



Avertano Furtado
Minister for Labour & Employment, Fisheries & NRI Affairs
Government of Goa

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MESSAGE

I am happy to present before you the Third Edition of the **Goan Fish Trail - 2016 - III**, for the third year in a row.

For the last three years, my Government has shown considerable progress in terms of all round infrastructure development in the State, may it be Fishing Ramps, Jetties or other amenities.

It is my pleasure to stress here the Fisheries Department is keeping pace with the growing demand for fish and is on the verge of coming out with innovative projects to grow fish sustainable on scientific grounds with the active cooperation of the fisher folks.

I would like to appreciate the sincere efforts put in by the Director **Dr. Shamila Monteiro** and her team in developing the Fisheries Sector and hope this Publication will be of great help to persons associated with Fisheries and to the General Public.

Shri. Avertano Furtado
(Hon'ble Minister for Fisheries)



GOVERNMENT OF GOA
SECRETARIAT-PORVORIM
GOA-403 521

Shri. Sudhir Mahajan
Secretary, Fisheries
Government of Goa



MESSAGE

I am happy to note that the Department of Fisheries is coming out with its yearly publication "**Goan Fish Trails**" for third year, continuous in a row.

The publication highlights its achievement and activities carried during the year 2015-16. The new initiatives by the Department will certainly give a boost to the Aqua culture in the state and add to the fish basket. The overview of this book and its vision will give a way forward for the Department to achieve its goals.

The detailed statistics provided will help to understand the fisheries scenario in Goa and will be useful to research scholars, students and planners. The articles by the staff on the various opportunities in fisheries will spark the interest in the field of aqua farming and ornamental fisheries.

I wish all the very best to the Department for bringing out this publication and for its future endeavours.

(Shri. Sudhir Mahajan, I.A.S)
Secretary (Fisheries)

"Generally speaking, the Smritikars never care to explain the why and the how of their dogmas"



**Directorate of Fisheries,
Government of Goa**

Chief Editor's Note

Fish and Fisheries Sector has an important place in Goa and has impact on the livelihood of many Goans.

To conserve and preserve the nutritious food from the sea, it is a high time to re-administer our activities by thinking out of the box, for conservation and preservation of our natural resources.

The Government with this Department has taken a step forward for a co-operative movement by involving the local fishermen in boosting the fish production scientifically, thereby giving technical hand support from the Government mechanism.

The Government is planning to boost the State's economy for which new projects such as Reservoir Cage Culture Farming, Shell Fish Culture, Aquamarine Amusement Park, has been initialised at preliminary stage.

This year's issue focuses on the all round development of the Fisheries Sector and providing a strict surveillance on the illegal activities in action.

I express my sincere gratitude to the Hon'ble Minister of Fisheries, Shri. Avertano Furtado for his continuous support and encouragement along with the former Secretary of Fisheries, Shri Amjad Tak and present Secretary of Fisheries Shri. Sudhir Mahajan, for his kind advice from time to time.

I am indeed thankful to all my staff members for channelizing the deeds in practice and working towards making the targets set of the Department a reality.

I trust this Publication will be useful to planners, policy makers, researchers and all other stake holders.

**Dr. Shamila Monteiro
Director of Fisheries**

"I measure the progress of a community by the degree of progress which women have achieved."

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Chief Editor : Dr. Shamila Monteiro, Director of Fisheries
Editor : Shri. Samir R Korgaonkar, Statistical Assistant
Editorial Team : Shri. Chandrakant D Velip, Dy. Director of Fisheries
Dr. Smita A Mazumdar, Supdt. of Fisheries
Smt. Megha S Kerkar, Supdt. of Fisheries
Smt. Prajakta A Haldankar, L D C.

As a mark of remembrance of the Father of our Indian Constitution, Dr. Bhimrao Ramji Ambedkar, this handbook has his memorable quotes listed on the bottom of each page.

TO ERR IS HUMAN

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

“Men are mortal. So are ideas. An idea needs propagation as much as a plant needs watering. Otherwise both will wither and die.”

I - INTRODUCTION

Since the inception of the Goan Fish Trail on 10th August, 2014, it has been a continuous endeavour of this Directorate to bring transparency in its functioning, through the interface of this Publication.

This is a consecutive 3rd year, the Department is coming out with this Publication. This year i.e. 2015-16 is dedicated to the dawn of Infrastructural Development of Fisheries Sector, which is highlighted in this issue.

The Department is dedicated towards its commitment for growth in development for fishermen community, by launching various extension/construction/ up-gradation/ renovation projects on various jetties and fish landing centres.

The Department is also keen in building a strong relationship with the fisher folks and the Government, by having various interactive programmes, recreational activities like newly introduced Canoe Race and other programmes. Further, the Department is also keen in improving the human resource of not only its employees, but also the fisher folks by giving training and exposure visits to various fisheries related places in India.

The Department has also put its foot forward in the direction of co-operative movement, thereby giving more space for participation of fisher folks in the Government Projects and activities such as Open Sea Cage Culture.

This issue of Publication highlights how the fisheries movement is making its place in boosting the State's economy.

“History shows that where ethics and economics come in conflict, victory is always with economics. Vested interests have never been known to have willingly divested themselves unless there was sufficient force to compel them”

II- ACHIEVEMENTS 2015-16

A. BUDGET PROVISION

The annual budget for the year 2015-16 of Plan and Non-Plan Budget was Rs.6,360.62 lakhs and Rs.698.80 lakhs respectively, thereby having a total budget of Rs.7,059.42 lakhs. The total expenditure incurred by the Department was Rs.5,089.04 lakhs, achieving a utilization of 72.08% of its Budget.

B. REVENUE GENERATED

The Department generated total revenue of Rs.134.52 lakhs for the financial year 2015-16 through various fees and rents of various structures.

C. INFRASTRUCTURAL DEVELOPMENT

I. Up-gradation of Landing Centers

(i) Construction of Training Wall and Up-gradation of Fishing Jetty at Chapora, Bardez

The foundation stone for construction of River Training Wall and Fishing Jetty at Fisheries Cold Storage Complex, Chapora, Bardez was laid on 9th February, 2016 at the hands of Hon'ble Minister for Labour and Employment, Fisheries and NRI Affairs, Shri. Avertano Furtado, in presence of Hon'ble Minister for Water Resources and Art & Culture, Shri. Dayanand R. Mandrekar. The estimated cost of the work is Rs.47.24 crores.



