

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

A one day workshop on Management Plans for the Marine Fisheries of Maharashtra and Goa was jointly organized by Omega Fishmeal and Oil Private Limited and T J Marine Products Pvt. Ltd. , Ratnagiri on 21st February 2024 at Hotel Viva Executive Ratnagiri. This was the fifth workshop organised under the Fishery Improvement Project (FIP) on Indian oil sardine & Indian mackerel along the coastal waters of Goa & Maharashtra. The project's main focus is to improve the effectiveness of fisheries management and governance, together with environmental responsibility and transparent traceability of fishery products throughout the supply chain.

List of participants is attached at Appendix 1.

The agenda of the workshop is attached as Appendix 2.

Welcome address:

Mr. Amol Patil, Director, Omega Fishmeal and Oil Private Limited welcomed the participants and reviewed the current status of the project. He said, the Fishery Improvement Project, which commenced in the year 2017, has made significant progress during the last 6 years, in spite of the severe attack faced from the epidemic Covid 19 during the period 2020-22. In the earlier four workshops the topics such as Harvest Strategy, Monitoring Control and Surveillance, Ecosystem Impacts, Endangered, Threatened and Protected (ETP) species, Stock Assessment of Indian oil sardine and Indian mackerel, and Reference Points and Harvest Strategy for the sardine stocks were covered. The College of Fisheries in Ratnagri

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

played an important role in undertaking the stock assessment project and organizing these workshops.



Mr. Amol Patil welcoming the participants



Mr. Abhay Deshpande giving Presidential Speech

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024



Lighting of Ceremonial Lamp

Presentation of FIP:

Mr. Duncan Leadbitter, Manager FIP & Director of Fish Matter Australia, an international expert in this field, presented on the topic “Fishery Management Plans”. He said, a fisheries management plan is a formal or informal arrangement between a fishery management authority and interested parties which identifies the partners in the fishery and their respective roles, which details the agreed objectives for the fishery and specifies the management rules and regulations. The National Fisheries Policy 2017 of India declares that ‘creating fisheries management areas’, including species-specific and area-specific management plans. The Ecosystem Approach to Fisheries Management (EAFM) will be implemented, participatory management or co-management in fisheries, etc. will be promoted.

In the draft Marine Fisheries Policy 2020, it is mentioned that The Centre will formulate ‘Fisheries Management Plans’ (FMPs) for scientific management and

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

regulation of marine fisheries resources of the country in consultation with the concerned State by adopting the Ecosystem Approach to Fisheries Management (EAFM) within the overall framework of relevant national and international instruments. Focus will be given to species-specific and area-specific management plans. However, the translation of policy into action more important, but it is probably the most difficult step in the implementation of principles. The National Fisheries Policy (NFP) – speaks about sustainability, national, social and



Mr. Duncan Leadbitter giving presentation

economic goals, livelihoods, guiding fisheries management response etc. Management responses will include measures such as regulations and decision rules (also called Harvest Control Rules or Harvest Strategy).

The Fishery Management Plans should define the area of operation of the fishery, jurisdiction and ecosystem boundaries, history of fishing and management, social and economic benefits, description of other uses/users of the ecosystem, especially activities that could have major impacts and arrangements for

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

coordination and consultation processes, ecological issues and challenges including details of critical environments, particularly sensitive areas, details of by catch concerns including threatened/protected species, details of other environmental concerns, including biodiversity and trophic changes.

Apart from this, a fishery management plan will contain agreed measures for the regulation of fishing to meet all objectives within agreed time frames, including by-catch, habitat protection, prey protection and pre-agreed rules for applying management measures and access rights etc. Using the agreed indicators and performance measures, evaluation of management will be undertaken via evaluating the most recent status of stocks including critical by-catch species based on risk and stock assessments, status of the aquatic ecosystem and social and economic analyses.

The management plan should also contain measures for arrangements for ongoing monitoring, control, surveillance and enforcement, a communication strategy, details of any planned education and training of stakeholders and date and nature of next review and audit of performance of management.

