

The most heard  
curiosity among Goans  
at fish market...



***KASO DILA GE VANTO???***



# Goan Fish Trails

**Vol.VII-2024**

**An Overview of  
Department of Fisheries,  
Government of Goa  
Dayanand Bandodkar Marg,  
Panaji Goa**

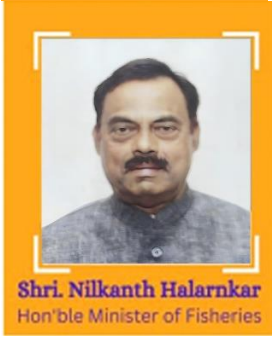
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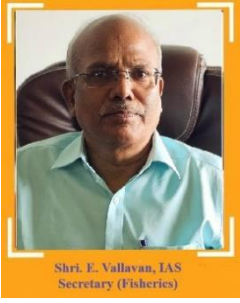
## MESSAGE

The Goa fisheries sector stand proud of its accomplishments, not only because of various schemes implemented successfully in the State of Goa but also because the sector adds immense value to our nation's economic growth. It has played an instrumental role in ensuring the food and nutritional security to the growing population and in generating employment and sustaining the livelihoods to the Goans.

We now look forward to effectively implementing the policies and programmes that can sustainably bring about an enhancement in fish production and productivity from our fisheries and aquaculture resources. The dedicated team of Fisheries Department puts in immense efforts to deliver the services/schemes implemented by the State and Central Government to the entire fisheries community, there by developing the socio-economic conditions.

Lastly, it is a matter to pen down the greetings to all the readers of this publication by Directorate of Fisheries "Goan Fish Trails" Volume VII, 2024.

**(Nilkanth R. Halarnkar)**  
**Hon'ble Minister for Fisheries**



## MESSAGE

The fisheries sector in the country continues to be among the most important and fastest growing agriculture allied sector in this country and it has been observed that it is growing at the same pace in the State of Goa. Departmental exertions to increase fish production and productivity under the various schemes implemented helped to accelerate the growth in the sector.

The journal, highlighting the journey of the fisheries sector, is a saga of the fisheries wealth of the State of Goa and of the people who toil under the harsh conditions to bring the delicious and highly nutritious fish protein to our plates. Departmental efforts could be bolstered through various awareness programme and events organized, to construct the idea of facilities offered through various schemes for the fishermen within the State of Goa.

Lastly, I would like to compliment the Director of Fisheries and its team to come up with this publication which will contribute to better understanding of the sector and also serve as an important resource book for the fisheries sector.

A handwritten signature in black ink, appearing to be 'E. Vallavan'.

**(E. Vallavan, IAS)**  
**Secretary (Fisheries)**



## Chief Editor's Note

Goa is a small State on the Southwestern coast of India within the Konkan Region. Marine, Inland and Aquaculture has played very significant role in Goa.

The Department of Fisheries, through this Annual Publication “Goan Fish Trails” has promulgated the various initiatives taken up to upgrade the scenario of the Fishermen community thereby overcoming the issues confronted at different level.

Under the State Schemes, this Directorate has incurred expenditure of Rs. 542.61 lakhs and under Central Scheme (Pradhan Mantra Matsya Sampada Yojana), this Directorate has incurred an expenditure of Rs. 527.09 lakhs thereby benefitting 2214 numbers of fishermen.

The Department has put a Mariculture Policy in place thereby enhancing the scope for entrepreneurs to take up open sea cage farming, mussel farming, seaweed farming.

The Department has also come up with new scheme under Pradhan Mantri Matsya Sampada Yojana sub-component namely Eco friendly Movable Fish Kiosks “Matsya Vahini” and “Matsya Aahar” for sale of fish in Hygienic and reasonable rate for the people of the State and is going to undertake upgradation of fish landing centre's and provide infrastructure in certain fishing villages under the PMMSY scheme.

Finally, I would put forth my gratitude for all the encouragement and guidance imparted by the Hon'ble Minister for Fisheries and the Secretary (Fisheries) to promote fisheries sector in the State.

**(Dr. Shamila Monteiro)**  
**Director of Fisheries**

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*Errors if any may kindly be intimated to the Director of Fisheries, Panaji-Goa*

## I. OVERVIEW

Goa is known in the entire world for its touristic destination and famous Goan Fish Thali. The platter is incomplete without “Sungataache Humaan, Tarlyache Ambot-tik, Isvan Rava Fry, Galmyachi Kismur ani Sol Kadhi”.

Goa is enriched with a coastline of 104 Km, with a continental shelf of 10,000km<sup>2</sup>. The total Fish Production in Goa during the year 2023-24 was 135641 tonnes, of which Marine fish landing accounted for 126990 tonnes while Inland fish landing accounted for 8651 tonnes. In a positive trend for fisheries in the State, the Inland fisheries has seen an increase in production during the year.

The Department has taken various initiatives to support the fisheries community. For the youth, who are eager to take fisheries for self-employment, the Department conducts six months’ certificate course at Fisheries Training Centre, Ela, Old-Goa to impart training in advance fisheries technology. Short term training programmes are also held for fisher youth, fish farmers and entrepreneurs etc.

For better awareness among the fishermen, this Directorate conducted 20 Community Interaction Programmes on coastal security.

For better communication and tracking of sailing boats, 40 nos. of transponders are installed on fishing vessel.

To promote Goa’s rich fish culture and the fishery industry and to create awareness among general public, State Government had organized a 3 day “Aqua Goa Mega Fish Festival” from 2nd to 4th February, 2024 at SAG ground Campal, Panaji.

To showcase the achievements made by the State in Fisheries Sector, Department of Fisheries has participated in Global Fisheries Conference 2023 at Ahmedabad, Gujarat organized by Ministry of Fisheries, Animal Husbandry, Government of India on the occasion of World Fisheries Day.

The Department has been working towards the development of Fisheries community by continuously upgrading, renovating the jetties and fish landing centres as well as constructing new infrastructure.

Under Pradhan Mantri Matsya Sampada Yojana, Central Government offers immense opportunity to Marine and Inland fishermen to enhance production through optimal utilization of Fisheries Technology, infusion and capacity building. The Department has provided Financial Assistance for installation of cages in River, setting up of Raft culture and Rack for mussel culture, setting up of Biofloc unit etc. The Department also provides financial assistance to Shrimp Farms under PMMSY scheme.

Goa is the first State in India to implement Mariculture Policy, providing an area on lease for fishermen/entrepreneurs to take up open sea cage farming, mussel farming and seaweed farming.

Department implements 21 Numbers of State Schemes to encourage fisheries activities in the State.

The Statistics provided in this publication will be useful to research persons, students and planners to understand the fisheries scenario in Goa. Also the article by the staff and the success stories of the fish farmers on the various opportunities in fisheries will encourage young generation in the fisheries sector.

For conservation of Turtle in the sea, this Directorate has notified the Turtle Excluder Device to be mandatorily installed before the cod end of the Trawl net.

The motto of this Department is to work towards the welfare of the fishermen to generate employment and to provide fresh fish in a hygienic condition in the fish market.

***Water Is Most Essential Element Of Life Because Without Water You  
Can't Go FISHING !!!!!***



## **II. VISION OF THE DEPARTMENT**

### ***Vision:***

Sustainable and responsible increase in fish production in the State while contributing towards social and economic growth of the Fisher's and Fish Farmers and ensuing nutritional security of the State.

### ***Objective of the Department:***

To sustainably harvest Marine Fisheries resources, provide infrastructure, promote aquaculture and improve the Socio-economic conditions of the Fishermen and generate employment and food security in a holistic way.

### III. GOA FISHERIES AT A GLANCE

Sr. No.	Fishing vessel types	Nos.
1	Non-motorized canoe	310
2	Motorized canoe	1939
3	Trawlers	429
4	Purse- Seiner	357
5	Trawler cum Purse- Seiner	059
6	Fishing gear	245

Sr. No.	Fisherman's profile	Nos.
1	Fishing villages	41
2	Fisheries societies	45
3	Fisher Folk Population (CMFRI census 2016)	12651
4	Fisherman population-Active (CMFRI census 2016)	2758

#### State Profile

Sr. No	Resources	Distance
1	Continental Shelf (upto 100 fathoms depth)	10,000 km <sup>2</sup>
2	Coastal length	104 kms

Sr. No.	Infrastructure	Nos.
1	Fishing landing centre's (Major Jetties)	07
2	Fishing landing centre's (Ramps)	28
3	Ice plants	25
4	Cold storages	20
5	Processing units	14

#### Inland Profile

Sr. No.	Resources	WSA*
1	Reservoirs	3448 ha.
2	Rivers	338.5 km
3	Canal	240 km
4	Tanks & Ponds	101 ha.
5	Brackish water	198.86 ha.
6	No. of farm registered	49 nos.

\*WSA-Water Spread Area

## Department Profile

<b>Sr. No.</b>	<b>Training courses</b>	<b>Duration</b>
1	Six Months Training Course, FTC, Old - Goa	6 months
2	Short Term Training Course, FTC, Old - Goa	2 days
3	Training Course at CIFNET, Cochin	
a)	Vessel Navigator Course	2 years
b)	Marine Fitter Course	2 years
4	B.Sc. (Fisheries), Ratnagiri, Maharashtra	4 years

<b>Sr. No.</b>	<b>Services</b>
1	Registration of fishing vessels & fishing nets
2	Licensing of Fishing vessels & fishing nets
3	Registration of Fish seller
4	Registration of Aquaculture farms

<b>Sr. No.</b>	<b>Other Services</b>
1	Kisan Credit Card
2	Group Accident Insurance Scheme

#### IV. ACTS AND RULES



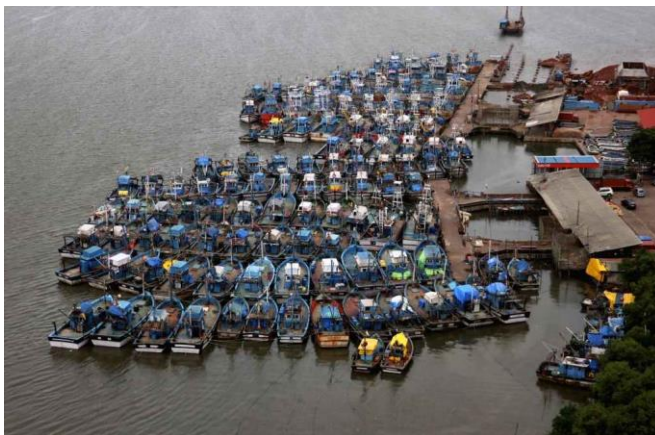
Sr. No.	Name of the Act, Rules, Regulation etc.	Brief list of the contents
1	Goa Marine Fishing Regulation Act, 1980	Licensing of Fishing Vessels, Registration of Fishing Vessels, Fishing Nets, Penalties for violations etc.
2	Goa Marine Fishing Regulation (1 <sup>st</sup> Amendment) Act, 1989	Definition of adjudicating officer
3	Goa Marine Fishing Regulation (2 <sup>nd</sup> Amendment) Act, 2019	Registration of Fishing Stake and licensing of Fishing Stake, Licensing of Fishing Vessel, Registration of Fishing Vessels and Fishing Nets, Penalties for violations etc.
4	Goa Marine Fishing Regulation Rules, 1982	Licensing of Fishing Vessels, Registration of Fishing Vessels, Fishing Nets, Penalties for violations etc.
5	Goa Marine Fishing Regulation (1 <sup>st</sup> Amendment) Rules, 2001	Licensing of Fishing Vessels and Registration of Fishing Vessels
6	Goa Marine Fishing Regulation (2 <sup>nd</sup> Amendment) Rules, 2003	Conditions of fishing license and form
7	Goa Marine Fishing Regulation (3 <sup>rd</sup> Amendment) Rules, 2012	Registration of Fishing Vessels
8	Goa Marine Fishing Regulation (4 <sup>th</sup> Amendment) Rules, 2014	Licensing of Fishing Vessels, Registration of Fishing Vessels