Laying of Foundation stone for construction of Training Wall and Upgradation Fishing Jetty at Chapora Fisheries Cold Storage Complex, Chapora, Bardez

“Political tyranny is nothing compared to the social tyranny and a reformer who defies society is a more courageous man than a politician who defies Government.”

(ii) Construction of Training Wall and Up-gradation of Fishing Jetty at Cutbona, Salcete Goa

On 28th February, 2016 the foundation stone for Construction of Training Wall and Up-gradation of Fishing Jetty at Cutbona, Salcete Goa was laid at the hand of Shri. Avertano Furtado, Hon'ble Minister for Labour and Employment, Fisheries and NRI Affairs and in presence of Shri. Benjamin Silva, MLA, Velim Constituency and Shri. Caitano R Silva, MLA, Benaulim Constituency. The estimated cost of the work is Rs.49.82 crores. The work of both the jetties will be carried out through Goa State Infrastructure Development Cooperation Ltd. (GSIDC).



Laying of Foundation stone for construction of Training Wall and Up-gradation Fishing Jetty at Cutbona, Salcete Goa.

II. CONSTRUCTION OF RAMP AND UPGRADATION OF NET MENDING SHEDS

The Government is committed towards creation and up-gradation of the infrastructure facilities for the traditional fishermen. Some of the completed works are:

(i) Repair of Existing Net Mending Shed at Nuvem, Cola, Canacona Taluka



“Generally speaking, the Smritikars never care to explain the why and the how of their dogmas.”

A total expenditure of Rs.15,93,064/- was incurred for completing the work of Net Mending Shed at Nuvem, Cola, Canacona.

(ii) Repair of Net Mending shed, Dhavalkhazan, Agonda Canacona Goa



A total expenditure of Rs. 13,42,036/- was incurred for completing the work of Net Mending Shed at Dhavalkhazan, Agonda Canacona.

(iii) Construction of Ramp at Cacra

The Government has completed the construction of Ramp at Cacra. The ramp will be useful to traditional fishermen. The total expenditure amounting to Rs. 34,58,055/- was incurred for completing the project.



D. ACHIEVEMENTS OF VARIOUS SCHEMES

The Department undertakes various schemes for sustaining the cost effects of the fishermen towards their socio up-liftment, welfare and meeting various vagaries of nature. For this, the Department implements the following schemes, showcased below, highlighting the Physical and Financial Achievements in a nutshell:-

“If you believe in living a respectable life, you believe in self-help which is the best help.”

Sr. No	Name of the Scheme	Budget Outlay 2015-16	Physical Achievement (No.)	Financial Achievement (Rs in Lakh)
1	Construction of Wooden / FRP canoe	55.00	93	54.90
2	Financial Assistance for Construction/ Purchase of OBM	32.00	53	31.80
3	Financial Assistance to Fishermen for purchase of Fishery Requisites	15.00	50	14.84
4	Financial Assistance for Purchase of Fuel (Kerosene/Petrol) to Fishermen for operation of Out Board Motors	550.00	2204	638.96
5	Replacement of old kerosene OBM to petrol OBM	500.00	389	447.69
6	Financial Assistance for Purchase of Safety Jackets & Life Buoys for the fishing vessel	10.00	185	8.45
7	National Welfare Fund for Fishermen (Group Accident Insurance Scheme for Active Fishermen)	3.00	23587	2.39
8	General Insurance Scheme for Active Fishermen	6.00	5733	5.74
9	National Welfare Fund for Fishermen (Saving Cum Relief fund)	90.00	5197	93.55
10	National Welfare fund for Development of Fishermen village Housing	5.00	3	0.75
11	Financial Assistance for purchase of Power Blocks	15.00	8	10.92
12	Safety of Fishermen at Sea	167.00	338	40.66
13	Interest Subsidy on loans for Fisheries and Allied Activities	25.00	101	12.99
14	Financial Assistance on Goa Value Added Tax (VAT)	1600.00	680	1379.91
15	Tribal sub Plan for Schedule Tribe Development Scheme	52.00	111	51.76
16	Financial Assistance to Registered Fishermen Societies/ Associations	10.00	1	0.50
17	Financial Assistance for Supply of Insulated Boxes to Fisher Persons	15.00	504	16.89

E. SAFETY OF FISHERMEN AT SEA

(i) Corpus Fund

A Corpus Fund has been established wherein the Government of Goa and the fishermen contribute so that the interest generated by the contribution can be used for granting immediate relief in case of natural calamity.

“We must stand on our own feet and fight as best as we can for our rights. So carry on your agitation and organize your forces. Power and prestige will come to you through struggle”

(ii) Biometric Fishermen Identity Card

Under the Biometric Card Scheme, the coastal fishermen who have completed 18 years of age are issued with biometric cards. A total of 9181 nos. of cards have been distributed to the fishermen.

(iii) Temporary Fishermen Identity Card

Under this scheme 14,194 temporary cards have been issued to the Non-Goan crew members on fishing vessel for the year 2015-16. The validity of this card is only for one fishing season i.e. from 1st August – 31st May (ten months).

(iv) Safety Equipment

It has been made mandatory to carry Life buoys, life jackets, safety beacon and other navigation instruments on the fishing vessels in view of the Coastal Security.

F. MOBILE FISH STALLS

The Department has purchased 5 mobile fish stalls under NFDB Scheme i.e. 90% fund from NFDB and 10% fund from state Government. The vans have been handed over to societies/ self help group to sell fish to public at 5% above the wholesale rate. Around 100kg fish is sold per day per vehicle. The fish vans are handed over to operate in the surrounding areas of the following societies:

1. Navelchea Xetkarancho Ekvott co.op. Farming Society Ltd., Navelim Goa.
2. Vasco Fishing Boat Owner's Marketing Co-operative Society Ltd., Vasco, Goa.
3. Bodgeshwar Self Help Group, Mapusa Goa.
4. The Pollem Sea Cage Fish Farming Co-operative Society Ltd., Pollem. Canacona.
5. Xapora Boat Owner's Fisheries Co.op. Society Ltd., Chapora Goa.

As the demand of these fish vans is been increasing from the public, the Department has further initiated the scheme for the purchase of additional 5 Mobile Fish Vans to reach the uncovered areas.

“Every man who repeats the dogma of Mill that one country is no fit to rule another country must admit that one class is not fit to rule another class.”



G. NEW SCHEMES INTRODUCED

I. FINANCIAL ASSISTANCE TO PURCHASE SINGEL NET/SMALL RAMPON NET AND ITS ACCESSORIES

Under this scheme the traditional fishermen (Ramponkar) will be able to purchase Singel Net/Small Rampon Net with an assistance up to the extent of 50% of the actual cost limited to Rs.50,000 (Rupees Fifty Thousand only).