He said, for developing a fishery management plan, we have the following aspects already in place - long term objectives (National Fisheries Policy) fishery description, existing management rules (limited entry, seasonal ban, mesh size regulation, area of closures etc.), stock assessment information, monitoring and data collection, harvest control rules, commitments from governments to preparing plans. However, we are missing fishery level objectives, formal stakeholder involvement, and an implementation mechanism (Legislative Policy).

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

To move forward, he suggested the establishment of a management team (or teams) and allocate tasks, ensure all the data/information available, get key stakeholders onboard, develop management recommendations and consultation forums. A team effort – government, stakeholders and industry can work together on this and it will be a good mix of skills, access to information and commitment.

Dr. Ajay Nakhwa, Scientist, CMFRI, Mumbai made the presentation on the topic “Fishery management planning approaches in India”. He started the presentation



Dr. Ajay Nakhwa giving presentation

by giving an overall picture of marine fisheries in the country. India has a coastline of 8118 KM and our EEZ spreads to 2.02 Sq. KM. We have 3461 fishing villages. Other infra structures: Landing centers 1,332, major fishing harbors 6, minor fishing harbors 27, mechanized vessels 58,911, motorized vessels 75,591, non-motorised vessels 1,04,207. Marine fishermen population is 3774 577. Our marine fish production was 35 lakh MT and export quantity was 13 lakh MT fetching a value of Rs.57586 crore. We have nine maritime states and four

INDIAN OIL SARDINE (GOA & MAHARASHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

union territories. The Seventh Schedule of the Constitution of India specifies subjects related to the marine fisheries that are on the Union List, the State List and Concurrent List. Fisheries within the territorial waters are subjected to State jurisdiction.

The Marine Fishing Regulation Acts (MFRAs), regulate fishing vessels in the 12 nm territorial sea and conservation measures in the territorial waters are entrusted with the State Governments. Regulations include, regulation of mesh size to avoid juvenile fishing, control and restrictions of certain gears for preventing over exploitation of certain species, reservations of zones for traditional fishermen and declaration of closed fishing seasons, demarcation of zones in territorial waters for mechanized and non-mechanized vessels, registration and licensing of fishing vessels etc.

Open Access Fishing is governed by the Indian Fisheries Act, 1897, the Wildlife (Protection) Act, 1972, 2020, and the MFR (Regulation) Bill, 1978, which was formulated after the EEZ declaration. The MFRA of maritime states enacted from 1980 in all maritime states, Maritime Zones of India Act, 1981 and Environment (Protection) Act, 1986.

He elaborated that the Marine Fisheries Regulation (MFR) Act of various maritime states and the area reserved for fishing by the mechanised & traditional fishing vessels and mesh size regulation for various gears imposed in those states. He also explained the need for a new policy. Expansion of fishing grounds and subsequent interstate fishing conflicts, decrease in fish catch due to fishing intensity, technology creep, open access fishery policies, weak state and national level legal and policy frameworks, inadequate MCS activities by the states,

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

knowledge gaps regarding the sustainability of economically important species, un equal access and changes in the sea food market triggered the demand for a new national marine fisheries policy.



The Indian Marine Fisheries Code (IMFC) advises adopting a participatory or co management approach for the entire country by creating fisheries management councils with adequate representation for fishermen and other stakeholders in order to overcome the challenges in administering and regulating marine fisheries in the Indian EEZ under Govt. of India administration (1.86 million km² area, which is 92% of the total 2.02 million km²). He also spoke in detail about the current regime and proposed changes in the territorial waters and outside territorial waters.

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

Dr. Jacob Joseph Assistant Professor & Director (i/c), Centre for Law and Agriculture, National University of Advanced Legal Studies (NUALS) Kochi presented the topic “Legal and Policy Aspects of Marine Fisheries Management



Dr. Jacob Joseph giving presentation

Plan Implementation”. India is a party or signatory to various international and regional agreements relating to fisheries including the United Nations Convention on the Law of the Sea, 1982 (UNCLOS), UN Fish Stocks Agreement 1992, FAO Code of Conduct for Responsible Fisheries etc. are some of them. Article 56 of the UNCLOS is about the coastal state’s sovereign right to explore and exploit, conserve and manage the natural resources, whether living or non-living, of the Exclusive Economic Zone (EEZ). In the exercise of this sovereign right the state can take such measures, including boarding, inspection, arrest and judicial proceedings, as may be necessary to ensure compliance with the laws and regulations adopted by it.

