

National Fisheries Development Board







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The Indian fisheries sector and its importance for food security and livelihoods

- The Indian fisheries sector is a vital component of the country's economy; the sector plays a crucial role in ensuring food security for the nation.
- The fisheries sector contributes significantly to the availability of affordable and nutritious food, particularly for coastal communities and those living in remote areas.
- The fisheries sector is promoting responsible practices through certification programs, regulations, habitat conservation, and sustainable aquaculture to ensure long-term sustainability.





Achievements of Fisheries Sector

India as a global leader in fisheries sector

- 1st in Inland Capture fish production
- 1st in cultured shrimp export
- 2nd largest aquaculture producer globally
- 4th largest exporter of Marine Fish products
- 6th largest producer of marine capture fish production
- Contributes approximately 8% to the global fish production.
- Average annual growth rate of 8.81% from FY 2014-15 to FY 2021-22
- All time high fish production of **175.45 lakh tonnes** in FY 2022-23
- Comprising 44.32 lakh tonnes from marine fisheries and 131.13 lakh tonnes from inland

Contribution to National Economy

- Exports: **Rs. 63,969.14 crore** (US\$ 8.09 billion) in FY 2022-23.
- Average annual export growth of about 14% in the last decade.
- Constitutes 1.07% of the national GVA and 6.86% of the agricultural GVA.
- Employs about 2.80 crore fishers and fish farmers directly

India's Fisheries Sector: Enormous Diversity

The fisheries sector is set in a unique and diverse set of resources ranging from the pristine waters of the Himalayas to the sprawling Indian Ocean.

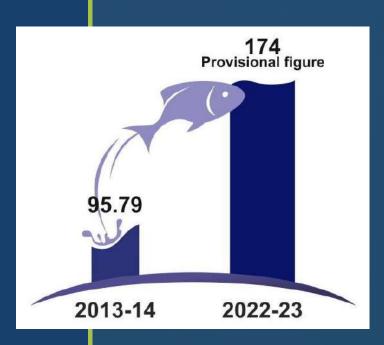
- Capture fisheries: contributes 1/3 fish production
 - Marine
 - Inland
- Culture fisheries: contributes 2/3 fish production
 - Fresh water Aquaculture (85%)
 - Brackish water Aquaculture (15%)
 - Saline water Aquaculture (0.5%)
 - Mariculture (negligible)



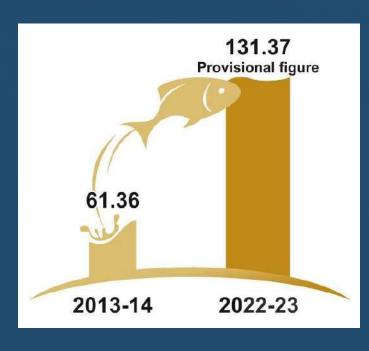
Indian Fisheries

Globally, India – 1st in Cultured Shrimp Production; 2nd Largest Aquaculture Producer; 3rd Largest Fish Producer and 4th Largest Seafood Exporter

Total Fish Production (Marine & Inland) (in Lakh tonnes)

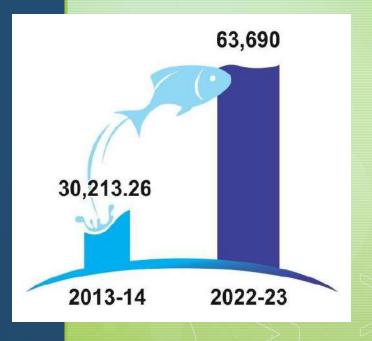


Inland Fisheries & Aquaculture (in Lakh tonnes)



114% Increase

Fish Exports (in Rs. crore)



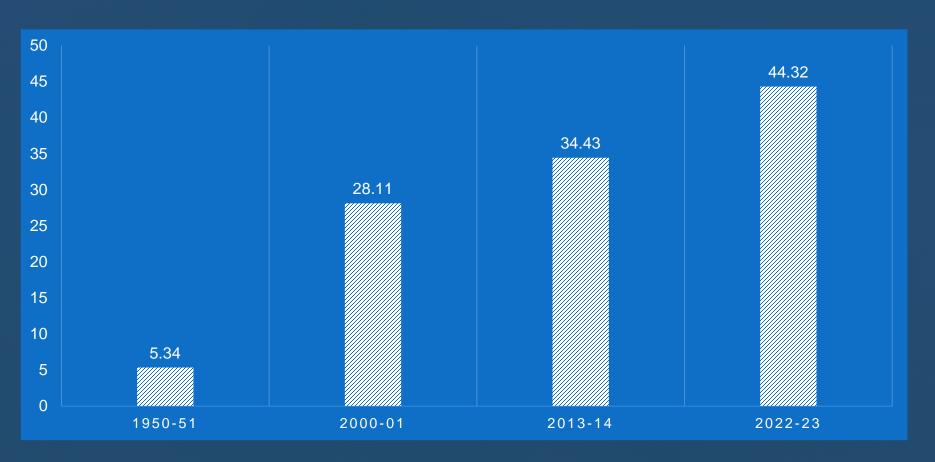
111% Increase

82% Increase

Marine Fisheries and Mariculture: Production trends

An 729 % increase in marine fisheries and mariculture fish production since 1950-51

In Lakh Tons



48.2 % **increase** in last two decades **28.7** % **increase** since 2013-14

Marine Fisheries and Mariculture: Resources

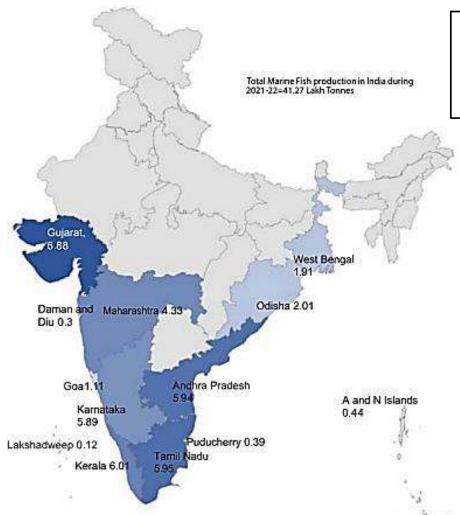
India's vast marine resources

- Extensive coastal line: 8,118 kilometers
- Exclusive Economic Zone (EEZ): 20.2 lakh sq. km
- Significant Continental Shelf: 5.3 lakh sq. km
- Fisheries potential: Approximately 53.1 lakh tonnes
- Brackish water area: 12.5 lakh hectares, offering opportunities for shrimp aquaculture
- Fishing villages: 3432

Importance at a global level

- First-in Cultured shrimp export
- Fourth-largest exporter of Marine Fish products
- Sixth-largest producer of marine capture fisheries