“Unlike a drop of water which loses its identity when it joins the ocean, man does not lose his being in the society in which he lives. Man's life is independent. He is born not for the development of the society alone, but for the development of his self.”

III. AQUACULTURE

A. OPEN SEA CAGE CULTURE – PHASE II

The Department has initiated Open Sea Cage Culture – Phase II under Rashtriya Krishi Vikas Yojana (RKVY) at Polem, Canacona Goa. A total of 22 cages were stocked with Seabass and Cobia Seed. The fish has been successfully grown by **The Pollem Sea Cage Fish Farming Co-operative Society Ltd., Pollem, Canacona** and sold to the public at cost effective rates. The year wise production of fish harvested is shown below:

Sr. No.	Year	Species Farmed	Fish Harvested
1.	2013-14	Seabass, Cobia	3 ton
2.	2014-15	Seabass, Cobia, Pompano	4.1 ton
3.	2015-16	Seabass, Cobia	10 ton



B. FARMS REGISTERED UNDER COASTAL AQUACULTURE AUTHORITY (CAA)

The Department has a total of 42 Aquaculture Farms registered across Goa under Coastal Aquaculture Authority (CAA), 19 units in North Goa covering a total farm area of 150.25 ha. and 23 units in South Goa covering a total farm area of 58.08 ha.

C. FINANCIAL ASSISTANCE FOR BRACKISH WATER AQUACULTURE

The Department of Fisheries provides Financial Assistance to Brackish Water Aquaculture Farms which are registered under Coastal Aquaculture Authority (CAA) to promote Aquaculture in the State.

“The relationship between husband and wife should be one of closest friends”

Following are the Physical and Financial Achievements during the financial year 2015-16.

Sr. No	Name of the Scheme	Physical	Financial
1.	Financial Assistance to Brackish Water Aquaculture Farm for purchase of feed	9	Rs.4,92,600
2.	Financial Assistance to Brackish Water Aquaculture Farm for purchase of farm equipments.	3	Rs.5,80,000

D. FRESH WATER FISH SEED HATCHERY, KERI, SATTARI GOA

Three lakh advanced fingerlings of good quality Indian Major Carp (Catla, Rohu and Mrigal) and Exotic Carp (Common carp) were produced during the year 2015-16 at Fresh Water Fish Seed Hatchery, Keri, Sattari Goa. Additional nine lakh fingerlings were procured from outside the State and supplied to the fish farmers at a reasonable rate.

Besides, the Department has released fifty thousand fingerlings of Indian Major Carp each at five reservoirs i.e. Chapoli, Amthane, Panchwadi, Salaulim, Anjunem.



E. NEWLY INTRODUCED AQUACULTURE SCHEMES:

- (i) Financial Assistance for setting up of Crab farming Unit in Goa.
- (ii) Financial Assistance to Fresh Water Aquaculture Farm.
- (iii) Financial Assistance to Mussel Culture and Oyster Farming in Goa.
- (iv) Financial Assistance for setting up of Ornamental fish unit in Goa.

“I like the religion that teaches liberty, equality and fraternity”

IV. FISHERIES TRAINING

A. SIX MONTH TRAINING PROGRAMME

Department conducts six months Certificate course for the fisher youth. 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.

A total no. of 18 students successfully completed the six months training course for the year 2015-16.



B. SHORT TERM TRAINING PROGRAMME IN AQUACULTURE, ORNAMENTAL FISHERY, VALUE ADDITIONS AND USE OF SAFETY EQUIPMENTS



“In Hinduism, conscience, reason and independent thinking have no scope for development.”



The Department conducted four short term training programmes for fishermen/farmers, in which training were given on Shrimp farming, Ornamental fish breeding, Fabrication of Aquarium tanks, Value added seafood product preparation and also of Safety Equipments, at Fishermen Training Centre, Ela-Old Goa. Demonstrations were also imparted in the training period at Fresh Water Fish Farm at Keri, Sattari, Brackish Water Fish Farm at Ela Dhauji and Malim Jetty.

A total no. of 142 beneficiaries participated in short term training course for the year 2015-16.

C. COMMUNITY INTERACTION PROGRAMME

The Department in collaboration with the Coast Guard has conducted 24 Community Interaction Programme for the fishermen on safety at sea and Coastal Security at various places along the coastal belt of Goa.

D. STUDY TOUR

(i) Study Tour to Karnataka & Kerala from 18th to 24th January, 2016

The Department of Fisheries conducted a seven day long study tour to Karnataka & Kerala from 18th to 24th January, 2016 under the Rashtriya Krishi Vikas Yojana

“A People and their Religion must be judged by social standards based on social ethics. No other standard would have any meaning if religion is held to be a necessary good for the well-being of the people.”

(RKVY) scheme. Twelve fishermen from Anjuna-Kaisuva Youth Social sports and Cultural Club along with the five officials of the Department participated in the exposure tour. The participants got to see various aspects of fisheries such as Hatchery and Brackish water cage farming in Karwar where the technologies for such culture are developed by Central Marine Fisheries Research Institute (CMFRI). The participants also visited College of Fisheries, Central Marine Fisheries Research Institute (CMFRI) and Karnataka Fisheries Development Cooperation (KFDC), at Mangalore.



(ii) Study Tour to Chennai from 14th to 20th February, 2016

A Seven day long study tour to Chennai was conducted for nine fishermen from Goenchya Ramponkarancho Ekvott, Cansaulim and four officials of the Department from 14th to 20th February, 2016. The team visited various institutions like Central Institute of Fisheries Nautical and Engineering Training (CIFNET), Central Institute for Brackish Water Aquaculture (CIBA), Central Marine Fisheries Research Institute (CMFRI) followed by fish, shrimp, lobster and crab hatchery (Rajiv Gandhi Center for Aquaculture (RGCA) Hatchery). Participants gained knowledge on various technology developed by such institute for culture purpose.



“We are Indians, firstly and lastly”

(iii) Study Tour to Gujarat from 22nd to 27th February, 2016

A study tour for thirteen fishermen from Bal Tarun Kshatriya Maratha Kharvi Samaj, Velim, Salcete and four officials of Fisheries Department was conducted from 22nd to 27th February, 2016 at Surat, Gujarat under the Rashtriya Krishi Vikas Yojana (RKVY). All the participants got an insight into the fisheries activities like shrimp farming, fresh water hatcheries in Ukai Fisheries Office, stocking of reservoir in Ukai Dam and Ornamental fish breeding etc. The participants also visited Dholai Fishing Port in which the participants were briefed about how the marine fishing activity is carried out.