9	Goa Marine Fishing Regulation (5 <sup>th</sup> Amendment) Rules, 1982	Licensing of Fishing Vessels, Registration of Fishing Vessels
10	Goa Marine Fishing Regulation (6 <sup>th</sup> Amendment) Rules, 2021	Registration of Fishing Stake and licensing of Fishing Stake, Licensing of Fishing Vessels, Registration of Fishing Vessels and Fishing Nets, Penalties for violations etc.
11	The Goa Marine Fishing Regulation Rules, 2021 (7 <sup>th</sup> Amendment)	Amendment in the fees structure towards grants/renewal of fishing vessels license and net/gear license and revision in penalties imposed by Adjudicating officer for violating Goa Marine Fishing Regulation Act and its Rules there under.
12	Merchant Shipping Act, 1958	Registration of fishing vessels
13	Merchant Shipping (Registration of Indian Fishing Boats) Rules, 1988	Registration of fishing vessels
14	Merchant Shipping (Indian Fishing Boats Inspection) Rules, 1988	Inspection of fishing vessels
15	The Coastal Aquaculture Authority Act, 2005	Registration and renewal of Shrimp farm

## V. POLICY DECISION/ NEW SCHEMES

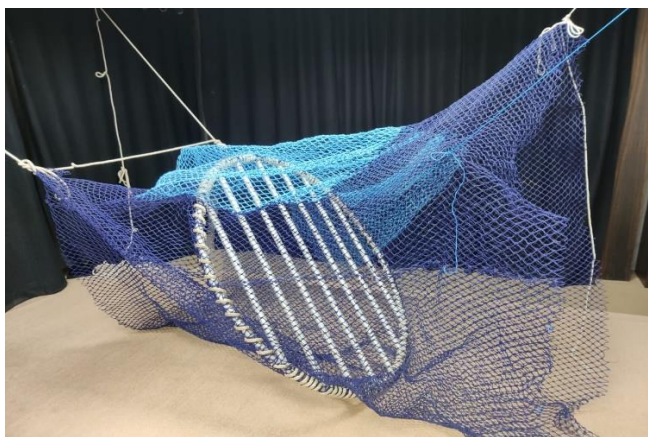
### *Regulation and Enforcement*

**I.** The State Government under Marine Fishing Regulation Act, 1980, issued order for implementation of Monsoon Fishing Ban for period of 61 days from 1<sup>st</sup> June, 2024 to 31<sup>st</sup> July, 2024 for territorial waters of Goa.



*Vessels anchored at Malim jetty during fishing ban period.*

**II.** For Conservation of Turtle in the sea, this Directorate have notified the “Turtle Excluder Device” to be mandatorily installed before the cod end of the Trawl net. The same has been published in the official gazette series I no. 41 dated: 06/01/2022.



*Turtle Excluder Device*

**III.** The Government has approved to grant 50 numbers of New Permission for construction of Resource Specific Deep Sea Fishing Vessel for operating in Deep Sea on Replacement against the pool of old fishing vessels registered under “Goa Marine Fishing Regulation Act 1980”. Financial assistance shall be provided to these vessels.

## VI. ACHIEVEMENTS

### A. Budget Provision

The Annual Budget of the Department for the year 2023-24 was Rs. 10443.59 lakhs out of which an amount of Rs. 4687.95 lakhs were utilized towards disbursement of subsidies, payment of salaries, office expenses, supplies and material, administrative charges, capital expenditure etc.

### B. Revenue Generated

The total revenue generated during the year 2023-24 from License Fees, Sale of fish, Rent, etc. was Rs. 612.58 lakhs.

### C. Financial Assistance Scheme

#### Physical & Financial Achievements for the Financial Year 2023-24 under State Schemes: -

Sr. No.	Name of the scheme	No. of Beneficiaries	Expenditure (Rs. in lakhs)
STATE SCHEMES			
1	Financial Assistance for construction of Wooden / FRP Canoe	76	47.03
2	Financial Assistance to Fishermen for purchase of Fisheries Requisites	190	55.48
3	Financial Assistance for Purchase of Fuel (Petrol) to the Fishermen for operation of Out Board Motors	1383	418.07
4	Financial Assistance to purchase/construct new fishing craft less than 26 feet for fishing in Inland waters of Goa	38	11.29
5	Financial Assistance for the purchase of Barrier Nets and its accessories	07	2.17
6	Financial Assistance for the purchase of Stake net and its accessories	02	0.65
7	Financial assistance for Lifejacket and Lifebuoys	42	--
8	Interest subsidy on loans for Agriculture and allied activities	70	3.32
9	Financial Assistance to Brackish water Aquaculture Farms	4	4.05
10	Supply of Insulated boxes to Fisher Persons	271	--
11	Financial Assistance to the Fish Vendors registered with the Directorate of Fisheries to purchase the Accessories required for fish vending.	05	0.55
	<b>TOTAL</b>	<b>2088</b>	<b>542.61</b>

<b>Achievement under Centrally Sponsored Schemes for the year 2023-24</b>			
<b>Sr. No.</b>	<b><i>Pradhan Mantri Matsya Sampada Yojana</i></b>	<b><i>Physical Achievement</i></b>	<b><i>Financial Achievement (Rs. In lakhs)</i></b>
1	Backyard Ornamental fish Rearing unit (Fresh water)	1	1.80
2	Bivalve Cultivation (Mussels)	8	3.80
3	Construction of Biofloc ponds for Freshwater areas including inputs of Rs. 4 lakhs/ha	3	19.60
4	Construction of Biofloc ponds for Saline areas including inputs of Rs. 8 lakhs/ha	1	14.40
5	Construction of Fish Kiosks	2	10.00
6	Construction of kiosks of aquarium/ornamental fish	3	18.00
7	Construction of New Ponds for Brackish Water Aquaculture	1	6.40
8	Inputs for Brackish Water Aquaculture	1	4.80
9	Installation of Cages in Reservoirs	12	105.00
10	Insulated Vehicles	15	164.00
11	Live Fish Vending Centres	1	8.00
12	Mini Feed Mills of Production Capacity of 2ton/Day	1	12.00
13	Modernization of Ice Plant	2	33.80
14	Motorcycle with Ice Box	10	3.75
15	Providing boats (replacement) and nets for traditional fishermen	44	63.81
16	Three wheeler with Ice Box including e-rickshaw for fish vending	10	15.60
17	Upgradation of existing fishing vessels for export	5	26.56
18	Refrigerated Vehicles	1	15.00
19	Communication and/or tracking devices for traditional & motorized vessels	5	0.77
	<b>Total</b>	<b>126</b>	<b>527.09</b>



## VII. INFRASTRUCTURE

### *a. Infrastructure works completed during 2023-24: -*

- Construction of internal road and compound Gate at Fisheries Complex, Malim.
- Repairs & maintenance work of Khariwada Jetty in Vasco.
- Erection of pipeline and hot mixing of road at Cutbona Jetty.
- Repairs of 1<sup>st</sup> floor of Administrative Office building, Fisheries Complex, Malim.
- Repairs to sub-office at Malim Jetty & toilet block at administrative office building at Fisheries Complex, Malim.



*Repair of 1<sup>st</sup> floor of administrative office building,  
Fisheries Complex Malim*



*New Compound gate at Fisheries Complex Malim*



*Hot Mixing of road at Cutbona Jetty*



*Road after Hot Mixing at Cutbona Jetty*

## VIII. TRAINING AND INTERACTION PROGRAMMES

### 1. Six Months Training Course:

Department conducts 06 months Certificate course for the fisher youth at Fishermen Training Centre, Ela Dauji, Old, Goa. The course is meant for training in Fishing Craft & Gear, Fundamentals of Navigation & Seamanship, Maintenance & Operation of Marine Diesel Engine, Weaving and Mending of Nets, Seafood Value Addition & Marketing, Aquaculture, Aquarium Fabrication & Swimming. The main objective of the scheme is to uplift the skill of enthusiastic youths who are eager to take fishery for self-employment and enabling them to profitably manage their respective business.

During the year 2023-24, the Department trained 18 nos. trainees under this course.



*Six months training programme at FTC, Ella, Old Goa.*



## 2. Short Term Training Programme:

Short Term Training Programmes are imparted to fisher youth, fish farmers, entrepreneurs etc. interested in gaining in-hand training as well as theoretical knowledge in Fisheries oriented aspects. The training is held at Fisheries Training Centre (FTC), Ela Dauji, Old-Goa. A total of 80 nos. participants attended the Short Term Training Programmes. The details of training programmes held for the year 2023-24 are as under:

Sr. No.	Short Term Training/Programmes	Venue	No. of Students
1	Sea Food Value Addition	Panchayat Hall, Rachol, Salcete- Goa.	20
2	Sea Food Value Addition	Panchayat Hall, Assonora – Goa.	20
3	Ornamental Fish Culture	Fishermen Training Centre	20
4	Biofloc and RAS	Fishermen Training Centre	20



*Short term training programme at various places in Goa*

### **3. Various trainings/meets/workshops attended by the Officers & Officials outside State.**

- Represented Department for the Goa session during Global Maritime India Summit 2023 on 19<sup>th</sup> October 2023 at BKC, Mumbai by the Director Shri. Deepesh Priolkar, Supdt. of Fisheries, Shri. Chandresh Haldankar, Supdt. of Fisheries, Smt. Zigyasa Murkar, Fisheries Officer, Miss. Gaitri Naik, Shri. Shubham Majik and Fisheries Surveyor, Smt. Shenia Coutinho.
- Represented Department during Niti- State Workshop Series “Harnessing Potential of Fisheries in Marine States on 5<sup>th</sup> January 2024 at CMFRI, Kochi by Supdt. of Fisheries, Shri. Chandresh Haldankar.
- Attended National conference on Kisan Credit Card for Fisheries and Animal Husbandry & Dairying at Yeshwantrao Chavan Center, Mumbai on 4<sup>th</sup> September 2023 by Supdt. of Fisheries, Shri. Chandresh Haldankar.
- Attended 3<sup>rd</sup> Anniversary programme of PMMSY at Indore, Madhya Pradesh on 15<sup>th</sup> September 2023 by the Director, Shri. Deepesh Priolkar, Dy. Director, Smt. Megha Kerkar, Supdt. of Fisheries, Shri. Chandresh Haldankar, Smt. Rohita Naik and A.S.F. Shri. Sanil Naik.
- Attended meeting on Review of Implementation of PMMSY scheme chaired by Secretary (Fisheries), GoI along with Director of Fisheries on 22<sup>nd</sup> December 2023 at New Delhi by Shri. Chandresh Haldankar.
- Attended National Conference on Promotion of Seaweed Cultivation on 27<sup>th</sup> January 2024 at Kori Creek, Gujarat by the Director, Dr. Shamila Monteiro, Supdt. of Fisheries, Shri. Chandresh Haldankar, Smt. Preetam Naik and A.S.F. Shri. Chandan Shirodkar.
- Attended meeting regarding preparation of Nationwide launch of Installation of Transponders to fishing vessels at Krishi Bhavan, New Delhi on 23<sup>rd</sup> February 2024 by Supdt. Of Fisheries, Shri. Chandresh Haldankar.
- Attended review meeting regarding National Surveillance Programme for Aquatic Animal Diseases (NASPAAD) Phase II at Ahmadabad on 22<sup>nd</sup> November 2023 by the Director of Fisheries, Shri. Deepesh Priolkar and Supdt. of Fisheries, Shri. Chandresh Haldankar.