Indian Marine Fisheries - statistics



- > Total Marine/brakish fish landings by coastal states and union territories(East Coast): 16.69 in lakh tons.
- > Total Marine/brakish fish landings by coastal states and union territories(West Coast): 20.03 in lakh tons.
- > Export of Marine Products(2021-2022): 13,69,264 M.T.
- Marine Fishermen Population (2021-2022): 26,51,652
- Marine Fisherwomen Population (2021-2022): 22,94,066

A. Conventional resource	Quantity in Tonnes	
Demersal resources (mainland)	22,98,281	
Pelagic resources (main land)	26,31,827	
Lakshadweep (excluding oceanic)	14,490	
Andaman & Nicobar (excluding)	43,794	
Oceanic (for entire EEZ)	2,30,832	
Others	91,369	
Sub Total	53,10,593	
B. Non-Conventional resources: (Additional Potential)		
Deep sea Myctophids	10,00,000	
Oceanic Squids	6,30,000	
Jelly fish	2,00,000	
Marine Macro Algae	17,775	
Sub Total	18,47,775	
Resources Grand Total:	71,58,368	

of Fishery Resources in the Indian EEZ), 2018

India's Fisheries Sector- Governmental Action

Creation of New Ministry

Government of India created a separate Department of Fisheries in February 2019. This was followed by creation of a new Ministry of Fisheries, Animal Husbandry and Dairying in June, 2019

Highest ever investment in fisheries sector

Since 2015, the Government of India has substantially stepped up investment in fisheries sector through new schemes and programs worth Rs. 32572 crore in fisheries sector

Creation of modern, world class post-harvest infrastructure

Thrust is being given for creation of modern fisheries infrastructure at a total investment of more than Rs 15000 crore under Blue Revolution, PMMSY and FIDF. From 2015 under Blue Revolution, PMMSY and FIDF, 69 modern fishing harbors and fishing landing centers have been taken up at a total cost of Rs 7229 crore

Institutional Credit to Fishers and fish farmers

Government of India in 2019 has extended KCC facility to fishermen and fish farmer for meeting their working capital requirements. Till end of October 2022, 1,13,744 KCC cards have been issued

Social Safety Net

Support to Livelihoods
Welfare Schemes

Reforms: Ease of Doing Business

Decreasing Regulatory Burden

100% FDI in Pisciculture & Aquaculture (automatic Route)

Stepping up Investment in Fisheries Sector: Major Schemes & Programs

- **Department of Fisheries (February 2019)**
- **New Ministry of Fisheries, AH&D (June 2019)**

Fisheries & Aquaculture Infrastructure **Development Fund (FIDF)** (FY 2018-19 to FY 2022-23)

Pradhan Mantri Matsya

Sampada Yojana (PMMSY)

(FY 2020-21 to FY 2024-25)

New Sub-Scheme: announced in UB 2023-24

Total Investment Envisaged: Rs. 38,572 crore

Approved Projects outlay: Rs. 25,275 crore

Rs 6,000 crore

Blue Revolution Scheme (FY 2015-16 to FY 2019-20)

Rs 5,000 crore

Rs 7,522 crore

Rs 20,050 crore

The Government of India (GoI) initiatives

The Government of India initiatives and provided support in the field of marine fisheries to promote sustainable fishing practices, enhance fish production, and improve the livelihoods of fishing communities.

Here are some key initiatives and support provided by the Indian government in marine fisheries:

1. National Fisheries Policy, 2020:

Aims to promote responsible and sustainable fisheries management. The policy focuses on enhancing fish production, improving infrastructure, strengthening value chains, and ensuring the welfare of fisherfolk.

2. Blue Revolution Scheme:

Aims to promote integrated and sustainable development of the fisheries sector in India. It focuses on enhancing fish production through the development of infrastructure, promoting scientific fish farming practices, and providing financial assistance to fish farmers.

3. Marine and Coastal Security:

To strengthen marine and coastal security to combat illegal, unreported, and unregulated (IUU) fishing activities. Measures include the implementation of satellite-based vessel monitoring systems, strict enforcement of fishing regulations, and coordination with neighboring countries to prevent cross-border IUU fishing.

4. National Mission for Sustainable Agriculture (NMSA):

Under the NMSA, the government provides financial and technical assistance to promote sustainable aquaculture practices, including marine fish farming. This initiative aims to enhance fish production, diversify livelihood options for coastal communities, and reduce pressure on wild fish stocks.

The Government of India (GoI) initiatives

5. Integrated Coastal Zone Management (ICZM) Program:

The ICZM program, implemented by the Ministry of Environment, Forest and Climate Change, aims to conserve and manage coastal ecosystems, including marine fish habitats. It focuses on sustainable development, biodiversity conservation, pollution control, and livelihood improvement in coastal areas.

6. Marine Product Export Development Authority (MPEDA):

MPEDA is a government agency responsible for promoting and regulating the export of marine products, including fish and seafood. It supports the development of infrastructure, quality control measures, market promotion, and capacity-building initiatives to enhance the export potential of marine fisheries.

7. Coastal Aquaculture Authority (CAA):

CAA is an autonomous body under the Ministry of Agriculture and Farmers Welfare that regulates and promotes coastal aquaculture activities, including marine fish farming. It provides licenses, monitors farming practices, and ensures compliance with environmental and quality standards.

8. Conservation of Fish Stocks:

To conserve fish stocks and protect vulnerable species. These include the implementation of fishing bans during specific breeding seasons, the establishment of marine protected areas, and the promotion of responsible fishing practices to reduce bycatch and minimize habitat destruction.

The Government of India (GoI) initiatives

9. Capacity Building and Research:

To enhance the knowledge and skills of fisherfolk, aquaculturists, and other stakeholders. These programs aim to promote sustainable fishing practices, improve post-harvest handling techniques, and develop resilient aquaculture systems.

10. Certification and Quality Standards:

To ensure the safety and sustainability of fish and seafood products. The Marine Products Export Development Authority (MPEDA) provides certification for seafood exports, ensuring adherence to international quality and sustainability standards.

11. Kisan Credit Card (KCC) Scheme:

While not exclusive to fisheries, the KCC scheme provides credit facilities to farmers, including fishers, for their agricultural and allied activities. It enables fishers to access timely credit for inputs, working capital, and investment needs. These initiatives collectively contribute to sustainable fisheries management, livelihood improvement, and the overall growth of the fisheries sector in India.