E. SEMINARS ORGANIZED AT AQUA GOA MEGA FISH FESTIVAL

The Aqua Goa Mega Fish Festival held in January, 2016 provided a platform for fishermen and students to participate and interact with eminent scientists and professionals in the field of Fisheries. The various seminars and distinguished speakers are given below.

Sr. No.	Speaker	Topic
1.	Shri. Vinod Kumar, Zonal Director, Fishery Survey of India (FSI), Sada, Vasco da gama Goa	Status of Fisheries in India
2.	Dr. Ravi Shankar C.N. , Director, Central Institute of Fisheries Technology CIFT Junction, Willingdon Island Matsyapuri P.O., Cochin-682 029, Kerala	Post harvest Technology and value addition
3.	Shri. Ashok Kumar, Dy. Director, (MPEDA), Jairam Complex, B Wing, Neugi Nagar, Mala, Panaji Goa	Crab Farming
4.	Shri. T.V. Suresh, Consultant (Zone-II) National Fisheries Development Board	NFDB Schemes

“The world is a very imperfect world and anyone who wants to live in it must bear with its imperfections”

Sr. No.	Speaker	Topic
5.	Mrs. Manju Lekshmi N., Scientist (Fisheries Resource Management), ICAR, Ela Old Goa.	Opportunities in Ornamental Farming
6.	Shri. Rajiv Kumar, Director Fisheries, Jharkhand, Ranchi	Reservoir Cage farming
7.	Dr. Shivkumar Magadha, Professor, Department of Aquatic Management, College of Fisheries, Mangalore.	Sustainability of Alkaline Soils for fish farming
8.	Dr. Ramesh Kumar, Scientist, CSIR, NIO, Donapaula Goa	Impact of climate change on Fisheries Resources
9.	Smt. Sonali Mhaddolkar, Sr. Technical Assistance, Central Marine Fisheries Research Institute (CMFRI), Karwar, Research Centre, Uttar Kannada, Karnataka	Brackish Water Cage Culture



“What are we having this liberty for? We are having this liberty in order to reform our social system, which is full of inequality, discrimination and other things, which conflict with our fundamental rights.”

F. TRAINING IMPARTED FOR CAPACITY BUILDING OF STAFF

The Department takes keen interest in upgrading the capacity of its staff members and for this the Department actively participates in the training programmes which are listed below:



(i) Training Programs for Technical Staff

Sr. No.	Name of the officers/officials	Designation	Dated of training	Subject of training
1.	Zigyasaben S. Patel	Asstt. Supdt of Fisheries	15 th June to 14 th July, 2015	Aquatic Medicine Pharmacology & Toxicology for Fisheries professionals
2.	Roshni V. Naik	Jr. Technician		
3.	Dr. Smita Mazumdar	Supdt of Fisheries	28 th & 29 th September, 2015	Operationalization & ATMA/SAMITI
4.	Chandrakant Velip	Supdt of Fisheries	7 th & 8 th October, 2015	Intensive training programme
5.	Zigyasaben S. Patel	Asstt. Supdt of Fisheries		
6.	Sunita Pauskar	Fisheries Officer		
7.	Pearl Dias	Fisheries Officer		
8.	Saily Korgaonkar	Fisheries Surveyor		
9.	Chandrakant Velip	Supdt of Fisheries	10 th to 12 th December, 2015	Disciplinary & Vigilance procedures
10.	Seema Shet Dessai	Fisheries Surveyor		
11.	Chandrakant Velip	Supdt. of Fisheries	4 th & 5 th January, 2016	Workshop on implementation of space technology in Fisheries
12.	Hrishikesh Pawar	Supdt. of Fisheries		
13.	Roshini Ulhas Naik	Jr. Technician	19/01/2016	Managing Enterocytoza on Hepatopenaei (EHP) infections in Brackish Water Aquaculture
14.	Shenia Coutinho	Fisheries Surveyor		

“Adjustment is wanted but not at the sacrifice of social justice.”

Sr. No.	Name of the officers/officials	Designation	Dated of training	Subject of training
15.	Saily Korgaonkar	Fisheries Surveyor	01/02/2016	9 th D.D. Kosambi Festival of Idea 2016
16.	Hrishikesh Pawar	Supdt of Fisheries		
17.	Chandrakant Velip	Supdt of Fisheries		
18.	Pearl Dias	Fisheries Officer		
19.	Seema Shet Dessai	Fisheries Surveyor		
20.	Smita Mazumdar	Supdt of Fisheries	02/02/2016	
21.	Gurudas Kerkar	Fisheries Officer	03/02/2016	
22.	Shenia Coutinho	Fisheries Surveyor		
23.	Dr. Hrishikesh Pawar	Supdt of Fisheries		
24.	Mahesh Korgaonkar	Fisheries Officer	04/02/2016	
25.	Vedanand Sirodkar	Fisheries Surveyor		
26.	Megha Kerkar	Supdt of Fisheries		
27.	Alec D'Souza	Fisheries Officer		
28.	Nitin Anandache	Fisheries Surveyor	05/02/2016	
29.	Pritam Naik	Asstt. Supdt of Fisheries		
30.	Bhanudas Madgaonkar	Fisheries Officer		
31.	Dr. Smita Mazumdar	Supdt of Fisheries	25 th & 26 th February 2016	Training workshop on Goa e-Suvidha Portal on Capacity Building
32.	Adlino Afonso	TA/Computer		

(ii) Training Programs for Administrative Staff

S No	Name of the Officers/Officials	Designation	Training Date	Subject
1.	Renisha Cardozo	LDC	13 th to 15 th October, 2015	Noting Draft & Service Rule
2.	Ujwala V Naik Shirodkar	LDC		
3.	Umesh Kulkarni	LDC	07/12/2015	Consumer outreach programme
4.	Dina Volvoikar	Storekeeper		
5.	Samir Parab	LDC		
6.	Prathamesh Shirodkar	LDC		
7.	Chandrakant Velip	Supdt of Fisheries	17 th to 19 th February, 2016	Reservation in Service
8.	Kshama P. Navelkar	Head Clerk		
9.	Umesh Kulkarni	LDC		
10.	Govind Gawade	UDC	29 th June to 01 st July, 2016	Pension & other retirement Benefits

“For a successful revolution it is not enough that there is discontent. What is required is a profound and thorough conviction of the justice, necessity and importance of political and social rights.”

