COFI-FT).

Departmental Accounting Organisation

10.1 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 Account. 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, economic and transparent use of the resources of the Ministry or Department in achieving the stated project objectives of that Ministry or Department, while complying with the performance standards
- d. Appear before the Committee on Public Account and any other Parliamentary Committee for examination
- e. Regularly review and monitor the performance of the programmes and project assigned to this Department to determine whether stated objectives are achieved
- f. Be responsible for preparation of expenditure and other statement relating to his Ministry or Department as required by regulations, guidelines or directive 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 Account Manual, the chief Controller of Accounts for and on behalf of the Chief Accounting Authority is responsible for:

- a. Arrangement all payments through the Pay and Account Offices/Principal Accounts Office (PAO) except where the Drawing and Disbursing Officers are authorized to make certain types of payments.
- b. 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 Account for the Demands for Grants them duly audited and submitting them to the CGA, duly signed by the Chief Accounting Authority

- c. Arranging internal inspection of payments and account records maintained by the various subordinated formations and Pay and Account offices of the Department and inspection of records pertaining to transaction of Government Ministries/Department, maintained in Public Sector Banks.

The Chief controller of Accounts, Department of Fisheries perform his duties with the assistance of Controller/Assistant Controller of Accounts, three pr. Account offices at headquarters and ten pay and Account 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. DDO's present their claims /bills to the designated PAOs/CDDOs, who issue cheques/releases e-payment after exercising the necessary scrutiny as per provisions contained in Civil Accounts Manual, Receipt and Payment Rules and other order issued by the Government from time to time.

As per Para 1.2.3 of Civil Accounts Manual, Principal Account 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 Account 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. Payments of loans and grants to State Government through Reserve Bank of India and wherever this office has a drawing account, payment there from to UT Government/Administration

- 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 Account 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 Account offices and out Station Pay and Account offices.

As per the provisions contained in Civil Accounts Manual, Pay & Account offices make payments pertaining to respective Ministries/ Department 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 Account Office of Ministry/Department concerned. Each Pay and Accounts Office or Drawing and Disbursing Officer authorized to make payments by cheque/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 the finally accounted for in the books of the Pay and Accounts Office. The Pay and Account Office is the basic Unit of the Departmentalized

Accounting Organization. Its main function includes:

- 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. Issues 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 Cheques 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 Standard, rules and principles
- j. Timely, accurate, comprehensive, relevant and useful financial reporting

The overall responsibilities of Departmental Accounting Organisation 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 'Account 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 organization 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 an on behalf of PAOs/cheque Drawing DDOs
- k. To main necessary liaison with Controller General of Accounts office and to effect overall co-ordination and control in accounting matters and accredited bank
- l. 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 e-payment
- u. Administrative and co-ordination

- function of the account organization
- v. Roll out of PFMS under Other Central Expenditure and Central Sector Schemes in implementing Agencies/Grantee Institutions/Autonomous Bodies
 - w. Non-Tax Receipts Portal (NTRP) in Department of Fisheries
8. Accounting information and data are also 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, 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 the 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 receipts of relevant information /bills from DDOs.

10.2 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 in their day to day functioning. Internal Auditing is an independent, objective assurance and consulting activity designed to add value and improve and 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 changes that enhance governance, assist risk management, control processes and improve accountability of 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, structure, 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.2501433/2015-16/MF.CGA/306.53 dated 15th May, 2017 and as per provision 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 references 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 2022-23, 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, 2022 are given below:

Department	Outstanding Paras up to 31 st March 2022	Paras Raised from 1 st April 2021 to 30 th June 2022	Paras Dropped from 1 st April 2021 to 30 th June 2022	Total Outstanding Paras as on 30 th June 2022
FISHERIES	192	NIL	NIL	192
TOTAL	192	NIL	Nil	192

Department	Outstanding Paras up to 30 th June 2022	Paras Raised from 1 st April 2022 to 30 th September 2022	Paras Dropped from 1 st April 2022 to 30 th September 2022	Total Outstanding Paras as on 30 th September 2022
FISHERIES	192	NIL	NIL	192
TOTAL	192	NIL	NIL	192

Department	Outstanding Paras up to 30 th June 2022	Paras Raised from 1 st October 2022 to 31 st December 2022	Paras Dropped from 1 st October 2022 to 31 st December 2022	Total Outstanding Paras as on 31 st Dec 2022
FISHERIES	192	NIL	NIL	192
TOTAL	192	NIL	NIL	192

10.3 Banking Arrangement

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 bank of 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 Account 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.