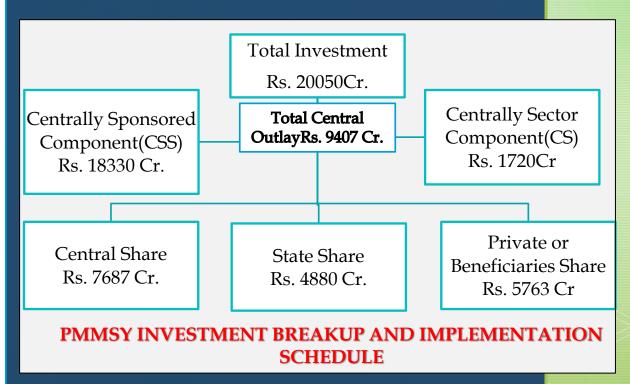
12. Research and Development Support:

In marine fisheries through institutions like the Central Marine Fisheries Research Institute (CMFRI) and other research organizations. These efforts focus on improving fish stock assessment, developing sustainable fishing techniques, and addressing challenges in marine fisheries management.

The Government of India (Gol) initiatives

PMMSY, 2020: PMMSY is a flagship scheme that aims to enhance fish production, modernize infrastructure, promote sustainable aquaculture, and develop the fisheries value chain. The scheme focuses on creating employment opportunities, doubling fish exports, and improving the income of fisherfolk.

- 1. The PMMSY is an umbrella scheme with two separate components namely
 - a) Central Sector Scheme (CS)
 - b) Centrally Sponsored Scheme (CSS)
- 2. The centrally sponsored scheme (CSS) component is further segregated into
 - a) Non-beneficiary oriented scheme and
 - b) Beneficiary orientated Scheme
- 3. 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



Immediate priority: Coastal Aquaculture and Costal Aquaculture Amendment Act, 2023

Coastal Aquaculture:

- Coastal aquaculture facilitated by Coastal Aquaculture Authority Act 2005.
- Shrimp production surge from 75,000 tons in 2008-09 to around 11 lakh tons in 2022-23.
- Brackishwater shrimp constitutes a major share in India's seafood exports (Rs. 43,135.58 crore).

Coastal Aquaculture Amendment Act, a landmark bill passed by the parliament in August, 2023.

- The aim of the bill was to help coastal fishermen who were facing problems from various sectors and to improve their livelihood
- The amended act will help in facilitation of structured environment growth of coastal aquaculture sustainably
- Rules and Regulations are completed and to be notified shortly
- Expanded beyond shrimp farming to include hatcheries, BMCs, NBCs, mariculture activities including sea-cage culture, seaweed culture, bivalve & pearl culture, mud crab fattening, etc.
- Focus on EoDB (Ease of doing Business), creation of aquaculture facilities, prevention of antibiotic use, mapping of aquaculture areas, and global best practices

Government Initiatives for deep sea fishing: Blue Revolution and PMMSY

Resource Potential beyond 500m Depth Zone: (Estimated at 2.30 lakh tonnes.)

- Yellowfin tuna (80,000 t), Skipjack tuna (99,000 t), Bigeye tuna (500 t), Billfishes (14,400 t), Pelagic sharks (20,800 t), Other species (1,800 t).
- Total landings of tuna and tuna-like species: **1.93** lakh tonnes in 2022 (P) a 21 % increase from 2021's **1.59** lakh tonnes.

Promotion of Deep-Sea Fishing

- "Assistance for Deep Sea Fishing" (Introduced in March 2017) under BR @Rs.80 lakh per DSFV. Total 918 nos of DSFV were sanctioned, of which 134 are grounded.
- "Conversion of Trawlers into Resource Specific Deep-Sea Fishing Vessels" (Introduced in August 2018)
- Acquisition of DSFVs for traditional fishermen @Rs.120 lakh per DSFV under PMMSY since 2020-21
- Upgrading existing fishing vessels for export competencies
- Standard Operating Procedures (SoP) by MoPSW+DoF, GoI for vessel design, sea-safety & seaworthiness
- Training and Capacity Building by NFDB, CIFNET, FSI etc.

Initiatives for Supporting Livelihoods of Fishers and Fish Farmers

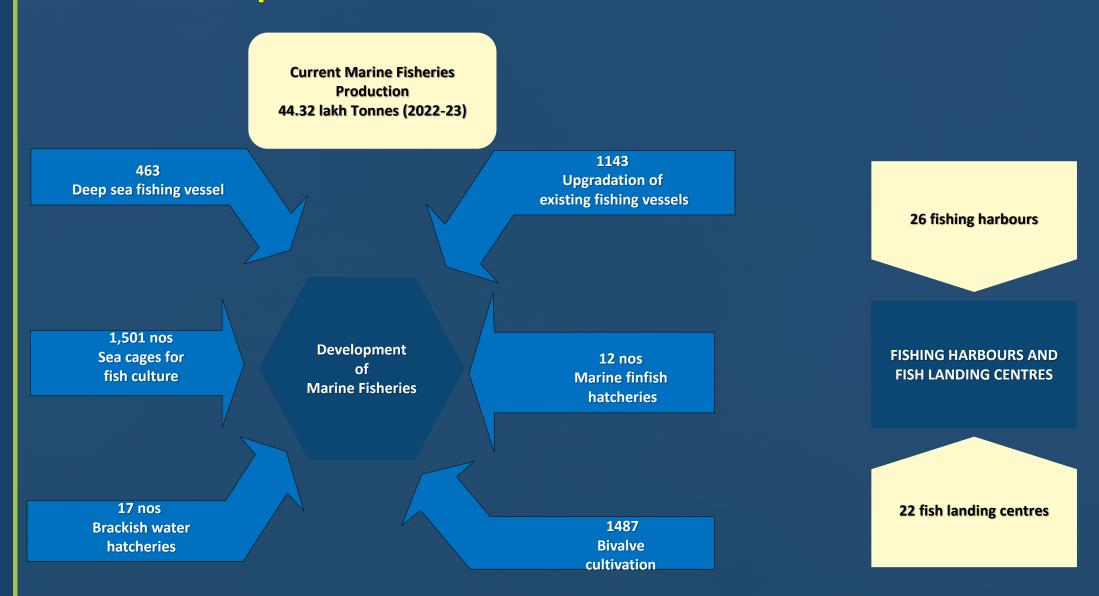
Marine Fisheries

- Artificial reefs
- Sea Ranching
- Seaweed Farming/ Marine Aquaparks
- Cage fishing
- Bivalve and mussel cultivation
- Deep sea fishing vessels
- Safety &Communication Devices
- Potential Fishing Zones Devices
- New Boats and Nets, Engines
- Bio-toilets in mechanized fishing vessels
- Capacity building and extension services (through Sagar Mitras): 2494)

- Support during fishing Ban/Lean period
- Accidental Insurance
- Institutional credit through KCC
- Subsidies for Diesel/Kerosene for fishing vessels
- Sustainable fishing practices Promotion