- Attended 2<sup>nd</sup> summer meet on the occasion of National Fish Farmers Day on 12<sup>th</sup> July 2024 at Madhurai, Tamil Nadu by Deputy Director, Smt. Megha Kerkar, Supdt. of Fisheries, Shri. Chandresh Haldankar, A.S.F. Shri. Sanil Naik, Secretary of Fisheries, Shri. E. Vallavan and Director of Fisheries, Dr. Shamila Monteiro.
- Attended training programme on Oil Pollution Preparedness, response and co-operation (OPRC) International Maritime organization (IMO) level-1, conducted by CGPRT (West), Mumbai from 01 to 05 July 2024 by A.S.F. Shri. Pradeep Gawas and Fisheries Officer, Shri. Saby Moraes.
- Attended field trials and the summing up meeting from 22/02/24 to 26/02/24 at CIFT, Kochi Campus by the Dy. Director, Smt. Megha Kerkar, Supdt. of Fisheries, Smt. Zigyasa Murkar and Net Mending Instructor, Shri. Rahul Chari.
- Attended workshop on stakeholder consultation on National Plan of Action for Conservation and Management of Sharks in India on 19/02/2024 at Kochi by Supdt. of Fisheries, Smt. Preetam Naik and Smt. Varsha Naik Dessai.
- Attended Stakeholders workshop on Development & Implementation of Turtle Excluder Device (TED) in India on 23<sup>rd</sup> January 2024 at Navi Mumbai by Deputy Director, Smt. Megha Kerkar and Supdt. of Fisheries, Smt. Sunita Pauskar.
- Attended workshop on Management plans for the Marine Fisheries of Maharashtra and Goa on 21<sup>st</sup> February 2024 at Ratnagiri by Supdt. of Fisheries, Smt. Sunita Pauskar.

## IX. AQUACULTURE

### 1. FRESH WATER FISH SEED HATCHERY KERI, SATTARI, GOA.

The Fresh Water Fish Seed Hatchery produced quality fish seeds of Indian Major Carp and common Carp during the year 2023-24. A total of 8.4 lakhs fish seed were procured from outside the state and 1 lakh fish seed was produced within the state and supplied to the fish farmers at the reasonable rates. The revenue generated from the sale of fish seed during the year 2023-24 is Rs.2.04 lakhs.

Every year, the Department Stocks Indian Major Carp i.e. Rohu, Catla and Mrigal along with other carps such as common carp, grass carp and silver carp in the reservoir with total quantity of 05 lakhs fish fingerling in each reservoir for the year 2023-24.



*Packing and distribution of fish seeds at Fish Seed hatchery, Keri, Sattari - Goa*

### 2. River Cages

The Department provides Financial assistance under PMMSY for installation of cages in River. Through this scheme, the Department has assisted 12 interested fish farmers/ entrepreneurs to setup cages for fish culture in Inland Rivers. 65 River Cages have been installed at various Inland Rivers, this has enabled utilization of open water bodies for fish production and livelihood generation.



*River cages installed at various places in Goa*



### 3. Coastal Aquaculture Authority

The Department has recommended to Coastal Aquaculture Authority under CAA Act registration of 3 nos. of new shrimp farms and renewal of 10 nos. old farms for the year 2023-24.



*New Shrimp Farm at Thivim, Bardez - Goa*

### 4. Mussel Culture

The Department provides Financial assistance under PMMSY for setting up of Raft culture and Rack/ for mussel culture. The Department in the year 2023-24 has assisted 09 fish farmers to set up 40 units of Raft/ Rack for mussel culture.



*Mussel Culture at various places in Goa*

## 5. RAS/ Biofloc

The Department provides financial assistance under PMMSY for setting up of Biofloc in tanks and ponds. During 2023 the Department has assisted 07 interested fish farmers/ entrepreneurs to setup Biofloc unit and these units of Biofloc in brackish water and fresh water were installed at various places in Goa.



*RAS/Biofloc at various places in Goa*



## X. PEOPLE AND EVENT AROUND US

### *AQUA GOA MEGA FISH FESTIVAL 2023-24.*

The Department organized the 7<sup>th</sup> edition of 3- day “*Aqua Goa Mega Fish Festival*” from 2<sup>nd</sup> to 4<sup>th</sup> February, 2024 at SAG Ground, Campal, Panaji to promote Goa’s rich fish biodiversity and fish resources. The Aquarium Fish Gallery and live fish pond especially showcased rich, varied and amazing variety of fishes found in different kind of habitats such as marine, freshwater as well as the local fish found in the waters of Goa.

Besides the festival served as a platform for one of its kind to promote & boost the fisheries sector in Goa, especially among the youth through seminars, Workshop & B2B interactions. The programmes were especially designed to showcase latest techniques/technologies available which immensely benefitted fishermen stakeholders and general public which provided wide insight to explore the potential opportunities for enhancing fisheries production.

Additionally, the festival had competitions and contests for children & adults. It also showcased the rich Goan culture through variety of Entertainment programs including Goan folk dances & food court serving authentic Goan delicacies thus engaging general audience. The Festival evoked a very good response with over 50,000 people attending the event. They included fish entrepreneurs, general public and particularly the school going children. Fish farmers and students attended the panel discussions wherein experts were from scientific community who dwelled on the latest development in the fisheries sector, as well as fishermen who have created a niche for themselves in the fishing industry. The festival provided the best platform for all the stakeholders to get quality inputs under one roof.



*Aqua Goa Fish Festival Van flagged off to create awareness about the festival*

## ***WORLD FISHERIES DAY***

On the occasion of World Fisheries Day, the Department of Fisheries, Ministry of Fisheries, Animal Husbandry, Government of India had organized its first edition of Global Fisheries Conference 2023 (GFC-2023) from 21<sup>st</sup> - 22<sup>nd</sup> November 2023 at Ahmedabad, Gujarat.

The GFC-2023 was aimed to highlight the importance of sustainable and responsible harnessing and management of marine and inland fisheries resources and to reinforce solidarity amongst the fisheries, fish farmers, and other stakeholders across the fisheries' value chain.

The Goa Fisheries Pavilion was erected to showcase the achievements made by the State in this Sector through various Central and State Government Schemes and Programs in terms of technologies, latest products etc. Hon'ble Minister for Fisheries along with the Directorate of Fisheries and other officials participated in the GFC-2023.



*World Fisheries Day celebration at Ahmedabad, Gujarat.*



## ***FISHERIES SUMMER MEET 2024***

The 2<sup>nd</sup> Fisheries Summer Meet 2024 took place on the 12<sup>th</sup> of July 2024 at Madurai, Tamil Nadu on the occasion of National Fish Farmer's Day. This event was aimed to review the progress of various programs and schemes of the Department of Fisheries, Government of India with maximum aim to focus on Pradhan Mantri Matsya Sampada Yojana (PMMSY).

The program was attended by Shri. E. Vallavan, IAS, Secretary for Fisheries, Smt. Shamila Monteiro, Director of Fisheries, Smt. Megha Kerkar, Deputy Director of Fisheries, Shri. Chandresh Haldankar, Supdt. of Fisheries and Shri. Sanil Naik, Asstt. Supdt. of Fisheries. The Department participated in review, and the progress of various schemes and projects under PMMSY for discussions and interaction on various aspects of fisheries/ policies/programs/ schemes for better and effective implementation at the field level.



*Fisheries Summer Meet 2024 at Madurai, Tamil Nadu*

## ***SAGAR KAVACH***

From 26- 27<sup>th</sup> March 2024, the coastal region of Goa became the stage for a significant event known as "Sagar Kavach," a meticulously orchestrated coastal security exercise. This exercise brought together a range of stakeholders responsible for ensuring the safety and security of the state's coastal areas. Among the key participants were the Indian Navy, the Indian Coast Guard, the Coastal Police, Captain of Ports and Goa Police Department forming a formidable alliance to bolster coastal security.

The Department of Fisheries is one of the important stakeholders with respect to coastal security since all fisheries related activities are constantly monitored. "Sagar Kavach" aimed to simulate various scenarios and challenges that could potentially threaten the security and integrity of Goa's coastal zones. By creating these realistic scenarios, the exercise provided an invaluable opportunity for the participating agencies to evaluate their readiness, coordination, and response mechanisms.



*Sagar Kavach exercise*

## Installation of Transponders

Directorate of Fisheries, Ministry of Fisheries, Animal Husbandry and dairying, Government of India, has proposed to install 1,00,000 nos. of ISRO based transponders on the fishing vessels across India.

The system provides real-time position of boats, weather alerts, PFZ advisories, diesel management module, token management module, crew/and catch module. It will also provide for 2-way communication via text message, from control room/monitoring station to boats and from boats to control room/monitoring station.

In the State of Goa, 40 nos. of transponders have been successfully set up on the fishing vessels.



*Transponder installed on fishing vessel*



## Community Interaction

Every year, community interaction programs are organized with the primary aim to raise awareness/programmes among fishermen about coastal security measures and the essential precautions they should adhere to before embarking on their fishing expeditions. This initiative plays a vital role in ensuring the safety of the fishing community.

During these interactive sessions, fishermen are actively engaged to familiarize themselves with the coastal security protocols. They are provided with valuable insights on how to enhance their own safety and security while navigating into the waters. Moreover, these gatherings serve as a platform for introducing the fishermen to the array of schemes offered by the Fisheries Department, designed to support and uplift their livelihoods.

Additionally, these sessions foster an understanding of responsible fishing practices and the significance of conserving fish stocks. The knowledge shared emphasizes the importance of sustainable fishing techniques, promoting a balance between fishing activities and the long-term health of marine ecosystems. By imparting this valuable information, the sessions encourage the fishing community to engage in practices that ensure the continued availability of fish resources for future generations.

For the year 2024, the Department Officials along with Coast Guard and an NGO Tree Foundation conducted 13 nos. of Community Interaction Programs in the month of June and July to sensitize the fishermen with an emphasis on strict adherence on fishing ban issued by this Department, waste segregation and environmental protection in order to conserve the marine ecosystem and also save and conserve Olive Ridley turtles along the Coast.



*Community Interaction Programme at various places in Goa*

## XI. STATISTICS

- No. of Vessels (Trawler/Purse – Seiners) Operated at Major Landing Centres for the year 2023-24.**

<b>Sr. No</b>	<b>Mechanised fishing vessel</b>	<b>Total Nos.</b>
1	Purse Seiner	<b>357</b>
2	Trawler cum Purse-seiner	<b>59</b>
3	Trawlers	<b>429</b>
	<b>Total</b>	<b>845</b>

- Total Motorized and Non-Motorized Canoe**

<b>Sr. No.</b>	<b>Block-wise</b>	<b>Non- Motorized Canoe</b>	<b>Motorized Canoe</b>	<b>No. of Fishing Canoe registered under MS Act</b>
1	Bardez	87	402	489
2	Tiswadi	56	343	399
3	Pernem	12	175	187
4	Vasco	53	493	546
5	Salcete	34	205	239
6	Canacona	65	317	382
7	Ponda	3	4	7
	<b>Total</b>	<b>310</b>	<b>1939</b>	<b>2249</b>

- Fishing Licence:**

The Department issues fishing license to the fishing vessels which is mandatory documents to be kept on-board. The total number of new fishing license issued to the trawlers/purse-seiners and fishing canoes for the year 2023-24 is as follows:

<b>Sr. No.</b>	<b>Type of Vessel</b>	<b>Licences issued for the year 2023-24</b>
1	Canoe (motorized and non-motorized)	1598
2	Mechanized fishing vessel	508
	<b>Total</b>	<b>2106</b>

• **Block wise total no. of canoes registered for the year 2023-24**

Tiswadi		
1	Panaji	1
2	Cacra	1
3	Bambolim	1
4	Chimbel	1
5	Dona Paula	4
6	Ribandar	1
7	Siridao	2
8	Taleigao	1
Total		12

Salcete		
1	Benaulim	5
2	Colva	5
3	Varca	5
4	Velim	2
Total		17

Pernem		
1	Arambol	2
2	Querim	1
3	Morjim	4
Total		7

Canacona		
1	Cola	1
2	Galgibag	1
3	Kindlebag	1
4	Palolem	1
5	Sadolxem	2
6	Polem	1
7	Mangan	1
Total		8

Bardez		
1	Anjuna	1
2	Betim	1
3	Calangute	12
4	Candolim	4
5	Nerul	7
6	Reis Magos	1
7	Siolim	1
Total		27

Mormugao		
1	Bogmallo	3
2	Cortalim	1
3	Katem Baina	4
4	Velsao	9
5	Desterro	1
6	Vaddem	2
7	Non Mon	3
8	Pixem Dongri	2
9	Vollant	1
Total		26

Ponda		
1	Madkai	2



- **Sport Fishing Vessel:**

Sport fishing is a major draw for tourist in any State. The Department has 19 Nos. of Sport fishing vessels registered up to 2023-24.