10.4 Banking Arrangement

Public Financial Management System (PFMS) initially started as a plan Scheme named CPSMS of the erstwhile Planning commission in 2008-09 as a pilot Project 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/Department,. It has been decided to undertake national roll-out of CPSMS (PFMS) to link the financial network of Central, State Governments and the agencies of

State Government. 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 implanted 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 facilitated 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 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 inter-alia require 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 need to be mandatorily registered on PFMS
- c. Usage of PFMS modules has to be made

mandatory for all registered agencies for making payment, 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 payment/ Transfer /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

10.5 Module to Implement the Mandate:

Modules developed/under development by PFMS for stakeholder 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 Government towards fund tracking for State Schemes
- g. Monitoring of Externally Aided Project (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

10.6 Module 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 Statement
- h. Cash Flow Management
- i. Interface with non-civil ministries

II. Non-Tax Receipt Portal

10.7 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

10.8 Implementation Strategy:

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

10.9 Improved Financial Management through:

- a. Just-in-time release of funds

- b. Monitoring of use of funds including ultimate utilization

10.10 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

10.11 Implementation 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 scheme with PFMS e.g. NREGA Soft, Awas Soft
- f. Deployment and training of trainers

10.12 Implementation Strategy for Centrally Sponsored Scheme

Activities to be completed:

- 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. Configuration 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 Account 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 (Bhartakosh) for collection of Non-Tax Revenue in the Department:
 - a. The objectives of Non-Tax Receipt Portal (NTRP) is to provide a one-stop window to Citizens/Corporate/Other users for making online payments of Non-Tax Revenue payables to Government of India (GoI)
 - b. Non-Tax Revenue of Government of India comprise of a large bouquet of receipts, collected by individual department/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 bank for making draft and then to Government offices to deposit the instrument for availing the series. It also helps avoidable delays in the remittance of these instruments into Government accounts 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

10.13 New Development in the Accounting Organisation

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:

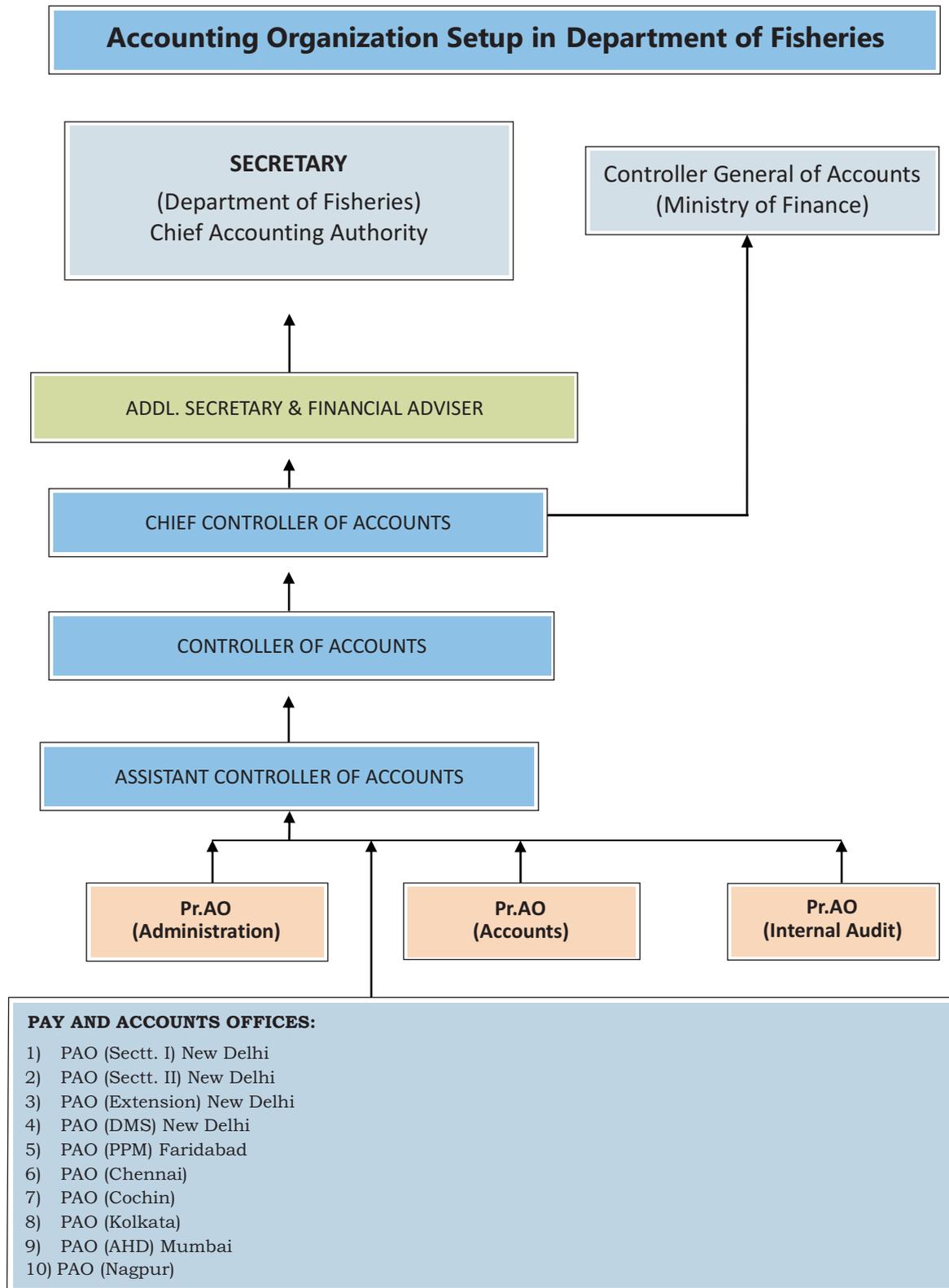
- a. Verification of each payment request with physical bill without fail before putting the digital signature by Pay and Account offices
- b. Use of NIC/GOV domain e-mail IDs for user registration by the official dealing with PAO and DDO module of PFMS
- c. Immediate deactivation of user(s) found to be no longer active
- d. Deactivate 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.