(iii) Orientation Programme for Newly appointed Fisheries Officers and Fisheries Surveyors

The Department conducted four days Training Programme for its newly appointed Fisheries Officers and Fisheries Surveyors from 13th to 16th July, 2015 at Ela Training Centre, Old Goa.

The lecture were delivered by the Department Officers and Senior Officials who shared their personal experiences on field duty as well as routine office work, along with guiding the new staff through office procedures, disciplinary measures, conduct rules, importance of statistical scenario over fisheries and fish farm demonstration.



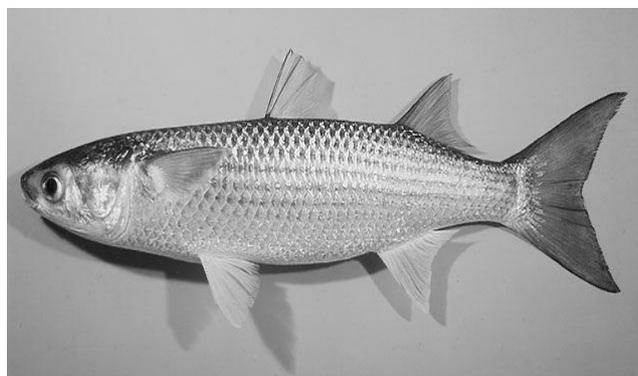
Orientation Programme for Fisheries Officers and newly appointed Fisheries Surveyors

“Religion must mainly be a matter of principles only. It cannot be a matter of rules. The moment it degenerates into rules, it ceases to be a religion, as it kills responsibility which is an essence of the true religious act”

V. STATE FISH OF GOA

A. STRIPED GREY MULLET, SHEVTO

The Department has officially declared Striped Grey Mullet, *Mugil Cephalus* “**Shevto**” as the state fish of Goa vide Notification No. DF/AQUA/STATE-FISH/GF/2015-16/5669 dated 21/12/2015 on the occasion of Aqua Goa Mega Fish Festival 2016. A very delicate and tasty fish available in all waters of Goa and loved by all Goans. In Goa, it is abundantly found in estuarine and brackish water. A brief report on State Fish highlighting all the information about Mulletts i.e. *Mugil cephalus* has been prepared by The Indian Council of Agricultural Research (ICAR), Ela, Old Goa and National Institute of Oceanography, Dona Paula, Goa.



Striped Grey Mullet, *Mugil Cephalus* “**Shevto**”

Striped grey mullet, *Mugil cephalus* locally known as *Shevto* is the dominant fish species of Goa both quantitatively and in terms of economic value. Flathead grey mullet (*Mugil cephalus*) belongs to the family, Mugilidae and order Mugiliformes. This fish is commonly found in the coastal waters of the tropical, subtropical and temperate zones of world.

The grey mullets are caught by different types of crafts (Artisanal, Motorized and Mechanized) and gears (gillnets, cast nets, stake nets, barrier nets, lift nets, beach seines and hook and lines). This species also hold scope for coastal aquaculture and value addition as game fish and bait. It has been reported that *M. cephalus* reaches a maximum total length of 100cm in standard length, but fishes caught are generally in the size range of 40-50cm. Maximum reported life span is 16 years.

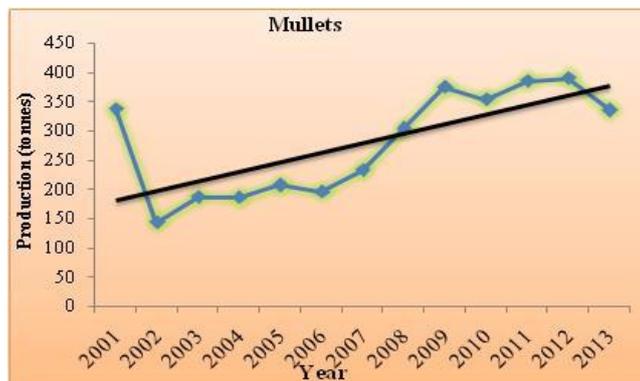
“Every man who repeats the dogma of Mill that one country is no fit to rule another country must admit that one class is not fit to rule another class”

CATCH OF GREY MULLET

Adults are found in coastal waters, often entering estuaries and rivers, sometimes far-up-river, lagoons and hyper-saline environments. They are usually in schools over sand or mud bottom, between 0 and 10 m. They are mainly diurnal, feeding on detritus, micro-algae and benthic organisms. Juveniles feed on zooplankton until about 3 cm of standard length. Reproduction takes place at sea, at various times of the year depending on the location. Females spawn 0.8 to 2.6 million eggs which develop at sea. Sexually mature at 3 to 4 years at an average size of 35-45 cm. The spawning usually occurs during October to December along the southwest coast of India including Goa.

With an average catch of 280 tonnes per annum, mullets contributes to about 7% of the total inland fish production along Goa and the major contribution (about 80%) is from flathead grey mullet, *Mugil cephalus*. Thus, grey mullet holds an important role in the fisheries livelihood and socioeconomic scenario of the coastal fishermen in Goa.

Considering its ecological and economic importance in the state of Goa, Flathead grey Mullet (*Mugil cephalus*) has been declared as 'State Fish of Goa'.



Year wise catch (tonnes) of grey mullet along Goa during 2001-2013

MULLET FISH CURRY

This species is known for its delicacy around the globe and is consumed in various forms (fresh, dried, salted, and frozen; eggs are sold as fresh or smoked). It is a delicacy in Goa and various types of preparations such as fried, smoked, dried and fish curry are made. It is nutritionally superior with high quality protein, essential amino acids and fatty acids. Flathead Grey mullet are much in demand, particularly in monsoon when the sea catches are low.

“A people and their religion must be judged by social standards based on social ethics. No other standard would have any meaning if religion is held to be necessary good for the well-being of the people.”

VI. PEOPLE & EVENTS

A. AQUA GOA MEGA FISH FESTIVAL

The 3rd Aqua Goa Mega Fish Festival showcased Goa's rich varies and amazing Marine world was held for four days at Navelim, Salcete Goa from 7th to 10th January, 2016 followed by two days festival at Mapusa, Bardez Goa from 16th to 17th January, 2016. The Department in collaboration with the National Fisheries Development Board, Hyderabad initiated this festival to promote Goa's rich fish culture, the fishing industry and to create awareness among general public. The festival provided a common platform for various stake holders to come together to build a strong economy in the fisheries sector.