- **Water Sports**

The Department issues no objection certificate to the Water Sports vessels operating at different beaches of Goa. The taluka-wise NOC’s granted for the year 2023-24 are as follows:

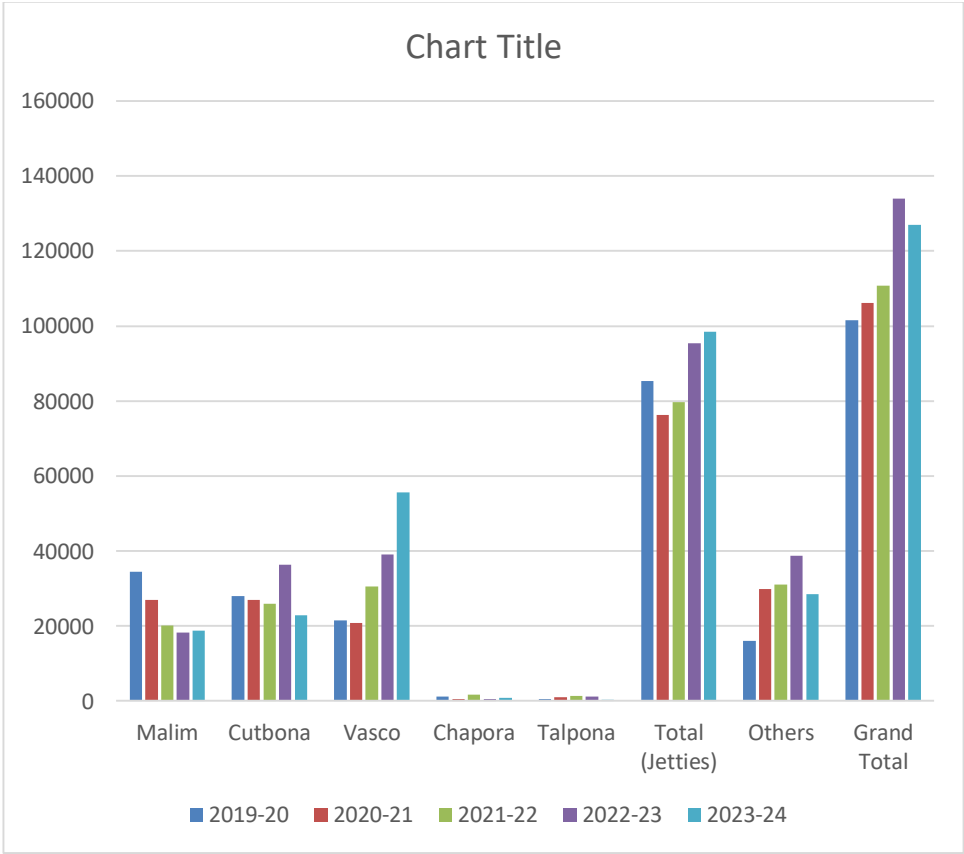
Sr. No.	Taluka	No. of Water Sports Vessels
North Goa		
1	Bardez	302
2	Pernem	1
3	Tiswadi	47
	Total	350
South Goa		
1	Canacona	67
2	Salcete	121
3	Vasco	18
	Total	206
	Inland waters	43
	Other State Registry	1
	Total	600

## TALUKA WISE FISHING GEARS REGISTERED (2023-24)

Sl. No.	Type of Gear	Tiswadi	Bardez	Ponda	Pernem	Canacona	Mormugao	Salcete	Total
1	Sea gill net	22	27	2	13	16	20	50	<b>150</b>
2	Sea cast net	--	--	--	--	--	--	3	<b>3</b>
3	River gill net	7	7	3	2	6	--	7	<b>32</b>
4	River cast net	--	--	--	--	--	--	--	--
5	Rampon net	1	1	--	--	--	--	2	<b>4</b>
6	Drag net	--	--	--	--	--	--	--	--
7	Purse-seine net	--	11	--	--	--	5	21	<b>37</b>
8	Trawl net	--	2	--	--	--	2	--	<b>4</b>
9	Barrier (Futauni)	4	--	2	--	--	--	1	<b>7</b>
10	Sluice gate	--	--	--	--	--	--	--	--
11	Stake net	2	--	--	--	--	--	--	<b>2</b>
12	Kadsari net	--	--	--	--	--	--	--	--
13	Other net	--	--	--	--	--	--	--	--
14	Ormol net	--	--	--	--	--	--	--	--
15	Singel net	--	--	--	--	--	--	--	--
16	Hook & line	--	1	--	--	--	--	2	<b>3</b>
17	Net not described above	--	--	--	--	--	2	1	<b>3</b>
	<b>Total</b>	<b>36</b>	<b>49</b>	<b>7</b>	<b>15</b>	<b>22</b>	<b>29</b>	<b>87</b>	<b>245</b>

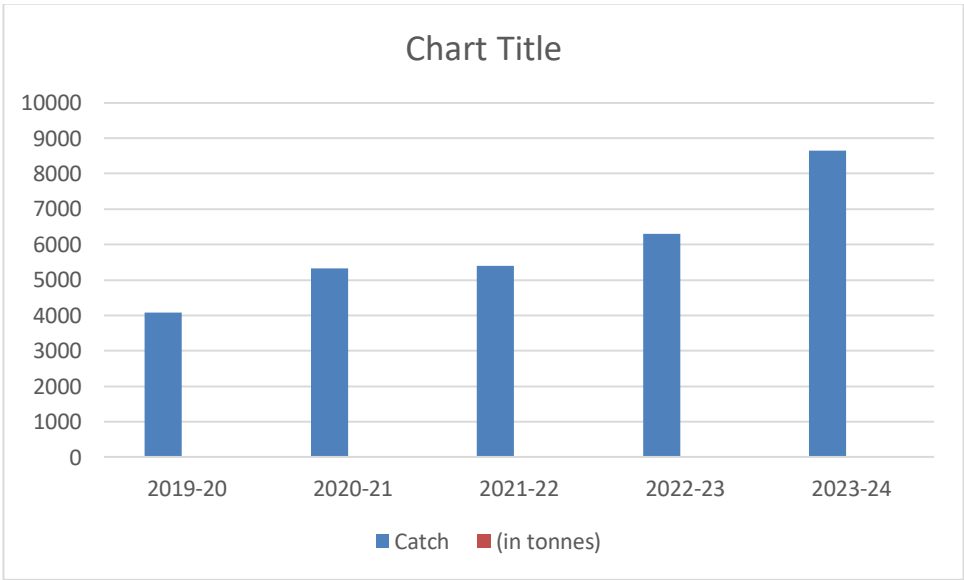
Major Jetty Wise Marine Fish Catch from 2019-20 to 2023-24 (in tonnes)

Year	Malim	Cutbona	Vasco	Chapora	Talpona	Total (Jetties)	Others	Grand Total (7+8)
1	2	3	4	5	6	7	8	9
2019-20	34376	27951	21471	1163	436	85397	16069	101466
2020-21	26915	27022	20830	511	1073	76351	29808	106159
2021-22	20160	25861	30557	1701	1402	79681	31043	110724
2022-23	18314	36300	39051	530	1129	95324	38646	133970
2023-24	18766	22806	55696	806	364	98438	28552	126990



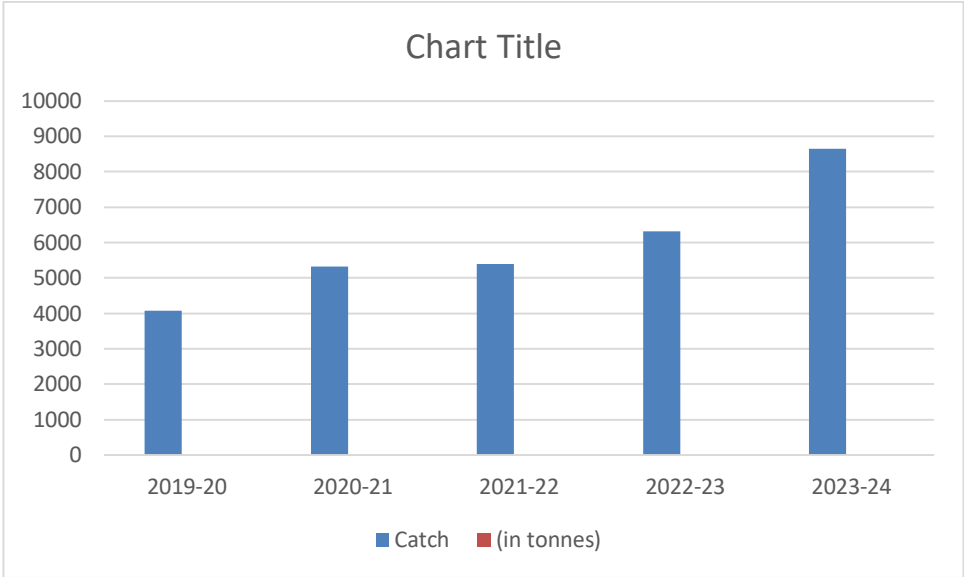
**Marine Fish Production of Goa for the period from 2019-20 to 2023-24**  
**(in tonnes)**

Year	2019-20	2020-21	2021-22	2022-23	2023-24
Catch (in tonnes)	101466	106159	110724	133970	126990



**Inland Fish Production of Goa for the period from 2019-20 to 2023-24**  
**(in tonnes)**

Year	2019-20	2020-21	2021-22	2022-23	2023-24
Catch (in tonnes)	4081	5325	5402	6308	8651



**Financial Year-wise Marine fish production (Species wise) for the last five years**  
**(in tonnes)**

<b>Sr. No.</b>	<b>Species</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
1	Mackerals (Bangdo)	28519	28703	26188	55843	50213
2	Sardines (Tarlo)	12647	5218	13124	23719	18022
3	Cat Fish (Sangot)	1205	424	209	148	178
4	Shark fish (Mori)	716	891	407	246	442
5	Seer Fish (Wiswan)	2860	4031	2927	1796	1594
6	Prawns (Sungtam)	6262	5470	4807	6810	6549
7	Pomprets (Paplet)	1353	1522	1823	449	594
8	Cuttle Fish (Manki)	3757	1862	2748	1607	4013
9	Tuna (Bokdo)	8478	9915	15490	11212	15138
10	Ribbon Fish (Balle)	1669	2704	3251	2791	6308
11	Reef Cod (Gobro)	547	271	624	288	1560
12	Kowala kowal (Velli)	496	420	319	518	149
13	Golden Anchovy (Kapsale)	75	71	63	15	236
14	Silver Belly (Kampi)	6385	7280	5071	2223	943
15	Soles (Lepo)	1166	1741	1982	1400	1384
16	Silver Bar (Karli)	271	433	496	80	220
17	Crabs (Kurlio)	1003	2168	1572	1250	1620
18	Sciaenoids (Dodiaro)	2870	2773	2582	2196	1627
19	Butter Fish (Soundale)	573	881	758	716	671
20	Others	20614	29381	26283	20663	15529
	<b>Total</b>	<b>101466</b>	<b>106159</b>	<b>110724</b>	<b>133970</b>	<b>126990</b>