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

(Figures in Crores)

Scheme Name	As on 31 st March 2022			As on 31 st December 2022		
	UC due	UC not due	Unspent Balance	UC due	UC not due	Unspent balance
1	2	3	4	5	6	7
Integrated Development and Management of Fisheries	271.79	0.00	271.79	230.90	0.00	230.90
Package for Replacement of Fishing Vessels Seized by Pakistan	2.10	0.00	2.10	2.10	0.00	2.10
Coastal Aquaculture Authority	0.00	0.00	0.00	0.00	0.00	0.00
Fisheries and Aquaculture Infrastructure Development Fund	9.60	0.00	9.60	1.82	0.00	1.82
National Fisheries Development Board	0.00	11.27	11.27	11.27	0.00	11.27
Pradhan Mantri Matsya Sampada Yojana	210.90	892.32	1103.22	678.46	171.73	850.19
Total	494.39	903.59	1397.98	924.55	171.73	1096.28

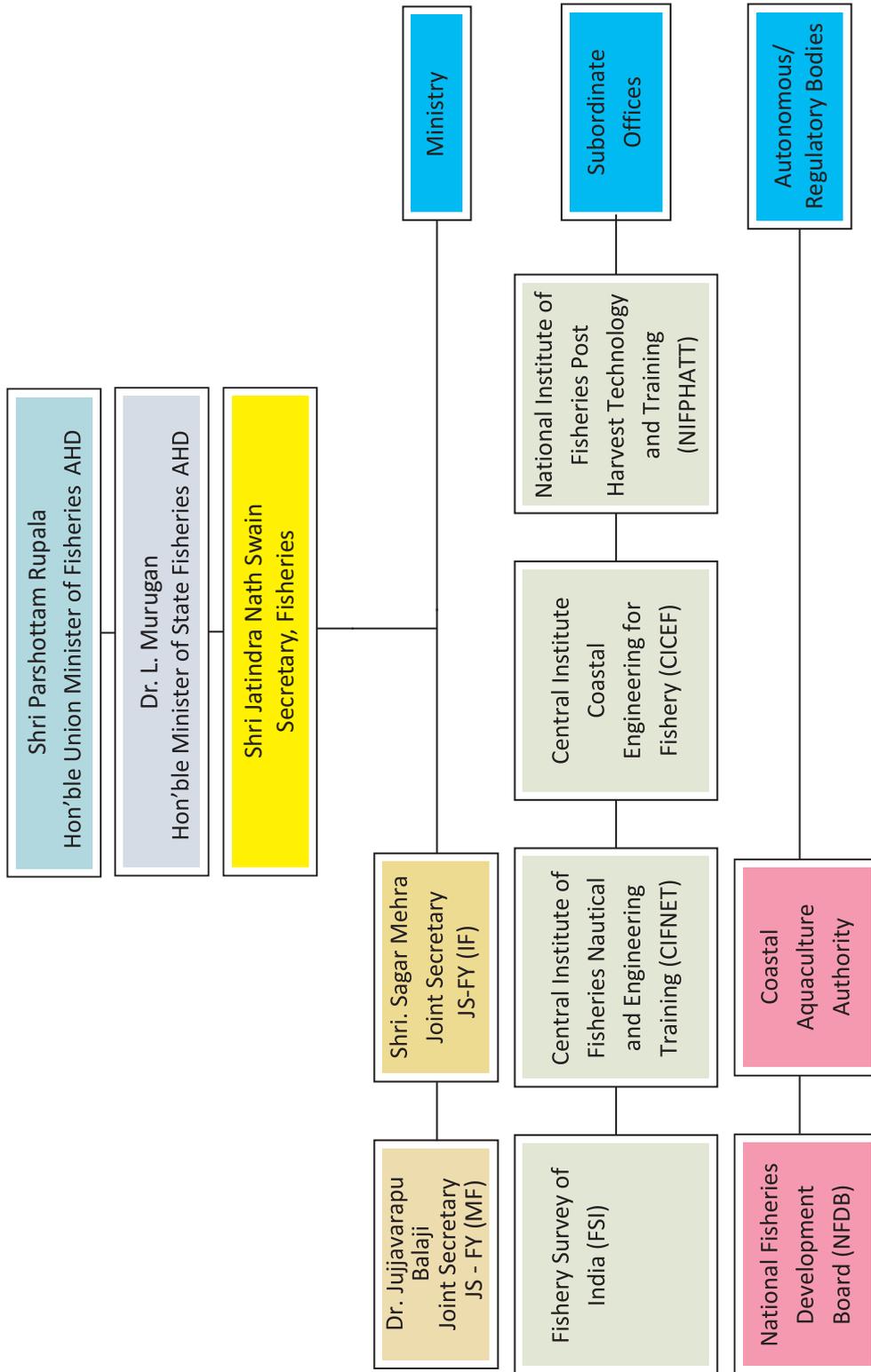
Accounting Organization of the Department



ANNEXURES

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 institutions 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 cases- inland 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 7 Diseases-regulation, surveillance & control, Matter related to Fisheries Institutions- FSI, CIFNET, CICEF, NIPHATT except 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 Centres & other Post Harvest Operations like Cold-Chain, Markets etc, Export promotion, matter 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 FY2022-23