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

He said that Article 297 of Constitution of India declares that things of value within territorial waters or continental shelf and resources of the EEZ vest in the Union Government.—(1) All lands, minerals and other things of value underlying the ocean within the territorial waters, or the continental shelf, or the exclusive economic zone, of India shall vest in the Union and be held for the purposes of the Union. (2) All other resources of the exclusive economic zone of India shall also vest in the Union and be held for the purposes of the Union. (3) The limits of the territorial waters, the continental shelf, the exclusive economic zone, and other maritime zones, of India shall be such as may be specified, from time to time, by or under any law made by the Indian Parliament.

As per the Indian constitution “fishing and fisheries beyond territorial waters” is a Union Subject (Entry 57 of Union List) while “fisheries” is a state subject (Entry 21 of State List). The Legislative scheme covers Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones of India Act, 1976 Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981. Up to 12 nautical mile zone are covered under Marine Fishing Regulation (MFR) Acts of States (1980s). The Legislation is silent on the area between 12 nautical miles to 200 nautical miles zone.

He also described in detail about various access control measures that are in force. The major access control measures are: licensing of fishing, registration of fishing vessels [Registration – Merchant Shipping Act, 1958 – 1983 Amendment – Part XVA – Sections 435A to 435Z – 2014/2018 Notifications delegating power to State Fisheries Departments to perform registration of Indian fishing vessels], limited entry permits (holders of individual entry permits are only allowed for

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

harvests from a common pool), group fishing rights (limited entry permit holders agree on a harvesting system usually by a written contract), Territorial Use Rights for Fishing (TURF) - access to fishing areas limited by custom or law to members of a village, tribe or other groups.

- Catch based output: collective catch quota (aggregate catch quota allotted to specified beneficiary groups), individual catch quota (species specific catch quotas (in terms of weight allocated to individuals. They are generally transferable/tradable), vessel catch limits/quotas – catch quota specific to vessels, size restrictions – minimum legal sizes (MLS) specified for individual fish species to prevent juvenile fishing.
- Effort based input: gear restrictions – restrictions on the type, design and mesh size of the gear used, engine power restrictions – upper limit on the engines horse power, vessel size restrictions – size restrictions on fishing vessels applicable to specific fishery fleets, especially in terms of their length and tonnage.
- Temporal restrictions: seasonal fishing ban – fishing bans imposed during specified seasons mainly to prevent fishing during spawning, restrictions on duration – limiting the duration of fishing by an individual/vessel (limits on hours per day, days per season, time away from port etc.), restriction on time – fishing during a particular time of a day – (for example regulation of night fishing).
- Spatial restriction: marine protected areas where fishing is prohibited, temporary area closures – practiced mainly to protect juveniles in specific areas where certain species come for spawning, spatial zoning – restricting access to

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

different group of fishers based on distance from shore/depth of water (artisanal fishers – mechanized fishers) to ensure inter-sectoral distribution of fish catch.

Various types of legislative instruments that governing the fisheries in India include :Constitution of India, Act (Primary Legislation) ,Central Act, State Act (Parliament of India / State Legislative Assemblies) – contain enabling provisions for making Rules, Regulations, Bye-Laws, Orders, Ordinances (primary legislation) by President of India / Governors of States, Rules by subordinate legislation – (Central Government / State Government),Regulations by subordinate legislation-(Central Government / State Government) etc.



Government Officials from CIFT, Department of Fisheries Maharashtra & Goa

Mechanisms for Implementation of Fisheries Management Plan include : preparation of MFMP, factors to be considered in the process of preparation of plan, involvement of stakeholders – preparation, monitoring, implementation, revision of plan – period, flexibility and responsiveness to changing conditions

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

and new information (incorporation of adaptive management principles), policy frameworks guiding fisheries management, ecosystem-based fisheries management, precautionary approach, rights-based fisheries management etc.