**Financial year-wise Inland fish production (Species wise) for the last five years**  
**(in tonnes)**

<b>Sr. No.</b>	<b>Name of the Fish</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
1	Prawns					
<i>a</i>	<i>Big</i>	109	185	134	241	477
<i>b</i>	<i>Medium</i>	54	175	180	302	506
<i>c</i>	<i>Small</i>	281	415	648	394	401
2	Lady Fish	61	136	193	209	153
3	Mulletts	461	598	560	609	797
4	Gerres	41	95	80	92	140
5	Lutianus	75	123	106	241	281
6	Cat Fish	399	566	408	526	831
7	Anchovy	25	51	42	107	57
8	Pearl Spot	328	446	420	430	842
9	Betki	61	128	102	230	244
10	Milk Fish	2	3	5	30	6
11	Megalops	9	25	24	67	54
12	Scatophagus	36	87	57	99	214
13	Ambasis	262	364	224	430	856
14	Crabs	382	567	410	548	791
15	Black Water Clamps	133	198	233	72	25
16	False Clamps	227	200	311	566	866
17	Oysters	282	169	103	186	48
18	Mussel	90	83	72	91	56
19	Lepo	--	13	-	--	1
20	Indian Salmon	--	--	-	--	--
21	Balle Reddish	5	--	-	--	--
22	Sciaenoids	--	--	-	--	--
23	Others(Palu)	--	--	-	--	--
24	Others(Vagolem)	--	--	-	--	--
25	Others (Leather Jackets)	--	--	-	-	--
26	Others	41	36	8	51	39
27	Miscellaneous	717	662	1082	787	966
	<b>Total</b>	<b>4081</b>	<b>5325</b>	<b>5402</b>	<b>6308</b>	<b>8651</b>

## **Export of Marine Fish and Fishery Products for the last 5 years**

Quantity in M.tonnes

Value in Rs. lakhs

<b>Sr. No.</b>	<b>Item</b>		<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
1	Fr. Shrimps	Q V	5943 24225	4756 21357	3578 18826	3959 19015	5035 21353
2	Fr. Cuttle Fish	Q V	1976 5245	1123 2340	1173 3511	59 192	600 2122
3	Fr. Squids	Q V	4439 9804	2522 7239	2805 10633	4594 18399	7852 20394
4	Fr. Fresh Fish	Q V	7000 10394	7909 11924	28104 39412	53460 60949	40487 47231
5	Fr. Tuna	Q V	-	-	-	-	-
6	Ribbon Fish	Q V	-	-	-	-	-
7	Indian Mackerels	Q V	-	-	-	-	-
8	Reef Cod	Q V	-	-	-	-	-
9	Fr. Seer Fish	Q V	-	-	-	-	-
10	Other fishes	Q V	2139 2397	239 665	398 683	1261 2206	1194 2320
11	Dried Fishes	Q V	-	-	-	-	-
	<b>Total</b>	<b>Q V</b>	<b>21498 52065</b>	<b>16549 43525</b>	<b>36058 73065</b>	<b>63333 100761</b>	<b>55167 93420</b>

**Source: Marine Product Export Development Authority(MPEDA), Mangalore, Karnataka.**



## XII. ARTICLES BY DEPARTMENT PERSONNEL

### Milkfish - Lesser known, Economically Important Aquaculture Species



Smt. Roshini Naik  
Assistant Superintendent of  
Fisheries

#### Introduction

Scientific name: *Chanos chanos*

Common name: Milkfish

Vernacular name: "Gholshi" घोळशी

The milkfish is one of the best suited fish species for culture in brackish water ponds. Considered as one of the cheapest source of animal protein, it has a bright silver/ white body; hence its name.

It is a desirable culture candidate in brackish water ponds owing to its white color, high market value, hardiness, rapid growth rate, wide tolerance to salinity and temperature

Freedom from diseases and vegetative feeding habit means large amounts of milkfish can be cultured in restricted area. It is non-cannibalistic in nature and compatible with other culture species.



#### Site selection for grow out culture.

- Sites recommended are those existing brackish water fish ponds having constant salinity and temperature all year round.
- Soil type - sandy clay, Loam or silty
- Grow out ponds may be square or rectangular in shape with independent water supply/ drain gate.
- Pond bottom should be flat but inclined towards gate for convenient water management & easy harvesting.
- Minimum water depth 0.8-1m
- Salinity range : 10-30 ppt
- Water temperature : 20-30°C

- Water pH : 7.5-8.5
- Dissolved oxygen (DO): 4.0-5.0ppm.
- Pond bottom should be with rich planktonic plant growth.

### **Pond Preparation**

Involves complete draining and drying of pond bottom, eradication of unwanted species, liming and proliferation of planktonic life.

Milkfish thrive on natural food such as Lab-lab and planktonic growth.

Application of organic manure at 2 tonnes/hectare, flooding water to depth, barely covering the pond bottom and broadcasting urea at 15kg/ha 2-3 days later, is necessary to speed up the planktonic bloom.

Water depth should be increased gradually up to stocking depth of 0.8-1.0m over period of 15-30 days.

Fine mesh screen should be installed at water gates to prevent entry of unwanted species and exit of culture organism.



*Pond preparation*

### **Stocking & grow out**

- Stocking should be done during the cooler part of the day
- Slowly release fingerlings to the pond at a density of 40-50 thousand/ha.
- Periodically apply inorganic fertilizer at 50kg/ha to maintain plankton growth.
- Provide supplemental formulated floating or semi-sinking feed @5% . ABW/day
- Water management can be either tidal or with aid of water pump.



*Size at Stocking*

## Harvesting

Culture period should be 8-10 month to attain marketable size of from 750-980gms. Partial harvesting of uniformly grown fish by using bigger mesh gillnets/drag net is desired to harvest fish with average body weight of 250g or larger.



*Partial harvesting by drag netting*

Total harvest i.e. complete/whole harvest may be done by draining the pond and collecting the fishes by cast netting and hand picking. The harvest size at this stage may be more than 250g.



*Total harvest and handpicking*

Forced harvest is emergency harvesting of culture fish irrespective of growth size or stage. It is carried out in extreme cases of oxygen depletion due to algal blooms, pollution etc.







## References:

1. A Guide to Milkfish (*Chanos chanos*) Aquaculture, ICAR
2. [www.agritech.tnau.ac.in](http://www.agritech.tnau.ac.in)
3. [www.fao.org](http://www.fao.org)
4. [www.agrifarming.in](http://www.agrifarming.in)
5. Picture credits- Milfish culture at Estuarine Fish Farm, Ela Dhauji-Old Goa

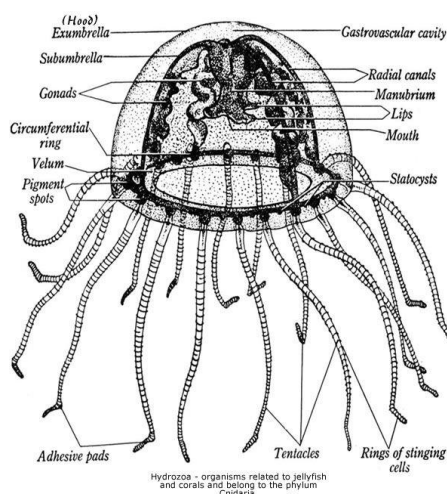
## Jelly Fish: An untapped economic potential or a stinging nuisance



Dr. Christabelle Fernandes  
Fisheries officer

Jellyfish, a marine invertebrate belonging to the class Scyphozoa under phylum Cnidaria constitutes an important group of marine species. These primitive species have a cosmopolitan distribution in coastal and open ocean pelagic waters (Richardson et al. 2009). It is believed that there are around 2000 species of jellyfish and a total of 842 species of Cnidaria are recorded from Indian waters (Chakrapany 1984; Saravanan 2018; Nisa et al. 2021).

The anatomical structure of a jellyfish is simple. An adult jellyfish has a bell-shaped body, enclosing a jelly like matter encompassing internal structures, with the tentacles (manubrium) hanging from the mass. Many of these species have tentacles with stinging cells known as nematocysts that are remarkable cellular weapons used for both predation and defence. These gelatinous organisms are responsible for forming large aggregations or blooms or swarming which can be divided into 'true' or demographic blooms and 'apparent' or non-demographic blooms. (Purcell 2005; Boero et al. 2008. Graham et al. 2001).



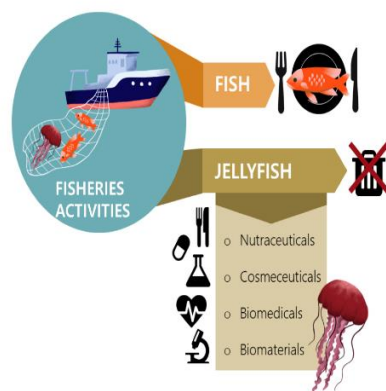
Jellyfish aggregations in coastal regions include swarming events and beach strandings that often result in water quality deterioration, trophic disturbance, and socio-economic losses (Richardson et al. 2009). Jellyfish are known to clog the water intake of the cooling system of nuclear power plants, seabed mining facilities, power and desalination plants, ships, aquaria, and naval facilities, causing a temporary shutdown of the systems (Purcell et al. 2007). They adversely affect the fish population of an area by predation (on fish larvae) and competition (by preying on zooplankton). In addition, jellyfish outbreaks exert significant impacts on tourism, recreational activities, and human health through toxic stinging from their nematocysts (Burnett 2001; Macrokanis et al. 2004). As a component of the pelagic environment, jellyfish are associated with decline in the capture fisheries. They are often caught into fishing nets and gear during regular fisheries activities often clogging the nets and causing severe economic losses. Jellyfish

also wreak havoc in aquaculture by fouling the cages, causing fish death by toxic stinging, and creating metabolic stress (Purcell et al. 2013).

Globally, during recent times, the episodes of jellyfish aggregations have increased substantially. The swarming can be triggered by natural (winds, tidal fronts, surface currents, water temperature, salinity, turbidity, dissolved oxygen) and anthropogenic (water quality deterioration, overfishing, translocation, habitat modification) factors (Richardson et al. 2009) with food availability, eutrophication and climate change being regarded as an important ecological driver of jellyfish aggregation (Goldstein & Steiner, 2020). Their ability to survive under adverse environmental conditions allows them to bloom, exponentially during favorable conditions. It is perceived that jellyfish species shows synanthropy and are favoured by anthropogenic activities (Richardson et al. 2009). Moreover, during the last four decades, the Indian Coast has witnessed significant increase in jellyfish aggregations, swarms, and beach stranding (Baliarsingh et al. 2020 and references therein, Siddiquie et. al. 2022). Literature reports suggest that oceanographic conditions during the summer monsoon, fall, and early winter (July–December) promote jellyfish aggregations and swarming in Indian waters. Further, Jellyfish aggregations have been increasingly reported along the beaches of Goa, affecting both tourists and local fishermen.

Irrespective of their adverse impacts, jelly fish offer several benefits that contribute to the health of marine ecosystems as well as to humans. Jellyfish perform several crucial ecological functions, like facilitating the mixing of oceans (Leshansky & Pismen 2010), acting as a source of food for several fish species, sea birds, turtles, and parasitic amphipods (Pauly et al. 2008), playing a significant role in the Carbon sequestration by consuming plankton. During regression of swarms, the dead jellyfish that sink to the sea bed support several benthic life forms and contribute to benthic nutrient regeneration. Further, the ‘jelly fish falls’ are estimated to deposit 4x the amount of carbon input to the sea, annually (Sweetman & Chapman 2011). Microhabitats are created by providing shelter and protection to some species of juvenile fish. Further, many of the researchers have been actively monitoring the population of jelly fish as a substantial increase in number may potentially indicate changes in marine environments.

The economic potential in human context are varied. Jellyfish have been actively fished in some areas of the world and processed for food consumption and collagen (Brotz et al 2017, Elliot et al 2017). It is a prime delicacy in many parts of the world. The presence of collagen and mineral content along with low calorific value make jellyfish a candidate species for developing nutraceuticals, functional food and nutricosmetics and biomedical products (D’Ambra & Merquoil, 2022). Jellyfish are also being researched for their potential in developing new medicines with emphasis on the jellyfish



venoms, molecular constituents and their pharmacological potential therapeutic strategies.