- Recreational fishing
- Skilling and Linking with Tourism
- Modern Infrastructure at fish landing centers & fishing harbors
- Marketing facilities cold chain
- Support for Fish Value Added units

PMMSY components sanctioned for Marine fisheries & Mariculture



Promotion of Sustainable Fishing Practices

National Policy on Marine Fisheries, 2017:

- Maximizing fleet-size, mainstreaming biodiversity conservation, species-specific management plans, and measures for sustainable resource utilization.
- Promotion of private investments,
 Entrepreneurship development, Public-Private
 Partnership (PPP), and better leveraging of
 institutional finance

Fishing Ban:

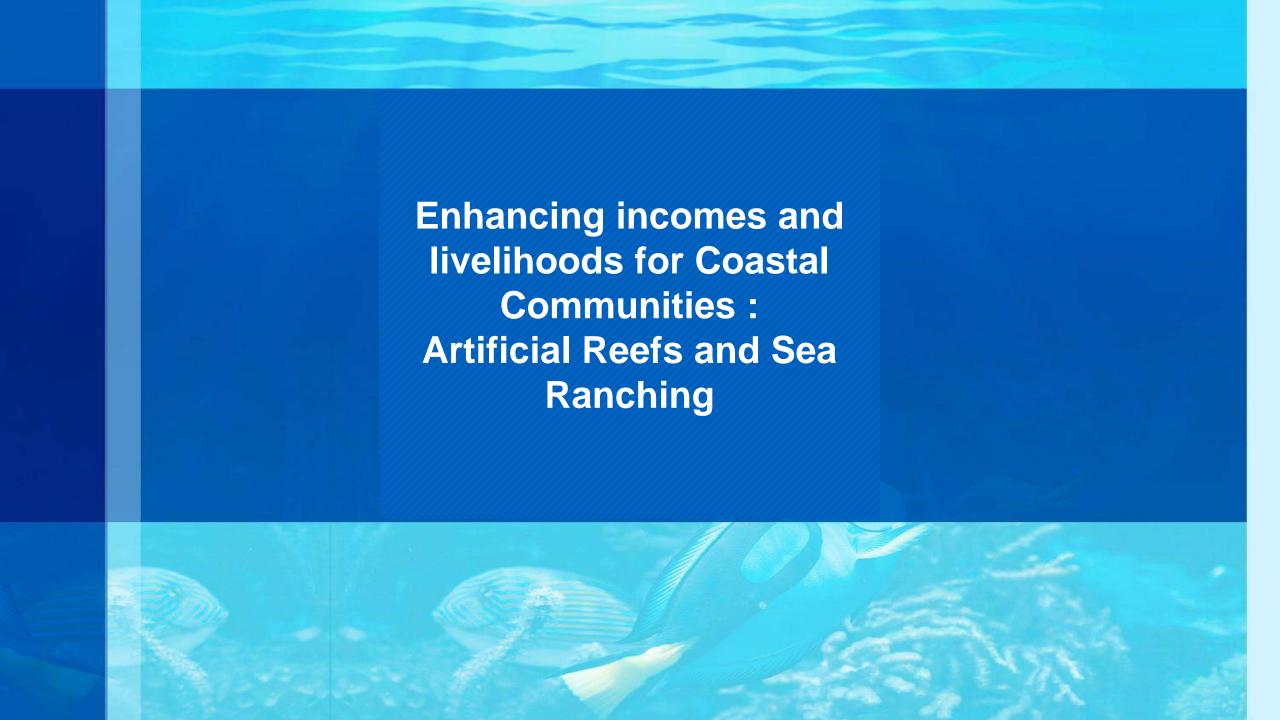
- Uniform fishing ban in the Indian EEZ is for 61 days.
- East Coast: April 15 to June 14 & West Coast: June 1 to July 31
- Traditional non-motorized fishing vessels are exempted from the ban.

Artificial Reefs:

- During 2022-23, approved the installation of 1200
 Artificial Reefs in 1200 coastal fishing villages with a unit cost of Rs. 31 lakh/AR with Rs. 344 crore
- Sanctioned 732 units of artificial reefs across 10
 Marine States in first phase
- Total cost: Rs. 227.80 crore with GoI share of Rs. 126.02 crore.

Green Fuel:

- Use of alternate fuels like LPG in marine engines-Study conducted by CIFNET, testing done by M/s International Centre for Automotive Technology (ICAT).
- The company M/s Surya Marine Energy Pvt Ltd have sponsored 5 kits to the fishermen which were distributed by Hon'ble Union Minister of FAH&D



Empowering Small Fishers: Artificial Reefs & Sea Ranching

Declining Catch 10 % of Small Fishers depend on 1% Catch

Juvenile Fishing Bottom Trawling
High Fishing Loss of Fishing
Grounds

Fuel Costs Marine Pollution

Urgent need to increase per capita catch



Fish Aggregation around artificial reef

Artificial Reefs - Community benefits

Regeneration of Fishing Grounds

Self Sustainable Model









Addition

Traceability & Value

Additional Livelihoods : Scuba Diving, Snorkeling, Tourism

Low Cost Intervention, Modular & Scalable Co-management : Participatory Model

Trebling the catch by Small Fishers

Coastal Fisheries
Enhanced







Empowering Small Fishers: Proposed model for Artificial Reefs under PMMSY

Initial Investment: 1077 Cr

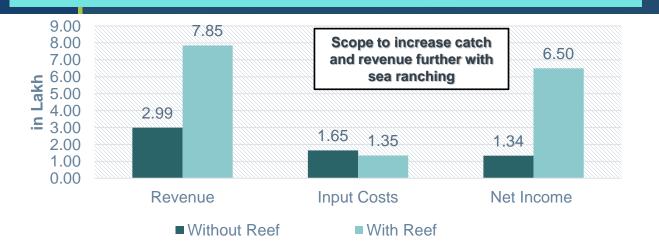
1 Reef per Fishing Village (minimum) → 3477 reefs

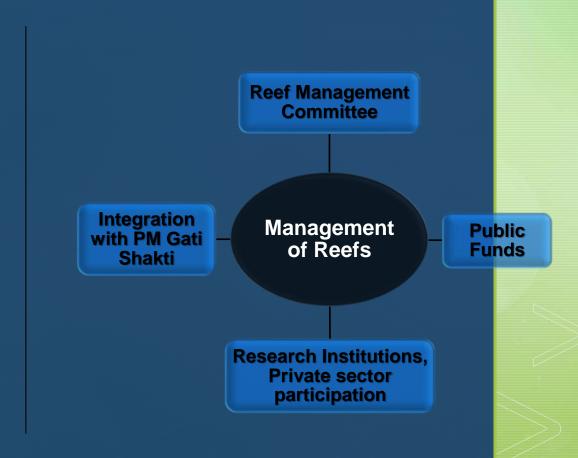
Fund sources: PMMSY & Convergence with MGNREGA, CSR Funds, National Coastal Mission