Regarding notification of the formal adoption of a MFMP, he said mode of publication/notification – (Gazette or Official Website) is yet to be decided as to where we want to incorporate the MFMP – In the Act or in the Rules (by way of a Schedule?) or a separate notification by incorporating an enabling provision in the Primary or Subordinate legislative instrument or as a licence condition. Institutional framework for preparation, monitoring and implementation of MFMP (Is there a need for a Fisheries Management Authority? If so, the composition of the Authority?) Institutional framework for facilitating reporting requirements/data collection (who has the obligation to report and to whom?) institutional framework for monitoring, control, surveillance as well as enforcement (involvement of stakeholders essential?), sanctions [including the necessity of graded penalties as in section 17 of MMFRA 1981 etc.]

According to the Maharashtra Marine Fisheries Regulation Act (MMFRA) 1981 (Section 4 (1)), fishing in any specified area by such class or classes of fishing vessels as may be specified the number of fishing vessels which may be used for fishing in any specified area. The catching in any specified area of such species of fish and for such period as may be specified in the orders the use of such fishing gear in any specified area as may be prescribed. Requirement of license [Section 7 MMFRA 1981], Requirement of returns [Section 11 MMFRA 1981] are specified. Apart from these, the MMFRA demands the formation of State Advisory and Monitoring Committee [Section 7 MMFRA 1981], appointment of

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

Registration Officer, Licensing Officer, Adjudicating Officer and Enforcement Officer.



Government Officials from Department of Fisheries Maharashtra

MMFRA has clear provisions about the fishing or fishing related activities in the specified area in contravention of- (i) conditions of license; or (ii) safety and security of fishermen and fishing vessels; or (iii) spatial and temporal closures and Monsoon fishing ban; or (iv) prohibition of destructive fishing methods [Section 17 (4) MMFRA 1981]

Contravention of an order under this Act relating to the regulation of purse seine or ring seine (including mini purse seine) or Trawl net including mesh size [Section 17 (5) MMFRA 1981]

Contravention of an order under this Act relating to the regulation of destructive fishing methods (bull or pair trawling, fish attractors, LED light fishing) [Section 17 (6) MMFRA 1981]

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

Contravention of an order under this Act relating to the regulation of the installation of Turtle Excluding Device [Section 17 (7) MMFRA 1981]

Contravention of an order under this Act relating to the regulation of the Ban on Juvenile Fishing [Section 17 (8) MMFRA 1981]

Prohibition of entry into territorial waters of Maharashtra for the purpose of fishing or for any other allied purpose in contravention of any provisions of this Act or of any order or rule made thereunder [Section 17 (8) MMFRA 1981]

As per the provisions of Kerala Marine Fisheries Regulation Act (KMFR), Kerala have constituted State Fisheries Management Councils – Section 13A (Amendment in 2017), District Fisheries Management Council and Fishing Village Management Council for the purpose. Similarly, Maharashtra can also constitute management councils at various levels for the implementation of management plans.

Dr. K Sunil Mohamed, Retired Principal Scientist CMFRI & Chairman, Sustainable Seafood Network of India (SSNI), Kochi presented the topic “Importance of management plans in marine fisheries and significance of EwE study in FIP”. He started the presentation by giving an overview of the marine fisheries in India indicating the pattern of consumption of fish by various states in India, marine fish landings in India for the period 1985-2021, the growth of mechanised fleets in India, sector wise, gear wise production, major resources, etc.

He said, fisheries management is the activity of protecting fishery resources so that sustainable exploitation is possible drawing on fisheries science including the precautionary principle. Fisheries management plan includes laws &

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024



Dr. K Sunil Mohamed giving presentation

regulations, policy & planning, data & information, and stakeholder engagement. In order to decide the quantity of fish that can be harvested, we should have the basic details such as the population size of fish (ecological), the amount of fishing pressure or fishing effort, the costs and profits of fishing, the provision of food for people etc.