During the changing environmental conditions, jelly fish aggregations are here to stay. In many countries, the fishermen have taken an adaptive approach to harvest jellyfishes due to heavy demand from China and South East Asian markets, as Jellyfish has been an important fishery commodity in this region. Currently, the jellyfish fisheries are spread over many Indian maritime states, with varying species composition caught from each location. It has been positively utilized by Indian fishermen who have now started harvesting edible jellyfish (up to 800 tonnes per season) due to huge demands from China and Southeast Asian markets (CMFRI 2010). Edible jellyfish like *Crambionella annandalei*, *Catostylus mosaicus*, *Cephea cephea*, *C. orsini*, *Rhopilema esculentum*, and *Stomolophus meleagris* are being harvested and exported to Southeast Asian countries and China to earn foreign exchange (Behera et al. 2020; Ramesh et al. 2021; Sreeram et al. 2021). On another note, harvest of edible jellyfishes for human consumption will also be helpful for strategic management of jellyfish aggregations in Indian coastal waters

Thus, the simple jelly fish can drive economic profit or just be stinging nuisance depending on the perspective, its related in.

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## Microplastics: The ubiquitous emerging contaminant in the marine ecosystem



Smt. Akshata P. Naik  
Fisheries Officer

### Introduction

Plastic pollution is found globally from deserts to farms, from mountaintops to the deep ocean, in tropical landfills and in Arctic snow. Over the last 50 years, the global production of synthetic plastics, which are carbon-based polymers such as polypropylene, polyethylene, polyvinyl chloride, polystyrene, nylon, and polycarbonate, has continuously increased and it is expected to double in the next 20 years. Accumulation of plastic in the environment occurs when the rate at which plastic pollution enters an area exceeds the rate of natural removal processes or clean-up actions. Plastic is persistent in the environment, with rates of natural removal on the scale of decades to centuries. Clean-up actions are not feasible in many areas of the global environment where plastic accumulates, particularly in remote locations. Plastic therefore fits the profile of a “poorly reversible pollutant,” both because emissions cannot be curtailed and because it resides in the environment for a long time. Aquatic species such as fishes, molluscs and crustaceans that are exposed to these pollutants exhibit a plethora of complications with regard to their physiology, biochemistry, genetics, behavior as well as population.



The consistent increase in the production and usage of plastics along with the increasing world population and a very limited plastic waste management cause's serious societal and health concern. Microplastics (MPs), plastic particles of <5 mm size, have been recognized as an emerging threat to the marine environment, due to their persistence, ubiquity and toxicity. They accumulate at relatively high rates in several ecological systems. Depending on chemical composition and usage, MPs can be classified as primary and secondary MPs. Primary MPs are particles that are produced intentionally at small

sizes for various applications and can reach coastal and marine habitats by release of intermediate plastic feedstock, i.e. pellets or micro-beads from personal care products. Secondary MPs are the tiny fragments, which are formed after breakdown of larger plastic items that undergo weathering, mainly photo-degradation by ultraviolet radiation from sun light, and cleaving bonds through oxidation processes. They are potentially released from plastic packaging material, agricultural plastic film and are also generated from tire wear and tear and marine paints.



The coastal zone acts as a hot spot for MP pollution, as the majority of the world's population lives near the coasts and apparently almost all MPs are terrestrially derived, transported by inland freshwaters, entering estuaries and ultimately the open sea. Discharges from urban, industrial and agricultural areas too directly drain into estuaries and lakes, while less-efficient sewage treatment plants (STPs) and direct domestic runoff can be other point sources. MPs can also absorb pollutants, *viz.* persistent organic pollutants (POPs), hydrophobic pollutants, heavy metals and also pathogenic microbes. The presence of MPs and larger pieces of plastics have been recorded in almost every type of marine habitat. Many marine invertebrates tend to ingest MPs that have a similar size to plankton. Furthermore, MPs are ultimately deposited in sediment, wherein the benthic community is consuming them. Toxins leaching from MPs such as phthalates, polychlorinated biphenyls (PCBs) and other persistent organic pollutants (POPs), and metals pose an additional threat to the health of the organisms. The hazardous chemicals that percolate into the gastrointestinal tract can eventually be transported to the edible tissue. Ingestion of MPs in higher organisms/humans can cause alteration in chromosomes, which can lead to infertility, obesity and cancer. Furthermore, studies have also discussed the effects of nanoplastics on human body such as cardiopulmonary responses, alterations of endogenous metabolites, genotoxicity, inflammatory responses, oxidative stress, and effects on nutrient absorption, gut microflora, and reproduction.

## Bioplastics

According to the European Bioplastics Organization (EBO), a material could be defined as a bioplastic if it is either bio-based, biodegradable, or features both properties. The term bio-based refers to materials or products that are completely or partly derived from renewable resources (biomass); thus the petrochemical resin typical of common plastics is replaced by vegetable or animal polymers and the compounds like glass or carbon fiber or talc are replaced by natural fibers (wood fibers, hemp, flax, sisal, jute). Nowadays, although with different percentages, all bioplastics are used in a wide range of sectors: from packaging, catering products, consumer electronics, automotive, agriculture/horticulture, and toys to textile fields. Many bioplastic products now exist to replace single-use items like food containers. These can keep thousands of pounds of plastic trash from entering landfills and oceans. And they can help cut down on greenhouse gas emissions. However, Bioplastic is not a solution to pollution but can be used to reduce the problem of plastic waste that is suffocating the planet and contaminating the environment

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### XIII. SUCCESS STORIES

#### 1. Installation of cages in River

**By Shri. Clemente Fernandes**

**Location: Sonvoxem Ulando, Curtorim, Salcete, Goa**

The cage culture technology is sustainable and viable farming of fish species such as seabass, pearl spot, milkfish etc. The technology can be adopted by the farmers to increase the fish production in the State by utilizing available water resources, increases the per capita fish protein availability as well as provide employment and increases the income and livelihood security of the locals.

Shri. Clemente Fernandes installed 04 River Cages under Pradhan Mantri Matsya Sampada Yojana Scheme (PMMSY). The cages are situated at Soncoxem Ulando Curtorim Village in Salcete Taluka. The Seabass species were cultured in these cages. The target production is 2.5 tons per crop with average size of crop of 1 kg to 1.5 kg. The harvested crop is supplied to the local market.

The Department of Fisheries, Government of Goa has released the subsidy to the beneficiary under General category for installation of cages in River under PMMSY (given below).

Sr. No.	Name of the Applicant	Units Installed	Financial Assistance
1.	Shri. Clemente Fernandes	4 nos.	Rs. 4,80,000/-





2. Fish Feed Mini Mills

By Smt. Reshma Vishal Vernekar

Location: Amayewada, Khandola, Marcel, Ponda Goa

A Fish Feed Mini Mill is used to manufacture artificial feed. This feed helps the fish to grow rapidly in shortest possible time by providing low cost balanced diet. Low cost cheap ingredient of plant origin is used to manufacture artificial feed.

Smt. Reshma Vishal Vernekar established the Fish Feed Mill under Pradhan Mantri Matsya Sampada Yojana Scheme (PMMSY) at Amayewada Khandola, Marcel in Ponda Taluka.

The mill has a production capacity of 2 tons per day and the feed produced is supplied to the fishers and fish farmers for affordable price.

The Department of Fisheries, Government of Goa has released the subsidy to the beneficiary under General Category for Fish Feed Mini Mill under PMMSY as under:

Sr. No.	Name of the Applicant	Units Installed	Financial Assistance
1.	Smt. Reshma Vishal Vernekar	01 unit	Rs. 12,00,000/-



3. Installation of Live Fish Vending Centers

By M/S. Zash Farms

**Location: Catch and Carry, H. No. 568, Ground Floor, La Campal Colony, Miramar, Panaji Goa**

Live Fish Vending Centers make fish available to consumers while maintaining highest standards of hygiene and quality. Through these centers farm reared fresh fish is made available to the public. Further, it is also helps to uplift socio economic status by generating employment and entrepreneurship.

M/s. Zash Farms established the Live Fish Vending Centers under Pradhan Mantri Matsya Sampada Yojana Scheme (PMMSY). The Live Fish Vending Centers is situated at Miramar Panaji Goa and conducts retail sale of Seabass fish species.

The Department of Fisheries, Government of Goa has released the subsidy to the beneficiary under General Category for establishment of Live Fish Vending Centre under PMMSY as under:

Sr. No.	Name of the Applicant	Units Installed	Financial Assistance
1.	M/s. Zash Farm	01 unit	Rs. 8,00,000/-



#### **XIV. HUMAN RESOURCE**

##### **List of staff retired during the year 2023-24**

<b>Sr. No.</b>	<b>Name of the Official</b>	<b>Designation</b>	<b>Date of retirement</b>
1.	Smt. Roshan R. Talaunekar	U.D.C.	30/10/2023
2.	Shri Govind Z. Naik	Driver	30/04/2023

##### **List of Staff promoted during the year 2023-24**

<b>Sr. No.</b>	<b>Name of the Official</b>	<b>Designation</b>	<b>Promoted to</b>
1.	Shri Umesh D. Kulkarni	L.D.C.	U.D.C.

##### **List of Staff recruited during the year 2023-24 by direct recruitment.**

<b>Sr. No.</b>	<b>Name of the official</b>	<b>Designation</b>
1.	Smt. Varsha N. Naik Dessai	Supdt. of Fisheries
2.	Shri Jatin B. Shirodkar	Fisheries Surveyor

##### **List of staff granted MACPS**

<b>Sr. No.</b>	<b>Name of the Official</b>	<b>Designation</b>
1.	Shri Umesh D. Kulkarni	L.D.C.
2.	Shri Mahesh N. Volvoikar	Fisheries Surveyor

#### **REMEMBRANCE IN MEMORY OF OUR BELOVED STAFF**

**Memories are treasures that no one can steal but they can leave behind an  
ache that no one can heal**



**Shri. Nitin Anandache**  
**Fisheries Surveyor**  
**(Expired on 24/11/2023)**



**Shri. Anil Naik**  
**Fisheries Surveyor**  
**(Expired on 01/03/2024)**

## Training/workshop programme for Fisheries staff for the year 2023-24

Sr. No.	Name of the Officer/Officials	Designation	Training Date	Subject
1	Sagar Naik	Fisheries Officer	10/05/2023 to 12/05/2023	Training Programme of Competency Enhancement Programme on Soft Skills and Personality Development
2	Sharvi Naik	Jr. Technician		
3	Dr. Richita Vernekar	Fisheries Officer		
4	Rajeshri Gaonkar	Fisheries Surveyor		
5	Nishi Naik			
6	Prasanna Raut	Sagar Mitra		
7	Shamrao Raikar	Jr. Technician	15/05/2023 to 17/05/2023	Course of Next Generation Communication and Management Competencies for the Inspiring Service Excellence of Extension Professionals
8	Aniya Naik	Fisheries Officer		
9	Shayamsunder Mishal	Fisheries Surveyor		
10	Tancy Cruz	Sagar Mitra		
11	Nayan U. Mahale			
12	Dr. Sunita Pauskar	Superintendent of Fisheries	20/05/2023	Deputed for to Participate in the programme and to brief and create awareness about the various schemes
13	Alec D’Souza	Asstt. Supdt. of Fisheries		
14	Sagar Naik	Fisheries Officer		
15	Mayuresh Vaigankar	Sagar Mitra		
16	Rohit Gaonkar			
17	Priyanka Parab			
18	Divakar Korgaonkar	Fisheries Officer	19/05/2023	To Perform three days duty at Goa Krishi Mahotsav- 2023 from 19th to 21st may, 2023 at Sport
19	Rajeshri Gaonkar	Fisheries Surveyor		
20	Tancy Cruz	Sagar Mitra		
21	Divakar Korgaonkar	Fisheries Officer	20/05/2023	
22	Siddhesh Kerkar	Mechanic Instructor		
23	Harish Prabhu	Fisheries Surveyor		
24	Divakar Korgaonkar	Fisheries Officer	21/05/2023	
25	Ganpat Chari	Net Mending Instructor		