Expected annual additional output 1 Lakh Tons ~ 1000 Cr Additional output over lifecycle : 11,000 – 16,000Cr



Benefits to Small Fishers from Artificial Reefs





Empowering Small Fishers: Outcome of proposed initiative

Proposing 1 reef for each of 3477 Fishing Villages

Enhanced Marine Catch by Small scale & Traditional Fishers

1 reef

Supports
25-30 boats

Supports
2.6 – 3 lakh

Fishermen

1 lakh boats

Reefs

Cost Benefit Analysis



Artificial reefs for improving marine fisheries India with Technical Support of ICAR- CMFRI

Artifical Reefs				
S.N	State/UT	Units Sanctioned	Total Project Cost (in Lakhs)	
1	Andhra Pradesh	22	770	
2	Goa	14	434	
3	Gujarat	25	775	
4	Karnataka	56	1736	
5	Kerala	42	1302	
6	Maharashtra	182	5642	
7	Odisha	93	2883	
8	Puducherry	14	434	
9	Tamil Nadu	200	6200	
10	10 West Bengal	70	2170	
	Grand Total	718	22346	

Empowering Small Fishers: Sea Ranching

Mass Breeding in Hatchery



Release at site (usually in Reefs)



Harvest

Benefits

Increase in Fish Availability Full Utilization of Site's Potential Very Low cost Intervention

INPUT
Cost of 1 mn
seeds = 1 Lakh

→ OUTPUT~ 3000 Kg

→ VALUE

15 Lakh

Sea ranching of the green tiger shrimp *Penaeus semisulcatus* under the Central Sector Scheme component of 'Pradhan Mantri MatsyaSampadaYojana' (PMMSY) by ICAR-CMFRI



A total of 3.5 million green tiger shrimp seeds (PL 26) were sea ranched at Maraikkayarpattinam (Gulf of Mannar) on 18th October, 2023 in Palk Bay and Gulf of Mannar, Tamil Nadu"



Seaweed Cultivation, Processing & Marketing

- Economic Empowerment of Coastal Women
- Huge Employment
- Risk Mitigation/Diversification
- ~Rs 640 Cr Investment

- Seaweed cultivation by SHGs of fishermen/fisherwomen in coastal areas- rafts and tubenets
- Seed Banks of Seaweed
- · Production, processing & marketing

Sap Market - ₹7500 cr Phycocolloid Market - ₹6000 cr Animal feed Market - ₹1000 cr

Uses:

Agar, Algin, Carrageenan, Manure, Biofertilizers, Fodder, Nutraceuticals, Biostimulants, Bioactive Metabolites



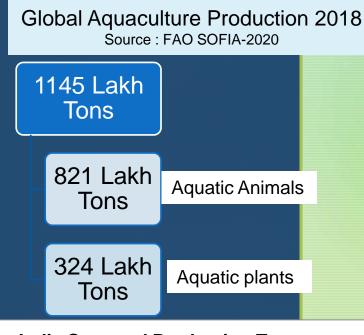
Brown Seaweeds
(Phaeophyceae)
Algin yielding
Sargassum, Turbinaria etc
& edible "Kelp" - Laminaria spp.

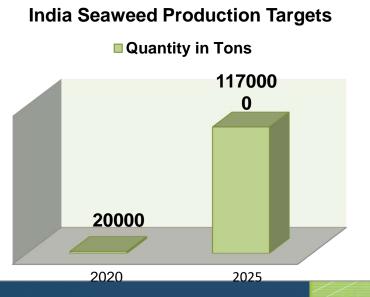


Red Seaweeds (Rhodophyceae) Agar & Carrageenan yielding Gracilaria, Gelidiella, Hypnea, Kappaphycus etc.



Green Seaweeds (Chlorophyceae) Edible Caulerpa, Ulva etc.





Actions for promotion of seaweed value chain

- High Yielding, Quality Seed: Setting up of Seaweed Seed Banks, Nurseries, Tissue Culture
- Mapping of potential Seaweed areas: Handholding States/UTs
- Technical backstopping, Training and Capacity building at District/Village
- Village Seaweed Resource Persons
- R&D, Species Diversification, Standardization of Cultivation practices & New Technology Infusion
- Time bound Completion of Technology Transfer at grass root level: Entrepreneurs MoUs
- KVKs: Technical backstopping, Training and Capacity building at District/Village
- Dedicated Fisheries Experts in KVKs in coastal districts.

GOI Initiatives Under PMMSY

PMMSY promotes creation of alternate livelihood through Seaweed Cultivation

PMMSY: Achievements during 2020-21, 2021-22, 2022-23 & 2023-24 (till October 2023)

Seaweed cultivation Monoline/ tubenet method

Seaweed cultivation raft method

Integrated modern costal fishing villages

DEVELOPMENT OF **AQUAPARK**

Multipurpose Seaweed Park, Ramanathapuram, **Tamil Nadu** Rs. 127.71 crore



Seaweed cultivation, Tamil Nadu

Seaweed cultivation to generate large scale employment for coastal fisherwomen

NFDB – Promotion through Innovation and innovative Projects

Project Title

Sanctioned budget

Output

 Pilot scale evaluation of seaweed farming sites for entrepreneurship development along northern Gujarat coast by M/s Seaweed company, TSC Purple Turtle Pvt.Ltd., Tamil Nadu

Proposed site: Jakhua port area, Dadamapar area, Navinad Area & Juna Bundar, Mundra of Gujarat

- Rs.34.00 lakhs
- Replicable Model for Coastal Communities
- Strengthened Community Engagement
- Knowledge Transfer and Capacity Building
- Market Engagement and Commercialization,
- Collaborative Business Development
- Seaweed Cultivation in the selected areas





Seaweed Culture in Sekhadiya, Mundra

Project Title

• Pilot Scale Demonstration and Feasibility Study of Lobster Fattening in Integration with Pompano and Seaweed in the Lagoons of Lakshadweep by ICAR-CMFRI

Sanctioned budget

• Rs.10.00 lakhs

Outcome

- An adaptive design and culture protocol for cage culture of lobsters along with finfishes
- Impact assessment of cage farming in the lagoons on the ecosystem
- Capacity building of the local inhabitants and Govt. officials in cage culture
- Increase in the marine fish production of Lakshadweep by diversification to mariculture
- Formation of a well oriented Nucleus Group in the islands
- Capacity building of the local inhabitants and Govt. officials in cage culture



Project Title

 Demonstration of viable farming protocols for indigenous brackish water seaweed species for income generation among coastal folks by ICAR-CIBA

Sanctioned budget

• Rs. 21.95 lakhs

Objective

• To conduct pilot scale demonstration of monoculture of Agarophyton tenuistipitatum, Gracilaria salicornia, Hypnea musciformis, Gelidiella acerosa in brackish water ponds and estuarine waters with suitable culture methods (rope, net bag, Pond bed, semi floating raft method etc.)