Considering various parameters, it is proved that an ecosystem-based fishery management plan is advisable for India. For assessing the stock status of fishes being modelled, modelling of the dynamics of the fish population biomass is one of the popular and widely adopted procedure. These approaches are known as biomass dynamics model. In Maharashtra, stocks of 10 single species and 18 fish groups (constituting 69.2% of the catch) have been assessed where as in Goa stocks of 2 single species and 9 fish groups (constituting 69.5 % of the catch)

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

have been assessed. The stock assessment for fishes having a life span up to two years should be carried out every year, cephalopods, shrimps, crabs and small pelagic fishes mostly come under this category. Biannual (every two-year) assessment should be done for the stocks having a life span from 2 to 4 years. The assessment frequency for the stocks having a life span from 4 to 6 years should be at every three years interval. The stock assessment should be done once in five years for all fishes with more than 6 years of life span.

Harvest strategies, also called management procedures, represent the latest generation of science-based approaches to effective fisheries management. When properly developed, these full-cycle strategies start with precise management objectives and include monitoring of the stock after implementation. So managers and stakeholders should have a clear sense of the best path forward for the fish and the fishery. Harvest control rules (HCRs) are the operational component of a harvest strategy, essentially pre-agreed guidelines that determine how much fishing can take place, based on indicators of the targeted stock's status. These indicators can be based on either monitoring data or models.

Regulatory measures in operation are: Input controls such as vessel registration and fishing licenses, closed fishing season (fishing/ trawl ban), closed fishing areas, gear specifications (size/mesh) and control over destructive fishing practices. The output controls are fixing minimum legal size for fishes, protection of ETP species.

After this, Dr. Sunil made another presentation on “Trophic model: Northwest Coast/ Maharashtra Eco System” in connection with the undergoing EwE project for building a trophic model of the Arabian Sea Ecosystem off Maharashtra.

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

Dr. Sunita Pauskar, Superintendent of Fisheries, Directorate of Fisheries Goa presented the topic “Management Plan for Marine Fisheries of Goa”. She gave an overview of the marine fisheries sector in Goa. Fishing is one of the chief occupations and source of livelihood of the people in the coastal areas of Goa and has contributed immensely towards the socio-economic development of coastal communities. The fisheries sector has an enormous potential for growth and can contribute significantly to the State’s economy. The Government of Goa through the Fisheries Department has made continuous efforts for the growth of fishing Industry. Department has been providing financial assistance for various needs of the fishermen in Goa, along with keeping a pace with their welfare measures. The current average marine fish landing is estimated at 1, 33,000 MT.



Dr. Sunita Pauskar giving presentation

Dr. Sunita explained the policies adopted for the management of sustainable fisheries in the state. Goa has a coastline of 104 Kms and fishing is the most

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

important livelihood after agriculture in the State. Fishing has a number of direct effects on the marine ecosystem because it is responsible for increasing mortality of target and by catch species; has an important physical impact on the habitat of benthic organisms which is caused by bottom trawling. The direct impacts of fishing have indirect implications for other species as well. Fisheries remove prey that is piscivorous fishes, which seabirds and mammals would otherwise consume, or may remove predators that would otherwise control prey populations. Reductions in the density of some species may affect competitive interactions and result in the proliferation of non-target species.

The following Act & Rules are implemented by the Govt. of Goa through Dept. of Fisheries for the well managed fisheries: the Merchant Shipping Act, 1958, The Merchant Shipping Rules (Indian Fishing Boats Inspection) 1988, The Merchant Shipping Rules (Registration of Indian Fishing Boats) 1988, The Goa Marine Fishing Regulation Act, 1980, (2 amendments up to 2019), The Goa Marine Fishing Regulation Rules, 1982, (7 amendments up to 2023).

The Government has taken several policy decisions with a view to conserve the resources such as effective implementation of fishing ban, restriction of fishing areas, establishing no Fishing Zones, restricting the of number of fishing boats, mesh size regulation, notifying minimum legal size for fishes, ban on use of LED lights, use of TEDs in trawl nets, prohibition on use of explosives, prohibition of fishing with mechanized fishing vessels from 7.00 PM to 5.00 AM in specified areas.