Actual Expenditure as on 31st March, 2023
(Rs. In Crore)

Budget Components	Budget Estimates	Revised Estimates	Final Requirement	Actual Expenditure
Pradhan Mantri Matsya Sampada Yojana	1879.00	1410.00	1290.00	1174.90
Fisheries and Aquaculture Infrastructure Development Fund	12.00	12.00	12.00	12.00
National Fisheries Development Board	19.00	13.00	13.00	13.00
Coastal Aquaculture Authority	4.40	4.60	4.60	4.60
Secretariat Economic Services	28.73	24.00	23.16	21.68
Fishery Survey of India	106.86	103.23	98.95	90.66
Central Institute of Fisheries, Nautical & Engineering Training	37.92	34.51	34.54	34.37
National Institute of Fisheries Post Harvest Technology and Training	14.43	14.43	11.40	10.66
Central Institute of Coastal Engineering For Fishery	5.08	4.90	4.92	4.86
Directorate of Aquatic Animal Health and Quarantine	11.04	3.50	3.50	3.50
Grand Total	2118.47	1624.18	1496.09	1370.25

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
BMC	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

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 Nations 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



सत्यमेव जयते

**DEPARTMENT OF FISHERIES, MINISTRY OF FISHERIES,
ANIMAL HUSBANDRY AND DAIRYING
GOVERNMENT OF INDIA**