The Aqua Goa Fish Festival was kept open for public from 10.00am to 10.00pm with aquarium gallery, seminars, workshops, competitions, contests, exhibition cum commercial stalls, refreshment stalls etc. the stage performance and entertainment program was organized with food stalls.



B. CANOE RACE

The Department had organized a traditional canoe race for the first time on 26th January, 2016 in the State to keep up the spirit of traditional fishermen. The race was carried out under the Cavelossim-Assolna Bridge rowing on the Sal River. The event was organized in collaboration with the Lions Club of Cavellosim, Salcete.

Forty one traditional fishermen participated in the canoe race and were cheered by over a thousand people. Shri. Avertano Furtado, Hon'ble Minister Fisheries was the Chief Guest for the said event. Also, Shri. Bejamin Silva, Hon'ble MLA, Velim Constituency, Shri. Caetano R Silva, Benaullim Constituency, Shri. Wilson Rodrigues, President of Lions Club of Cavelossim, Smt. Pedrina Cardozo, Sarpanch of Assolna,

“Stability is wanted but not at the cost of change when change is imperative.”

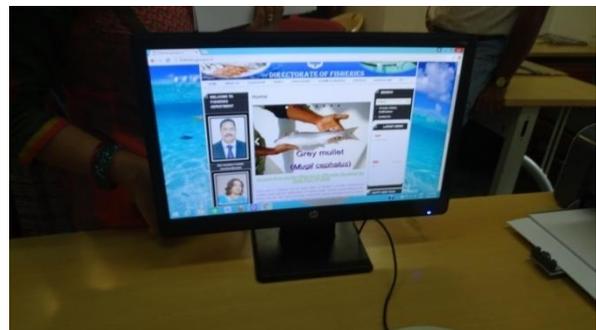
category for the canoe race there were around 36 participants and in ladies category there were 5 participants.

The event received a very good response from the participants and general public.



C. LAUNCHING OF WEBSITE OF DEPARTMENT OF FISHERIES

The Department of Fisheries has launched its website on 4th May, 2016 at the hands of Hon'ble Minister for Fisheries, Shri. Avertano Furtado, which will be accessible to general public through domain www.fisheries.goa.gov.in. The creation of website has been done by Infotech Corporation of Goa Ltd. It highlights brief about the Department. The website provides information about the schemes of the Department, Acts and Rules, Vacancies, Citizen Charter, various events conducted by the Department etc. which will help fishermen in particular and general public in knowing the Department. It highlights various activities conducted by the Department. Various applications required to avail the schemes can be accessible through the website. It will represent the Department and will give opportunity to tell the people about the services of the Department.



“Cultivation of mind should be the ultimate aim of human existence”

D. RELEASE OF GOAN FISH TRAILS Vol. - II

The 2nd yearly publication of the Goan Fish Trails was released on 29th August, 2015 at the hands of Hon'ble Chief Minister of Goa Shri Laxmikant Parsekar in presence of Hon'ble Minister of Fisheries Shri Avertano Furtado and Shri Sidharth Kuncolienker, MLA Panaji.

E. NARALI POORNIMA CELEBRATION

The annual Samudra Puja followed by Satya Narayan Puja was celebrated by the department on 29th August 2015. The puja was attended by Hon'ble Chief Minister of Goa Shri Laxmikant Parsekar, Hon'ble Minister of Fisheries Shri Avertano Furtado and Shri Sidharth Kuncolienker, MLA Panaji.

A mass was also offered by the department at the Immaculate Conception Church, Panaji, Goa.

F. WORLD FISHERIES DAY

Government of India Ministry of Agriculture and Farmers Welfare, Department of Animal Husbandry, Dairying and Fisheries, Krishi Bhavan, New Delhi celebrated World Fisheries Day on 21st November, 2015 at A P Shinde Symposium Hall, NASC Complex, Pusa, Dev Prasad Shastri Road, Opposite Todapur Village, New Delhi.

It is with great pride to announce that The Mandovi Fishermen Marketing Co-operative Society Ltd, from Malim, Goa was declared as the **Best Progressive Functioning Fisheries Co-operative** under Marine Capture Fisheries and felicitated at the hands of the Hon'ble Union Minister for Agriculture and Farmers Welfare, Shri Radha Mohan Singh.



"I measure the progress of a community by the degree of progress which women have achieved"

G. STAFF PICNIC

The annual Staff Picnic was held on 30th January, 2016 at Morjim Beach, a get together to enjoy the day with fun, games, prizes, singing, dancing and knowing each other.



“Indians today are governed by two different ideologies. Their political ideal set in the preamble of the Constitution affirms a life of liberty, equality and fraternity. Their social ideal embodied in their religion denies them.”

VII. POLICY REVIEW

A. MONSOON FISHING BAN IN THE STATE OF GOA

The Government of India has imposed an uniform ban on fishing by all fishing vessel in the Indian Exclusive Economic Zone beyond territorial waters on the West Coast including Lakshadweep Island from 1st June to 31st July 2016 (61 days) and the East Coast of India including Andaman and Nicobar Island from 15th April to 14th June 2016 (61 days) for the purpose of conservation and effective management of fisheries resources and for safety of fishermen.

The demand of the state to have a uniform monsoon fishing ban along the west coast has been accepted by the neighbouring states of Maharashtra and Karnataka. The monsoon fishing ban is now notified and implemented from 1st June to 31st July. In monsoon, during the ban period only non motorized and motorized canoes fitted with upto 10HP outboard using gill net are exempted from the ban.

The main aim towards the fishing ban is to conserve the fish and protect the breeding species as most of the fish species breed during the monsoon and assist to increase the fish productivity in the State. The ban also ensures the safety of the fishermen due to the rough weather in monsoon, and allows the fishermen to undertake annual maintenance of their fishing vessels.

B. INCREASE IN LENGTH OF FISHING CANOES

The traditional fishermen placed their constant demand before the Department to allow construction and registration of fishing canoe with length more than 36ft. They claimed that the canoe length of 36ft is not enough to withstand the rough sea conditions. Accordingly the Department asked all the Traditional Fishermen Society for their opinion on the increase of length of fishing canoes. Since majority of the fishermen Society gave a positive reply the Department put up the matter for the decision of the Government which approved the construction and registration of canoes with maximum overall length of 38ft (11.582m).