Towards strengthening the MCS activities, the Government of Goa has adopted the uniform colour code of fishing vessels with white hull, black fenders and sky-

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

blue cabin for fishing trawlers and white hull with black fenders for fishing canoes This will help the coastal security agencies to identify the fishing vessels of Goa State.

In the year 2001 the Government of Goa took a policy decision to allow fishing vessel owners to construct or purchase new fishing vessels against the replacement of old vessels. This does not add to the fishing fleet and the size of the fishing fleet remains the same. The maximum length of mechanized Fishing vessel is restricted to 23mtrs.

Registration of fishing net is granted for nets having mesh sizes not less than 24 mm for catching fish and 20 mm for catching prawns, under section 7 of Goa Marine Fishing Regulation (Amendment) Act, 2019 which is published in Official Gazette Series I No.24 dated 17/09/2019.

Minimum legal size for fishes: the Government has by an order, notified Minimum Legal Size (MLS) for 20 number fish species in order to avoid juvenile fishing in the Goan waters under clause (c) of sub-section (1) of section 4 of Goa Marine Fishing Regulation Act 1980. If more than 50% of the catch sample is composed of fishes at or below the prescribed MLS that catch is considered as violation and will attract penalties.

After the presentations, participants had an interactive session with the subject experts and cleared the doubts.

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024



INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024



Mr. Arun Kumar TJ Marine Products Pvt Ltd delivered the vote of thanks.



Mr. Arun Kumar giving vote of thanks

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024



Group photo of participants

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

APPENDIX 1

LIST OF PARTICIPANTS

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

Sr.No.	Name of The Participant	Organisation Name
1.	Mr. Abhay Deshpande	Regional Deputy Commissioner (Marine), Department of Fisheries, Mumbai
2.	Dr. K. Sunil Mohamed	Chairman, Sustainable Seafood Network of India (SSNI)
3.	Dr. Jacob Joseph	Assistant Professor & Director (I/C), Center for Law & Agriculture, NUALS, Kochi
4.	Shri. Harish Patil	Dept. of Fisheries, Mumbai
5.	Dr. Sunita Pauskar	Supdt. of Fisheries, Directorate of Fisheries, Goa
6.	Dr. Asha K K	Principal Scientist & SIC, CIFT, Mumbai
7.	Shri. Abhaysinh Shinde Inamdar	Asst. Commissioner of Fisheries, Ratnagiri
8.	Mr. Duncan Leadbitter	Director, Fish Matter, Australia & Manager FIP
9.	Shri. Anand Palav	Department of Fisheries, Ratnagiri
10.	Dr. M. M. Shirdhankar	Retired Principal & Professor, Diploma in Fisheries Engineering.
11.	Miss. Bhakti S. Peje	Department of Fisheries, Ratnagiri
12.	Ms. Gaitri Naik	Fisheries Officer, Directorate of Fisheries, Goa.
13.	Dr. Ajay Nakhawa	Scientist, CMFRI, Mumbai
14.	Mr. Imran Mukadam	Chairman, Adarsh Macchimar Society, Mirkarwada.

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

15.	Mr. Santosh Ladke	Ratnadurga Machchimar Sahakari Sanstha, Ratnagiri
16.	Mr. Sudhakar Mondkar	Chairman, Bhagavati Macchimar Sahakari Sanstha Limited, Ratnagiri
17.	Mr. Dilawar Godad	Bhagavati Macchimar Sahakari Sanstha Limited, Ratnagiri
18.	Mr.Pravin Dalawi	Bhagavati Macchimar Sahakari Sanstha Limited, Ratnagiri
19.	Mr.Tushar Kubal	Bhagavati Macchimar Sahakari Sanstha Limited, Ratnagiri
20.	Mr. Shrirang Kubal	Bhagavati Macchimar Sahakari Sanstha Limited, Ratnagiri
21.	Mr. Atik Bargir	Bhagavati Macchimar Sahakari Sanstha Limited, Ratnagiri
22.	Mr. Kailash Kubal	Bhagavati Macchimar Sahakari Sanstha Limited, Ratnagiri
23.	Shafi Wadkar	Sakharinate Machhimar Sanstha
24.	Mr. K. J. Antony	Omega Fishmeal and Oil Private Limited
25.	Mr. Amol Patil	Omega Fishmeal and Oil Private Limited
26.	Mr. Manoj Kushe	Omega Fishmeal and Oil Private Limited
27.	Mr. Kamlesh Parab	Agrisprut Biotech Private Limited
28.	Mr. Ashish Salvi	Omega Fishmeal and Oil Private Limited