Project Title

 "Integrated Multi-Tropic Aquaculture for the alternate livelihood of fishers and augmenting fish production of Coastal waters in Karnataka" ICAR-CMFRI, MRC

Sanctioned budget

• Rs.52.275 lakhs



- IMTA promotes bio-mitigation, and diversification of fed single species culture
- Increase awareness on environmental protection for the coastal population.
- comprehend benefits economically, environmentally and socially to augment the total marine fish production of the state.







Marine Cage Culture

Investment: Rs 636 Crores Employment: 4 Lakh

Convergence with FIDF

Potential: 4 million Fish Production

Shift 25% of Marine Fishermen to
Mariculture
Conservation of Fish stocks
Address Overfishing
Safety of Fishermen : Zero Risk

2 lakh Tons Fish Production/Year Another 5 lakh Tons Production/Year by Private Sector

Cluster Approach

States/UTs – Leasing Policy in Territorial Waters

Species – Groupers, Pompano, Cobia, Seabass

Entrepreneurship Models

Cold Chain – Live Fish Marketing -Exports





NFDB – Promotion through Innovation and innovative Projects

Project Title

• Cage Culture Demonstration of Indian pompano (*Trachinotus mookalee*) in Chandipur, Odisha

• Rs. 257.327 lakhs



Outcome

 Established model Indian pompano marine cage farming unit at Bahabalpur, along Balasore of north Odisha, which would act as nuclear centre for large scale dissemination of the technology within the state



Cage Culture Demonstration of Indian pompano (Trachinotus mookalee) in Chandipur, Odisha

Establishment of National Brood Bank for Marine Finfishes

NFDB- funded and ICAR-CMFRI implemented project on establishment of National Brood Bank for the marine finfishes like cobia and pompano at Mandapam RC, Tamil Nadu and Vizhinjam, Kerala with a project cost of Rs.3.25 and Rs.5.65 crores respectively





Establishment of Seed Rearing Units for Marine Finfishes

NFDB Promoting Commercial Multispecies Marine Finfish Hatchery, Kakinada, Andhra Pradesh

Understanding the importance of marine farming and the fish seed requirement, the National Fisheries Development Board (NFDB), Hyderabad together with ICAR-CMFRI has established a model hatchery for multispecies marine fish seed production with an objective to meet the demand and increase the fish production.



M/s. MSR Aqua PVT Ltd., Unit – II Multi species Marine Finfish hatchery is currently producing seed of Cobia (Rachycentron canadum), Silver Pompano (Trachinotus blochii) and Indian Pompano (Trachinotus mookalee)

Promotion of technology-based interventions like Mechanization of Deep sea fishing Vessels, communication and tracking technologies, potential fishing zones (PFZ) technologies, safety kits and bio toilets

Safety of Marine Fishers

Vessel Communication and Support System:

- National rollout for Vessel Communication and Support system got approved under PMMSY
- Transponders on one lakh fishing vessels has been approved with outlay of Rs 364.0 Cr for all coastal states and UTs.
- Hon'ble Union Minister of FAH&D has distributed 5 transponders provided by ISRO during GFC 2023
- New Space India Ltd (NSIL), the commercial arm of ISRO a 100% owned company under Department of Space is implementing the project.

Issuance of Biometric Identity Cards to Marine Fishermen:

- Biometric ID Cards of Rs. 72 crore, funded by the Ministry of Home Affairs (MHA).
- A consortium led by Bharat Electronics Limited (BEL) handles data digitization, biometric details, and card production.
- Rs. 46.24 crore provided by MHA; Rs. 38.24 crore released to the consortium.
- Biometric enrolment for 23,02,679 fishermen;
 19,21,329 ID Cards produced and supplied.

QR Coded Aadhaar Cards for fishermen identification:

 Out of 13,27,412 identified fishermen, biometric enrolment for 12,52,930 completed; 12,33,760 fishermen issued QR Coded PVC Aadhaar Cards by February 28, 2023.

Support for acquisition of Deep-sea fishing vessels for fishermen

PMMSY Promotes 'Make in India'

Modernization of Fishing vessels

Low cost indigenous fishing vessels

Mother Vessels

More than 461
Deep sea vessels
sanctioned under
PMMSY

Deep Sea Fishing Vessels

Driving Higher incomes for Traditional fishermen

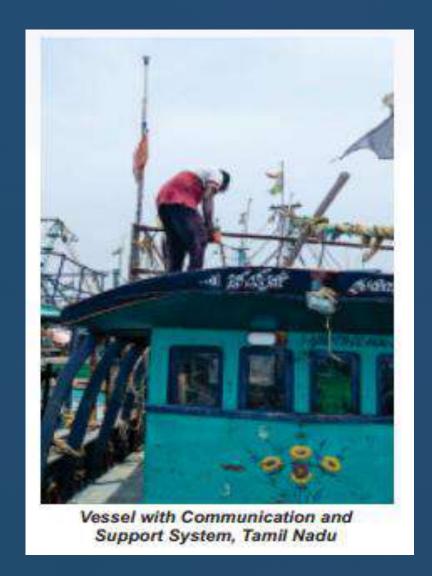
Vessel Type	Annual Profit
Motorised Vessel	Rs. 3 Lakhs
Mechanised Vessel	Rs. 8-10 Lakhs
Modern Deep-Sea Fishing Vessel	Rs. 32 Lakhs





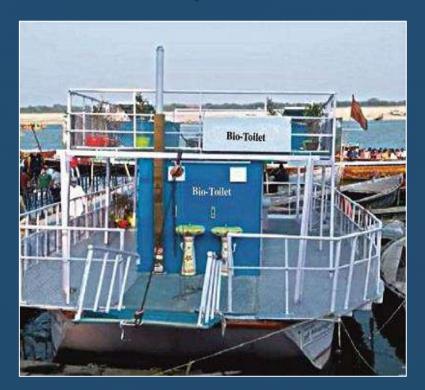
Communication and Support System on Marine Fishing Vessels

Satellite-based Vessel Communication and Support System is being installed on one lakh fishing vessels for ensuring safety and security of fishermen at sea, enabling them to stay connected with their families and seeking assistance during cyclones and storms or incase fishing near international borders.