“History shows that where ethics and economics come in conflict, victory is always with economics. Vested interests have never been known to have willingly divested themselves unless there was sufficient force to compel them”

C. CONSTRUCTION OF NEW FISHING VESSEL

The Government of Goa had taken policy decision in the year 2007 to grant permission for construction/purchase of new vessels upto 25 per year against replacement of old/sunk vessels so that the total number of the existing fishing vessels in the State does not increase. The quota was increased to 35 due to the advanced technology and new fishing techniques used by the fishermen, so as to allow vessels to fish in deep sea.

The Government of Goa has also permitted fishing vessels to be constructed upto an overall length of 23m.

D. BAN ON USE OF LED-LIGHT FISHING, BULL/PAIR TRAWLING IN TERRITORIAL WATER

There was a demand from the traditional fishermen and the trawler owners from the State to ban the use of LED light and fish attractor or any other light equipment for fishing, since the traditional fishermen were not getting enough catch and their livelihood was affected.

After discussions with the Fishermen, the Government took a stand to ban the use of LED light fishing within the territorial waters of Goa that is upto 12 nautical miles and issued a notification in this respect banning fishing in the specified area by bull or pair trawling and prohibiting the use or installation of the fishing gears such as LED lights, fish light attractors or any other light equipment with or without generator, on mechanized fishing vessel or motorized fishing craft, for trawling, purse-seining or gill netting.

“A politician must know that Society cannot bear the whole truth and that he must not speak the whole truth ; if he is speaking the whole truth it is bad for his politics.”

VIII. VISION OF THE DEPARTMENT

Showcase the prospective future endeavours and achieve the set goals.

A. **VISIONARY PROJECTS:**

(i) **Inland Riverine Cage Farming**

There is vast scope to promote Inland Riverine Cage Farming in the State. Cage Farming of fish like Pompano and Sea Bass and mussel in brackish water will be taken up for culture to increase the Inland Fish Production.

Action Initiated: A proposal for 50 cages has already been approved by the government and is on the verge of the implementation.

(ii) **Reservoir Cage Fish Farming**

Cultivation of Basa, *Pangasius* sp in the three major reservoirs and a number of smaller reservoirs will be taken up as potential resource.

Action Initiated: The initial project of 48 cages has been approved by the government and ready for installation.

(iii) **Fish Museum**

The Department has a plan to build a fish museum that will help to maintain records of fish diversity in the state. The Fish Museum will give an opportunity to the research scholars to conduct studies, generate inquisitiveness in school children and active interest in general public towards fish and fisheries. This will create awareness for conservation of endangered fishes.

Action Initiated: The proposal is under consideration of the government.

(iv) **Solar Driers**

The Department proposes to install solar driers for drying of fish in hygienic manner for human consumption, at selected areas. The fishermen shall be trained to use these solar driers so that they get better value for their produce.

Action Initiated: The proposal is under consideration of the government.

“Varna and Caste are two very different concepts. Varna is based on the principle of each according to his worth-while Caste is based on the principle of each according to his birth.”

(v) Ornamental Fish Farming:

Ornamental Fisheries has tremendous scope in Goa as well as for export.

Action Initiated: Approval to set up a demonstration unit of ornamental fish has already been conveyed by the government. The financial support scheme to help entrepreneurs and youth to take up this activity is already notified. This will help to achieve the vision of making Goa known for ornamental fish farming.

(vi) Aqua Marine Park:

The Department also proposes to set up a marine park at Benaulim Prawn Hatchery site, which can also boost eco-tourism in the state. The Aquamarine Amusement Park is envisaged to provide the public with knowledge and experience of the enchanting underwater world of the fish and other aquatic resources besides add-on Tourism Avenue to the tourist visiting the state.

It is designed to view aquatic life under water something akin to viewing terrestrial animal in a zoo. The aqua marine parks among other things will feature vary large water holds with a viewing glass. The prime emphasis is not just on entertainment but also on conservation issues and public education. With the vision to attract substantial investment and develop a major aquamarine park for amusement and education in Goa, the Department of fisheries is envisaging to put the State in edutainment map of India.

Action Initiated: The department has worked towards this by preparation of an initial project proposal, which has been handed over to GSIDC, Goa. The GSIDC has prepared the tender document which is under scrutiny.

“One does not like to make personal reference in an argument which is general in its application. But when one preaches a decline and holds it as a dogma there is a curiosity to know how far he practises what he preaches.”

IX. ARTICLES BY DEPARTMENT PERSONNEL

1. SUBSISTENCE TO SUSTAINABILITY

Shri Samir R Korgaonkar, Statistical Assistant
Directorate Of Fisheries, Panaji, Goa



The maximum sustainable yield (MSY) of fish production for Goa is computed at around 85,000 tonnes a year (Monteiro 2006). The fish production in the State has crossed the MSY and there is need for conservation and management of the resources for sustainable development. Every fisher has to need to understand the implications of Sustainability which may indeed be divided in categorical distribution of fish species.

Some of the facts and figures related to average fish production for the last fifteen years is been analysed in this write up which may be seen below. The analysis is done in an average period of five years i.e. 2001-05, 2006-10 and 2011-15, with keeping the base year as 2001-05 (Table No. 2.1 & 2.2)

The marine production in the average consolidation of five years in last fifteen years when compared shows a total sustainable steady growth of 81638 tonnes from 2001–05 to 99427 tonnes in 2011-2015 thereby giving a hike of 21.79%.

The pelagic resources of Mackerel and Sardine earmarked its growth of 59.86% and 58% respectively for the year 2011-15, in comparison to the average production for 2001-05.

Mackerel, which formed an average growth of 89.28% in the year 2006-2010, depicted the highest growth potentiality of any recorded species in the Department. The production of Sharks, Ribbon Fish, Silver Bars reduced by 80% and Cat Fish by 56%. The monsoon fishing ban ensures that the fish gets time to breed and to procreate to make the progeny available to the fishery stock.

“Stability is wanted but not at the cost of change when change is imperative.”

Coming to the Inland fish production, it is observed that the average production for the year 2011-15 has risen to 3.80%. It is also to mention that the state fish of Goa i.e. Mullet has shown a growth of 37.73% in 2006-2010 and thereafter by 66.98% in 2011-2015. Further, it is observed that the average overall production of shell fish has decline over a period of 15 years. The Mussel production also saw a steep production followed by Black Water clams and oysters in 2011-2015. However, production of false clams showed an increasing trend. The analysis is made keeping the base year as 2001-2005 for average of five year period.

To conclude, I would like to say that, it is certainly the need of the hour, to sustain our natural resources and also to meet the demand of fish in our economy. To balance both we have to increase the fish production in the State on scientific basis and explore different aspects of Fisheries, with the help of Co-operative Movement between fishermen and the Government.