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

29.	Mr. Abhijeet Padalkar	Omega Fishmeal and Oil Private Limited
30.	Mr. Siddhesh Tarve	Omega Fishmeal and Oil Private Limited
31.	Mr. Liladhar Joshi	Omega Fishmeal and Oil Private Limited.
32.	Mr. Arun Kumar	TJ Marine Products Pvt Ltd
33.	Mr. Mohammed Umer Saheb	TJ Marine Products Pvt Ltd
34.	Mr. Akshay Joshi	TJ Marine Products Pvt Ltd
35.	Mr. Sushant Jaitapkar	TJ Marine Products Pvt Ltd
36.	Mr. Dattatray Supal	TJ Marine Products Pvt Ltd
37.	Mr. Thouseef Rehaman	TJ Marine Products Pvt Ltd
38.	Mrs. Priyanka Sawant	TJ Marine Products Pvt Ltd
39.	Miss. Harshada Londhe	TJ Marine Products Pvt Ltd

INDIAN OIL SARDINE (GOA & MAHARASHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

APPENDIX 2

AGENDA

INDIAN OIL SARDINE (GOA & MAHARSHTRA) FISHERY IMPROVEMENT PROJECT

(UNDER THE MARINTRUST IMPROVER PROGRAMME)

WORKSHOP ON MANAGEMENT PLANS FOR
THE MARINE FISHERIES OF MAHARASHTRA AND GOA - FEBRUARY 2024

✦PROGRAMME✦

Registration	09.30 Hrs.		
Welcome address and introduction to the topic	10.00 Hrs.		Mr. Amol Patil, Director, Omega Fishmeal And Oil Private Limited
Inauguration	10.10 Hrs.		
Presidential Address	10.15 Hrs.		Shri. Abhay Deshpande, Regional Deputy Commissioner (Marine), Department of Fisheries Mumbai
Presentation	10.30 Hrs.	Fishery Management Planning.	Mr. Duncan Leadbitter, FIP Manager And Director, Fish Matter, Australia
	11.00 Hrs.	Fishery Management Planning approaches in India.	Dr. Ajay Nakhawa, Scientist, CMFRI, Mumbai
	11.30 Hrs.	Legal and policy aspects of marine fisheries management plan implementation.	Dr. Jacob Joseph, Asst. Professor & Director (I/C), Centre for Law and Agriculture, National University of Advanced Legal Studies (NUALS) Kochi
	12.00 Hrs.	Importance of Management Plans in Marine Fisheries & Significance of EwE Study in FIP	Dr. K Sunil Mohamed Rtd. Principal Scientist CMFRI & Chairman, Sustainable Seafood Network of India (SSNI), Kochi
	12.30 Hrs.	Potential for Marine Fishery management plan in Goa	Dr. Sunita Pauskar, Supdt. of Fisheries, Director of Fisheries Goa
	13.00 Hrs.	Potential for Marine Fishery management plan in Maharashtra	Shri. Abhay Deshpande, Regional Deputy Commissioner (Marine), Department of Fisheries, Mumbai
Lunch Break			
Open Discussion	14.30 Hrs.	What do stakeholders expect/ want from Fisheries Management?	
Vote of Thanks	15.15Hrs.		Mr. Arun Kumar, TJ Marine Products Pvt. Ltd.
End of The Programme			