Establishment of Bio toilets in mechanized fishing vessels

Support under PMMSY will be provided for fitment of Bio toilets in fishing vessels for maintaining hygiene, prevention and spread of diseases, prevention of pollution of oceans and seas and protection of their ecology (swachh sagar)



Gol has sanctioned nearly 4250 bio toilets in mechanized fishing vessels under PMMSY

Sustainable fishing practices Promotion

NFDB supports "Development and popularization fuel-efficient long-lasting otter boards for greening the trawl fishing sector in India", ICAR-CIFT

Achievements and Outcome

- Demonstration & trials of CIFT-V-form double slotted otter boards in all maritime states in India
 - Reduction in the diesel consumption and operation cost of trawling. Approximate 3L/Hr.





NFDB supports "Undertaking testing of technologies/kits for operating marine engines with various alternate fuels i.e. LPG, CNG, LNG and biodiesel at the facilities of ICAT and certification of their safety and efficiency" by ICAT, Haryana

Achievements and Outcome

• The Project on a whole can be considered in view of reduction in cost of marine engines operation through alternate fuels i.e. LPG, CNG, LNG and biodiesel through technology partner ICAT.



FIDF to Promote Marine Fisheries Sector

- 1. Government of India encourages private entrepreneurs and fish farmers in creation of fisheries infrastructure facilities.
- 2. In order to achieve 20 million tonnes of fish production by 2022-23, Fisheries and Aquaculture Infrastructure Development Fund (FIDF) was created with an estimated fund outlay of Rs 7522.48 Crore.

The eligible Financial assistances under FIDF

- 1. Quantum of Loan: The project under FIDF shall be eligible for loan up to 80% of the estimated/actual project cost.
- 2. Interest Subvention: Up to 3% per annum for development of identified fisheries- based infrastructure facilities.
 - NFDB is the nodal implementing agency for FIDF Scheme.
 - > NFDB receives proposals from eligible entities, undertakes scrutiny of proposals and place it before the Central Approval & Monitoring Committee (CAMC) for approval.
 - > Training on DPR preparation of High-value infra projects was held at Hyderabad with the coastal States/UTs.
 - > FIDF Portal & MIS is developed and Online application to FIDF is enabled.

For more information FIDF Portal

Achievements

121 proposals approved

Rs 5588.63 crore amount eligible for interest subvention Rs 3738.19 crore

91 proposals sanctioned by NLEs Rs 3294.41 crore

22 Fishing Harbours
Rs 4905.77 crore
investment

Tamil Nadu, Andhra Pradesh, Gujarat, Maharashtra & Kerala 24 Fish Landing Centers
Rs 182.20 crore
investment

Tamil Nadu & Odisha

Kottaipattinam Fish Landing Centre, Tamil Nadu





Construction of Fish Landing Centre at Mandapam South in Ramanathapuram District, Tamil Nadu







Integrated Coastal Aquaculture Facilities at Mulapolam

NFDB has initiated the development of 'Integrated Coastal Aquaculture Facilities' at Mulapolam, Srikakulam District, Andhra Pradesh in the purchased land(99.185 Acres) parcel on phased manner.

The main objective of NFDB is

To produce & supply sufficient quality Multispecies Marine Fin Fish Seeds, which is the need of the hour for the development of Marine Fisheries Subsector including Mariculture, as Seed availability is the limiting factor and there is a huge gap in demand and supply.

To bridge the gap in Marine Fin Fish and Crab Seed requirement in the country by producing and supplying Seed to support Mariculture and to enhance Marine Fish production.

Facilities developed in Phase-I

NFDB has already initiated infrastructure development in 36.52 Acres for creation of the following facilities

- ❖ Nursery Rearing Complexes 2 Nos. 16 ponds in each complex.(Rearing and farming marketable size Mud Crabs and Marine Fin Fish (Cobia, Pompano & Sea Bass)
- **Earthen Grow-out Culture Ponds** 2 Blocks (A & B) 8 ponds in each complex
- Used water treatment plant & earthen Sea water Reservoir (4 Nos).
- Raw Seawater Circular Reservoir 1 No.
- 250 KVA Generator and electricity supply arrangements.
- ❖ Water Management System: sea water intake and outlet arrangements, filtration, fresh water supply with pipelines, outlet channels.
- ❖ Other Infrastructure: Internal Roads, Water Supply Arrangements, Drains, Office Building, Chain Link Fencing and Guard Room with 5 KVA Electricity Supply.