26	Richa R. Pai Kudav	Sagar Mitra		Complex Ground, Ponda Goa
27	Pradeep Rane Sardessai	Multi-Tasking Staff		
28	Gayatri Naik	Fisheries Officer		
29	Aniya Naik			
30	Ravi Rodrigues	Asstt. Supdt. of Fisheries	14/06/2023 to 17/06/2023	Protocol and other related works in connection with the workshop
31	Sanil B. Naik			
32	Joel Diniz	Fisheries Officer		
33	Udaykumar Gaonkar			
34	Shubham Majik			
35	Chandrakant Velip	Dy. Director of Fisheries	15/06/2023 to 16/06/2023	Two day National Level Workshop provided by MPEDA from state Government/ Uts 15 to 16th June 2023 at ITC fortune Resort Benaulim, south Goa
36	Dr. Sunita Pauskar	Superintendent of Fisheries		
37	Shenia S. Coutinho	Fisheries Surveyor	16/08/2023 to 18/08/2023	Child Centric Disaster Risk Reduction held at GIPARD, Ela farm, Old Goa
38	Seema Shet Dessai			
39	Zigyasa A. Murkar	Supdt. of Fisheries	18-08-2023	Workshop on Mainstreaming Research, Technology & Innovation in Ushering
40	Chandan Shirodkar	Asstt. Supdt. of Fisheries		
41	Shamrao Raikar	Jr. Technician		
42	Rajeshri Gaonkar	Fisheries Surveyor		
43	Sakshi P. Navelkar	Sagar Mitra		

44	Siddhavi Borkar			Blue Economy in India at CSIR-NIO Dona Paula-Goa
45	Varsha Naik Dessai			
46	Tancy Cruz			
47	Priyanka Parab			
48	Ugam Paryenkar			
49	Prerna Naik			
50	Jennies Simoes			
51	Melita V. Pereira	Upper Division Clerk	16/08/2023 to 18/08/2023	Child Centric Disaster Risk Reduction held at GIPARD, Ela farm, Old Goa
52	Shivani Naik			
53	Palhavi V. Dangui			
54	Sunita Pauskar	Suptd. of Fisheries	12/08/2023	Workshop on the solar rooftop system for the stakeholder like Government Department, Group Housing Society, councillors of CCP and Hoteliers in the Jurisdiction of Panaji Goa
55	Chandresh Haldankar	Superintendent of Fisheries(Offshore)	18/08/2023	The Training programme on schemes of the Government Departments
56	Rohita Naik	Superintendent of Fisheries (Enforcement)	22/08/2023	
57	Dr. Sunita Pauskar	Suptd. of Fisheries (Marketing Section)	24/08/2023	
58	Zigyasa A. Murkar	Superintendent of Fisheries(FTC)	29/08/2023	
59	Chandrakant Velip	Dy. Director of Fisheries		Member of the Technical Committee of the Goa state Wetland

				Authority (GSWA)
60	Rohita Naik	Superintendent of Fisheries (Group “B” Gazetted)	07/09/2023	Sevottam and the Goa(Right of Citizens to Time Bound Delivery of Public Services) Act, 2013
61	Zigyasa Murkar	Superintendent of Fisheries (Group “B” Gazetted)		
62	Zigyasa Murkar,	Suptd of Fisheries	13/09/2023	The mega Exhibition on Atmanirbhar Bharat, Govt. Schemes and programmes on 2 <sup>nd</sup> Destination Goa 23
63	Siddesh Kerkar	Mechanical Instructor		
64	Twinkle A. Usapkar	Sagar Mitra		
65	Shivani N. Naik			
66	Satish Gawas	Driver		
67	Dr. Richita S. Vernekar	Fisheries Officer	14-09-2023	
68	Nayan U. Mahale	Sagar Mitra		
69	Ankita K. Palkar			
70	Gaitri R. Naik	Fisheries Officer	15-09-2023	
71	Priyanka S. Parab	Sagar Mitra		
72	Meetali C. Gaude			
73	Kshama P.S. Navelkar	Head Clerk	4/10/2023 to 6/10/2023	Government Procurement
74	Lavu Gauns	UDC		
75	Aniya Anand Naik	Fisheries Officer	13/10/2023	The seminar of National Campaign Dak Community Development Program (DCDP)
76	Shri. Sagar Naik	Fisheries Officer	17th to 19th January, 2024	“Prevention of Violence against Women and Children”
77	Dr. Richita S. Vernekar	Fisheries Officer		

<b>Name and Designation of the Staff of Directorate of Fisheries.</b>			
<b>Sr. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Mobile No.</b>
1.	Dr. Shamila Monteiro	Director Fisheries	9326125026
2.	Shri. Chandrakant Velip	Deputy Director	9923499855
3.	Dr. Smita Mazumdar	Deputy Director	8806086860
4.	Smt. Shanti Makwana Harding	Dy. Director (Admin)	08322224838
5.	Smt. Megha S. Kerkar	Superintendent of Fisheries	9420162084
6.	Shri. Chandresh Haldankar	Superintendent of Fisheries	9764480663
7.	Smt. Rohita Naik	Superintendent of Fisheries	9764239688
8.	Smt. Preetam Naik	Superintendent of Fisheries	8806839645
9.	Smt. Zigysa Anup Murkar	Superintendent of Fisheries	8407973579
10.	Dr. Sunita Pauskar	Superintendent of Fisheries	9850764554
11.	Smt. Varsha N. Naik Dessai	Superintendent of Fisheries	8408086490
12.	Smt. Sheetal P. Naik,	Research Assistant	9689424467
13.	Smt. Sandeep Naik	Asstt. Accounts Officer	9881200270
14.	Smt. Janaki R. Govenkar	Office Superintendent	9765493405
15.	Smt. Kshama P.S. Navelkar	Head Clerk	9423075353
16.	Shri. Suryakant Naik	Accountant	9960404545
17.	Kum. Kamakshi Naik	Accountant	9763537652
18.	Shri. Chandan Shiroadkar	Asst. Supdt. of Fisheries	9270067014
19.	Shri. Pradeep Gawas	Asst. Supdt. of Fisheries	9403175091
20.	Shri. Ravi Rodrigues	Asst. Supdt. of Fisheries	9921948844
21.	Smt. Roshini Naik	Asst. Supdt. of Fisheries	9764243587
22.	Shri. Sanil Babu Naik	Asst. Supdt. of Fisheries	8551989071
23.	Shri. Alec De Souza	Asst. Supdt. of Fisheries	9604033152
24.	Shri. Narayan Naik	Bosun	8275622373
25.	Smt. Priya Madkaikar	Statistical Assistant	8329614469
26.	Shri. Nath Bhagat	Statistical Assistant	9762179423
27.	Smt. Gautami Shetye	Statistical Assistant	9763409320
28.	Shri. Vipul Mapari	Fisheries Officer	8806407880
29.	Dr. Christabelle Fernandes	Fisheries Officer	9764320787
30.	Shri. Joel Diniz	Fisheries Officer	9923972603
31.	Shri. Sagar Naik	Fisheries Officer	7798889240
32.	Shri. Uday Khanolkar	Fisheries Officer	9422018550
33.	Shri. Divakar Korgaonkar	Fisheries Officer	9423837493
34.	Shri. Saby Moraes	Fisheries Officer	9763555380
35.	Shri. Shubham Majik	Fisheries Officer	8766924001
36.	Smt. Akshata P. Naik	Fisheries Officer	9637997994
37.	Kum. Gaitri R. Naik	Fisheries Officer	9158345637
38.	Kum. Aniya Anand Naik	Fisheries Officer	7507105631
39.	Shri. Udaykumar V. Gaonkar	Fisheries Officer	9420210506

40.	Dr. Richita S. Vernekar	Fisheries Officer	9923257389
41.	Shri. Shamrao Raikar	Jr. Technician	9923159494
42.	Smt. Sharvi Girish Naik	Jr. Technician	7972348318
43.	Smt. Marcia Fernandes	Jr. Stenographer	9168790606
44.	Shri. Deepak Kunkoliker	Marketing Inspector	8806624355
45.	Smt. Priyanka Nayak	Investigator	9923653639
46.	Shri. Prakash Gaude	Investigator	9096617178
47.	Shri. Joao Mascarenhas	UDC	8322787090
48.	Smt. Palhavi Dangui	UDC	9850183385
49.	Shri. Samir Parab	UDC	8390829693
50.	Shri. Uday Kamat	UDC	9923748915
51.	Smt. Ujwala V. N. Shirodkar	UDC	9860032006
52.	Shri. Lavu Gauns	UDC	7774953547
53.	Shri. Umesh D. Kulkarni	UDC	8411025887
54.	Shri. Dina Volvoikar	Store Keeper	9049600907
55.	Shri. Ganpat Chari	Net Mending Instructor	9765157218
56.	Shri. Siddesh Kerkar	Mechanical Instructor	9421248792
57.	Shri. Dilesh Pagui	Engine Driver	9823672438
58.	Shri. Keshav Dessai	Engine Driver	9822048383
59.	Shri. Devanand Lone	Fisheries Surveyor	9823679921
60.	Shri. Mahesh N Volvoikar	Fisheries Surveyor	9922598437
61.	Shri. Domingo Fernandes	Fisheries Surveyor	9421246892
62.	Shri. Anand Gaude	Fisheries Surveyor	9673243231
63.	Shri. Kamalakant Gaude	Fisheries Surveyor	9422845037
64.	Shri. Gopal Zuvatkar	Fisheries Surveyor	9923040949
65.	Shri. Harish Prabhu	Fisheries Surveyor	9545225033
66.	Shri. Avinash Arondekar	Fisheries Surveyor	8806753314
67.	Kum. Rajeshri.. Gaonkar	Fisheries Surveyor	9923850398
68.	Shri. Shyamsundar Mishal	Fisheries Surveyor	7588674297
69.	Shri. Prathamesh Khandeparkar	Fisheries Surveyor	9673272527
70.	Shri. Damodaran Naik	Fisheries Surveyor	9923843930
71.	Shri. Vinayak Pednekar	Fisheries Surveyor	8806474529
72.	Shri. Amogh Mahavarkar	Fisheries Surveyor	9960365724
73.	Smt. Saily Madkaikar	Fisheries Surveyor	9673257293
74.	Shri. Lavkush Malik	Fisheries Surveyor	9673549177
75.	Shri. Subhash Gaonkar	Fisheries Surveyor	9579302298
76.	Shri. Nikhil Betkikar	Fisheries Surveyor	7038474124
77.	Shri. Vishal Pagi	Fisheries Surveyor	9764682588
78.	Shri. Bablo Kalangutkar	Fisheries Surveyor	9823352145
79.	Shri. Vedanand Shirodkar	Fisheries Surveyor	8308364110
80.	Shri. Ankush Shirodkar	Fisheries Surveyor	7798124462