Phase-I facilities developed

Admin Building

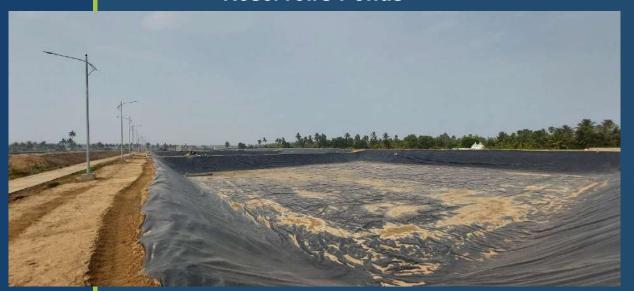
Nursery Complex



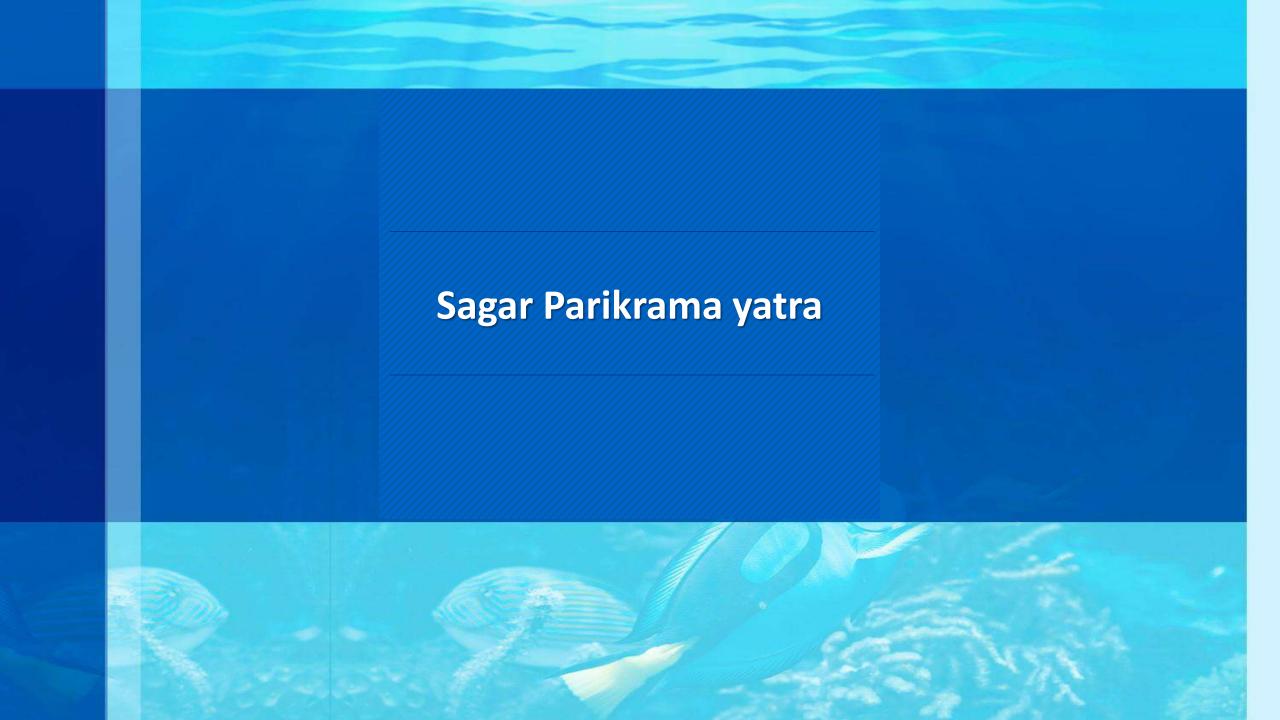


Reservoirs Ponds

Grow-Out Ponds







Sagar Parikrama

A unique fishers outreach program namely Sagar Parikrama Yatra led by Honble Union Minister, Fisheries, Animal Husbandry and Dairying is being undertaken since March 2022 through a pre-decided sea route from Gujarat to West Bengal with an aim to cover around 8000 km of India's coastline

Objective:

- > To promote sustainability of Marine Fisheries
- To disseminate government schemes and programmes
- Collective effort to reach out marine fishers in coastal area
- > To address fishermen issues at their door-step





States/UTs covered and planned to be covered under Sagar Parikrama

Outreach Activity

Symposium

Scientists, researchers, officials, policymakers, diplomats, industry, entrepreneurs, and students from 32 countries participated both online and offline to discuss the challenges faced in the world fisheries, including depleted fish stocks, habitat destruction, pollution, climate change, fish loss and wastage by-catch, and ghost fishing.







ICES/FAO Working Group on Fishing Technology and Fish Behaviour (WGFTFB23)

Symposium on

Innovations in Fishing Technologies for Sustainable and Resilient Fisheries

13-17 February 2023 | Taj Gateway Hotel, Kochi, India

International Conclave

Climate change is significantly altering the distribution of shared stocks worldwide. A deeper comprehension of how climate change affects shared fish stocks is crucial for robust, climateresilient international fisheries governance

Nearly 200 participants, comprising Experts from FAO, Scientists from more than 10 Regional Fisheries Bodies, Several National Research and Academic Institutions, and Fisherman societies, participated in the Event.







Mainstreaming Climate Change into International Fisheries Governance and Strengthening of Fisheries Management Measures in the Indo-Pacific Region 16-19 October 2023 | Mahabalipuram, India

Boost to fisheries sector including Marine fisheries: Budget Announcement 2023-24

- ☐ New Sub Scheme under PMMSY with total outlay Rs 6000 Crore
 - formalization of the unorganized fisheries sector
 - development of National Fisheries Digital Platform
 - access to institutional credit
 - aquaculture insurance (including shrimp aquaculture),
 - incentivizing fisheries micro and small enterprises for enhancing value-chain efficiencies and supply of safe fish and creation of jobs
- ☐ Setting up of a large number of multipurpose cooperative societies, primary fishery societies in association with M/o Cooperation
- □ Reduction of duty on certain inputs required for shrimp aquaculture fish lipid oil, algal prime (flour), fish meal, krill meal, vitamin & mineral premixes
- ☐ Agriculture credit increased to Rs. 20 lakh crore
- ☐ Under *Viksit Bharat Sankalp Yatra*, KCC card is chosen as 1 of the 4 on spot services to be provided on 100% saturation mode

Issues & Challenges in Marine Fisheries Sector

- Less number of technical/skilled manpower and enforcement staff
- Gap in retail marketing and transportation of sea food products
- Cold storage are not sufficient and post harvest value addition are not diversified
- Capture fishing resources are stagnating
- Unexplored deep sea fishing
- Lack of training, awareness and technology in deep sea vessels
- Besides conventional resources (53.1 lakh t), the non-conventional resources (16.6 lakh t) including oceanic squids, myctophids, jellyfish and marine algae remain unexploited.
- Marine Environment and Marine Pollution
- Sectoral and Inter-State fishermen conflicts
- Fishermen safety at sea, CRZ related issues
- High fuel cost, need for more infrastructure
- IUU fishing, compliances of international fisheries instruments and agreements

Way forward for Marine Fisheries Sector

- Bringing suitable regulatory framework for registration of vessels and complying international fishing standards
- To reduce plastic pollution, India is participating as a lead partnering country in FAO-IMO GLP project
- Effective management measure, fleet-plan with Minimum mesh size/Minimum Legal Size (MLS),
- Focus on quality, Post-harvest and Processing, Trade
- Creation of E-Marketing platform to help fisherman's associations in marketing (ONDC)
- Thrust on mariculture, Additional/Alternate Livelihoods
- Fisher Welfare, Social Security, Institutional Credits
- Strengthening FFPO's; Proposal approved for formation of 2195 FFPO's with a total cost of Rs. 545 Cr under PMMSY.
- Assistance of Rs. 22.55 lakhs is being provided for formation of existing cooperatives as FFPO's and assistance of Rs 43.05 lakhs for formation of new FFPOs in company model.
- Promotion of resource-specific fishing, deep-sea & high sea fishing
- DoF in collaboration with MoPS&W(Ministry of Ports, Shipping and Waterways) to initiate deep sea fishing vessel project to help fishermen
- Development of Integrated Modern Coastal Fishing Villages
- Effective Monitoring, Control and Surveillance, Transponders
- Development of Island Fisheries
- Inter-State Fisheries Councils co-management
- Blue Growth Initiative, International Arrangements; Regional Cooperation, and Governance etc.

Conclusion

In conclusion, initiatives and support in marine fisheries play a crucial role in promoting sustainable fishing practices, enhancing fish production, and improving the livelihoods of fishing communities.

Overall, these initiatives and support demonstrate the government's commitment to sustainable development, conservation of marine resources, and the well-being of fishing communities. By promoting responsible fishing practices, enhancing productivity, and creating better economic opportunities, the government is striving towards a sustainable and prosperous future for marine fisheries in India.



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