81.	Shri. Kishen Borcar	Fisheries Surveyor	8411953837
82.	Shri. Kalpesh Gaonkar	Fisheries Surveyor	9764937170
83.	Shri. Mahadev Gaonkar	Fisheries Surveyor	9420158813
84.	Smt. Nishi Naik	Fisheries Surveyor	9860435071
85.	Smt. Seema Dessai	Fisheries Surveyor	9850104424
86.	Smt. Shenia Coutinho	Fisheries Surveyor	9923033457
87.	Shri. Sujay Dessai	Fisheries Surveyor	9665216551
88.	Shri. Krishna N. Naik Shirodkar	Fisheries Surveyor	7798676067
89.	Shri. Rajesh Nechkanar	Fisheries Surveyor	9765973713
90.	Shri. Parvinder Lone	Fisheries Surveyor	9923478888
91.	Shri. Anand Naik	Fisheries Surveyor	9158345953
92.	Shri. Rohan Morajkar	Fisheries Surveyor	9823880829
93.	Shri. Nitin Sawant.	Fisheries Surveyor	9923348696
94.	Shri. Sameer Velip	Fisheries Surveyor	8390829693
95.	Shri. Viplesh Parwar	Fisheries Surveyor	7378844790
96.	Shri. Jatin Shirodkar	Fisheries Surveyor	9545048423
97.	Shri. Hari Palyekar	Junior Deckhand	7798104790
98.	Shri. Gopal Naik	Junior Deckhand	9881779052
99.	Shri. Subhash Shetkar	Junior Deckhand	9623325335
100.	Shri. Prajay Parulekar	Junior Deckhand	8421137017
101.	Shri. Anay Halarankar	Junior Deckhand	9860314936
102.	Shri. Vidhyanand Phadte	Junior Deckhand	8830774170
103.	Shri. Indur Kankonkar	Junior Deckhand	9923085532
104.	Shri. Pravin Shirodkar	Junior Deckhand	8888632301
105.	Shri. Shashikant Pagi	Junior Deckhand	9923749464
106.	Shri. Prasanna Pagi	Junior Deckhand	9763741525
107.	Shri. Flavio Fernandes	Junior Deckhand	9822689563
108.	Shri. Shubham Naik	Junior Deckhand	7507641767
109.	Shri. Rahul Tari	Junior Deckhand	9049245236
110.	Shri. Sagar Korkankar	Junior Deckhand	9075941026
111.	Shri. Shubadeen Naik	Junior Deckhand	8788384420
112.	Shri. Sahil S. Bhandodkar	Junior Deckhand	9049670676
113.	Shri. Akshay Anand Mandrekar	Junior Deckhand	9764694657
114.	Shri. Soccoro Pinto	Fieldman	9921879257
115.	Shri. Siddarth Mishal	Fieldman	9923112651
116.	Shri. Narendra D. Malik	Fieldman	9307531402
117.	Shri. Rangesh R. Morje	Fieldman	7875912250
118.	Shri. Sagar Gaude	Fieldman	9158088506
119.	Shri. Suraj Anand Lone	Fieldman	8483973357
120.	Shri. Florence Rebello	Wireless Operator	8411993438
121.	Shri. Janardhan Naik	Wireless Operator	8007382769



122	Shri. Shivanand Surlakar	Wireless Operator	8408872613
123	Shri. Ramesh Gawas	Wireless Operator	9552080099
124	Shri. Siddesh Naik	LDC	9823454593
125	Smt. Anita Madkaikar	LDC	9637017392
126	Shri. Damodhar Kalangutkar	LDC	7588454082
127	Smt. Prajakta Haldankar	LDC	9823987389
128	Smt. Steffi Pires	LDC	9822518207
129	Smt. Renisha Cardozo	LDC	8805232307
130	Smt. Sonia Naik	LDC	8975101221
131	Shri. Prathamesh Shiroadkar	LDC	9881211999
132	Shri. Richard Raicar	LDC	9765468413
133	Smt. Frida Barreto	LDC	7721889747
134	Smt. Ashwini Sujay Dessai	LDC	9765848696
135	Smt. Canira Raicar	LDC	9552981383
136	Shri. Gaston Silva	LDC	9011124435
137	Shri. Prabhakar Shetgaonkar	LDC	9423154373
138	Shri. Sucorro Dias	Driver	7507626467
139	Shri. Swapnesh Adel	Driver	9923657475
140	Shri. Satish Gawas	Driver	9420744956
141	Shri. Vishant Narvekar	Driver	7887991333
142	Shri. Francis Santan Cruz	Driver	8888802875
143	Shri. Filomeno Henry Columbano Carvalho	MTS	9881882360
144	Shri. Bhiva Gawas	MTS	8805336547
145	Shri. Chandrakant Narulkar	MTS	9823535646
146	Shri. Mohan Garudi	MTS	9226792539
147	Shri. Bhupal Phadte	MTS	9881732250
148	Smt. Shobha Parab	MTS	9637749551
149	Smt. Sudha Gaudé	MTS	9764775953
150	Smt. Gauri Chodankar	MTS	8390203141
151	Smt. Niella Fernandes	MTS	8888184392
152	Smt. Pritam Shiroadkar	MTS	9822824456
153	Shri. Felipe Colaco	MTS	8380958978
154	Shri. Norman Soares	MTS	8308765217
155	Shri. Gangaram Rathod	MTS	8550900815
156	Shri. Pradip R. Rane Sardesai	MTS	9420193153
157	Shri. Ibrahim Saha	Watchman	9822686515
158	Shri. Vaibhav Tamboskar	Watchman	9823188233
159	Shri. Sambhaji Sawant	Watchman	9420897288
160	Shri. Ratnakar Kanolkar	Watchman	9923651057

## XV. DIRECTORY OF FISHING SOCIETIES

### *North Goa*

Sr. No.	Name of the Society	Mobile No.	President / Chairman
<b>Pernem</b>			
1	Nirvikar Fishing Co-op. Society Ltd.	9049571055	Shri.Bheem Pednekar
<b>Bardez</b>			
1	All Goa Fisherman's Co-op. Association Ltd.	0832-2475099	Adv. Chandrakant V. Chodankar
2	Candolim Fisherman Association	9960193399	Shri.Domnic Joao Fernandes
3	Baga Sant Khuris Fishermen Association	9822986108	Shri.Ronny P.D'Souza
4	Ovleshwar Fisherman Association,	9850764148	Shri.Bhau S. Kalangutkar
5	Traditional Fisherman's Association of North Goa	8698576557 9970318296	Shri.Peter Menon
6	Vailankani Saibin Fisherman Association	9860765641	Shri.Caetano Fernandes
<b>Bicholim</b>			
1	Kharvi Samaj Vishwasth Mandal Society	9422448662 7507214621	Adv. Narayan Putu Sawant
<b>Tiswadi</b>			
1	Dona Paula Fishermens Association	9049813389	Shri. Ivo Nunes
2	Caranzalem Raponkar Traditional Fisherman Association	9822175766	Shri. Francisco Zacarias Vaz
3	Odxel Fishermen Association	9011307797	Shri. Ajay Diukar
4	Siridao Traditional Fisherman Association	9822147576	Shri. Dilip Kankonkar
5	Shree Sateri Fisherman Association	9834664264	Smt. Sumitra Fatarpekar
6	Akhil Goa Harkari Sahari Sauntha	9657364587	Shri. Gajanan Halarankar
7	Shree Shantadurga Fisherman Association	9923284676	Shri. Sanjay Pereira

<b>Sr. No.</b>	<b>Name of the Society</b>	<b>Mobile No.</b>	<b>President / Chairman</b>
<b>Salcete</b>			
1	A.V.C.B. Traditional Fisherman Association	9326120155	Shri. Prashant N. Gokarnkar
2	Niz Goenche Ramponkarancho Ekvott	9823180200	Shri.Saby Fernandes
3	Kharvi Bhavancho Ekvott	7774902290	Shri.Jose Fernandes
4	Traditional Fisherman Association of Colva	7743898880	Shri.Tomas Rodrigues
5	Kshatriya Maratha Paramparik Macchimar Sanghatana		Shri. Pramod V. Zuvenkar
<b>Canacona</b>			
1	Akhil Goa Kshatriya Pagui Samaj	9511630921, 9923403683	Shri.Ashok Apa Dhuri
2	Dev Dungeshwar Gabit Fishermen's Society	9834533046, 7875231848	Shri.Siddesh s. Salgaonkar
3	Shree Ganesh Traditional Fisheries Association	7821885890	Shri.Vishnu Keluskar
<b>Vasco</b>			
1	St. Andrews Canoe Owners –Vasco Society	9860123987	Shri.Sebastiao De Souza
2	Baina Ramponkar & Fishing Canoe Owner's Society,	9822177346	Shri.Santo Andre Gurjao
3	Baina Fisherman Society	9850189991	Shri.Alcantro Gurjao
4	Desterro Fisherman Association,	9923633360	Shri.Domingos Mendes
5	St. Francis Xavier Canoes Owners Vasco Society	7758901464, 9765974569	Shri.Lourence D'Souza
6	Old Cross Fishing Canoe Owners Co-op. Society Ltd.	9637891412, 9545401532	Shri.Custodio D'souza
7	Goenche Ramponkarancho Ekvott (GRE)	9623269344	Shri. Agnelo Rodrigues
8	Velsao Fishing Canoe Owners Society	9579594289, 9552617383, 8805599143	Shri.Lourence Mascarenhas

## **TRAWLERS/ PURSE SEINERS**

### ***North Goa***

<b>Sr. No.</b>	<b>Name of the Society</b>	<b>Phone/ Mobile No.</b>	<b>President/ Chairman</b>
1	All Goa Purse-seine Boat Owners Association	9920616891	Shri. Harshad Dhond
2	Mandovi Fishermen Marketing Co-operative Society Ltd.	0832-2413656, 0832-2415447, 9822482551	Shri. Francisco D'souza
3	Xapora Fishing Boat Owners Fisheries Co-operative Society Ltd.,Chapora, Bardez- Goa.	9822142230	Shri. Balbhim Malvankar

### ***South Goa***

<b>Sr. No.</b>	<b>Name of the Society</b>	<b>Phone/ Mobile No.</b>	<b>President/ Chairman</b>
<b>CUTBONA</b>			
1	Cutband Boat/Trawler Owners Association	0832-2775915 9822132008	Shri. Jose Roque Dourado
2	Cutbona Boat Owners Development Society	8322775915	Shri. Savio Dsilva
3	Cutbona Fisheries Co-operative Society Ltd.	9822382924	Shri. Vinay Tari
4	South Goa Mechanised Boat Owners Co-op and Marketing Society Ltd.	9822589549	Shri. Antonio Fernandes
5	The Purse Seiners Boat Owners Cooperative Society Ltd	9822583707	Shri. Sebastiao Cardozo
6	Deep Sea Fishing and Marketing Co-operative Society Ltd	7798252525	Shri. Joyston D. Rodrigues
7	The Cutband Boat Owners Federation	9822589549	Antonio Fernandes
<b>VASCO</b>			
1	Goa Fishing Boat Owners Association	9822941761, 7498419106	Shri. Jose Philip
2	Vasco Fishing Boat Owners Marketing Co-operative Society Ltd.	9822139521	Shri. Minguel Cardoz
3	Zuari Fishermen Marketing Co-operative Society Ltd	0832-2501110, 9923037926, 9326127387	Shri. Jerry Fernandes Shri. Rony Fernandes

CANACONA			
1	The Canacona Taluka Gabit Fisherman Trawler/ Mechanized, Craft Owners Co-op. Society Ltd also known as The Canacona Taluka Fishermen Trawler/ Mechanized, Craft owners Co-op. Society Ltd	9673743171, 9423888339	Shri. Ditoso Barreto



## XVI. PHOTO GALLERY



*Hon'ble Fisheries Minister's official visit to Norway*



*Director of Fisheries official visit to Norway*



*Chintan Shivir Consultative Workshop with Stake holders at Bangaram Island, Lakshadweep*



*Golden jubilee celebration of TERI at Taj Vivanta, Goa*



*Training on Standardized Methodology for collection of Fish Catch Data of Marine Fisheries at FTC, Ella, Old Goa.*



*Staff for Training on Standardized Methodology for collection of Fish Catch Data of Marine Fisheries at FTC, Ella, Old Goa*



*4.5 Ton of fish catch ( Diana fish ) reported at Malim jetty by Single fishing vessel*



*Cleanliness drive held on 26<sup>th</sup> July 2024 at Malim Jetty by staff of Fisheries Department*



## GLIMPSE OF AQUA GOA MEGA FISH FESTIVAL 2024





GLIMPSE OF AQUA GOA MEGA FISH FESTIVAL 2024







**Saraswati Poojan at Fisheries Training Centre (FTC), Old Goa**



**Inauguration of Fish Pond at FTC, Old Goa**



**Training on ABHA Card**



**Monthly Meeting of the Staff of Fisheries at FTC, Old Goa**



**Workshop on implementation of TED in Trawl gears of Goa at Art and culture.**



**Life Jackets and Life Bouy distributed to owners of fishing vessels at Cutbona Jetty.**



**Fisheries Summer Meet 2024**



**Thirteen Fishermen Rescued at Colva**  
Thirteen fishermen were rescued after their fishing canoe's motor failed at sea. Local fisherman and authorities swiftly responded to their distress call, ensuring the safe return of all crew members.

**Thirteen Fishermen Rescued at Colva**