Table No. 2.1

Five year Average Marine Fish Catch Production for last 15 years (in MT)

Sr. No.	Species	Average Production 2001-2005	Average Production 2006-2010	Average Production 2011-2015
1	Mackerals (Bangdo)	9279	17564	14833
2	Sardines (Tarlo)	29149	28084	46094
3	Cat Fish (Sangot)	1475	1914	651
4	Shark fish (Mori)	1432	1500	283
5	Seer Fish (Wiswan)	3857	3044	2039
6	Prawns (Sungtam)	5203	8986	8730
7	Pomprets (Paplet)	694	402	702
8	Cuttle Fish (Manki)	1340	1278	2100
9	Tuna (Bokdo)	1035	1634	3041
10	Ribbon Fish (Balle)	3110	2134	628
11	Reef Cod (Gobro)	788	316	1033
12	Kowala kowal (Velli)	482	416	589
13	Golden Anchovy (Kapsale)	57	18	23
14	Silver Belly (Kampi)	2885	2020	1743
15	Soles (Lepo)	2087	1844	3745
16	Silver Bar (Karli)	451	376	89
17	Crabs (Kurlio)	876	1009	1210
18	Sciaenoids (Dodiario)	2546	2141	1654
19	Butter Fish (Soundale)	491	926	707
20	Others	14401	13200	9533
	Total	81,638	88,806	99,427

“A good man cannot be a master and a master cannot be a good man.”

Table 2.2**Five year Average Inland Fish Catch Production for last 15 years (in MT)**

Sr. No	Name of the Fish	Average Production 2001-2005	Average Production 2006-2010	Average Production 2011-2015
1	Prawns			
A	Big	43	21	89
B	Medium	151	75	157
C	Small	822	662	369
2	Lady Fish	95	43	82
3	Mullets	212	292	354
4	Gerres	94	86	96
5	Lutianus	33	14	56
6	Cat Fish	234	147	315
7	Anchovy	58	12	34
8	Pearl Spot	68	133	239
9	Betki	6	2	30
10	Milk Fish	0	26	45
11	Megalops	1	11	21
12	Scatophagus	29	41	68
13	Ambasis	98	41	109
14	Crabs	161	135	259
15	Black Water Clamps	544	458	99
16	False Clamps	195	260	570
17	Oysters	136	35	70
18	Mussel	321	112	21
19	Lepo	0	0	7
20	Indian Salmon	0	0	0
21	Balle Reddish	1	0	5
22	Sciaenoids	0	0	0
23	Others(Palu)	6	4	30
24	Others(Vagolem)	0	0	0
25	Others(Leather Jackets)	0	0	0
26	Others(Buyari)	0	0	0
27	Miscellaneous	635	641	968
	Total	3943	3251	4093

“A society based on Varna or Caste is a society which is based on a wrong relationship.”

2. Potential Aquaculture Candidate Species: Seabass

(Lates calcarifer)

By Miss Roshini Naik, Junior Technician

Directorate Of Fisheries, Panaji, Goa



Introduction

Lates calcarifer is commonly called the Giant Sea Perch, Seabass or Barramundi. The species locally referred to as ‘Chanok’ in Goa is an important coastal, estuarine and freshwater fish. The fish has a delicately flavoured flesh, is popular in the region and has high market price whenever it is available. It has a fast growth rate, grows to a large size, and can be bred in captivity, thus making it very suitable for aquaculture. Farmed seabass are usually marketed at around 900-1200g while wild caught ones usually weigh 5kg or more.

Farming practices

Seabass may be farmed in ponds or net cages, the former being either in brackish water or freshwater ponds and the latter in fixed or floating net cages in coastal waters.



Lates calcarifer (Seabass)

Site selection

Salinity: Being a euryhaline species, seabass can be farmed either in fresh water, brackish water or sea waters. However the fish is more commonly farmed in salinities ranging from 10-30ppt. hence ideal location for seabass farming are either along the coast or in coastal waters.

Temperature: Seabass grows best in warm waters; growth is slowed down under cooler water conditions. Optimum temperature range is 26-32°C.

Water quality: Other water quality parameters suitable for rearing of seabass are pH 7.5-8.5, dissolved oxygen 4-9ppm, ammonia < 1ppm, H₂S <0.3ppm and turbidity <0ppm.

“Anyone who relies on an attempt to turn the members of the caste Hindus into better men by improving their personal character is in my judgment wasting his energy and bugging an illusion.”

Water exchange: Sites should be located in areas with good water exchange i.e. having wide tidal fluctuations or strong currents.

Soil & other characteristics: farm site should be away from possible sources of pollution, e.g. Sewage or industrial discharges.

Design of culture structure

a) Ponds

Earthen ponds are usually rectangular in shape ranging in area from 0.1 to 2 hectares are built by excavation and are provided with an inlet and outlet gate to facilitate water exchange. Pond bottom is flat and slopes towards the outlet gate.



b) Fixed / Floating net cages

Fixed/ floating net cage farm comprises several units of net cages suspended from a floating raft anchored to seabed, as in case of floating net cages, or several units of net cages tied to wooden or bamboo poles implanted into the seabed, as in the cases of fixed net cages. Net cages are made of polyethylene material varying in size from 3m X 3m to 10m X 10m. Anchors are placed at 4 corners and mid positions of the raft, which consists of concrete blocks or cast iron ship anchors.



Stocking/ Feeding

Cannibalism is one of the serious problems in seabass culture. High mortality is encountered when uneven sizes of the fish are stocked. The culture may either be monoculture or polyculture, the latter being done in combination with forage fish like Tilapia (*Oreochromis mossambicus*) whose juveniles serve as food for the seabass. Under monoculture in net cages chopped trash fish seems as the main form of fish feed, in addition to artificial feeds like dry pellets during initial stages of culture. The culture period is 6-12 months to attain marketable sizes varying from 1.2 to 3.0kg.

“The sanctity of Caste and Varna can be destroyed only by discarding the divine authority of the Shastras.”



Conclusion

Seabass has been identified as a potential aquaculture species and farming through pond or net cages has immense scope in fisheries sector. However, several limitations to its culture remain. The high cost of trash fish that is used as feed for the seabass culture is a constraint. Cost of trash fish is the single most expensive item of the cost of production, comprising of 40%. An increase in the cost of the trash fish would significantly affect the cost of production.

“The saints have never according to my study carried on a campaign against. Caste and Untouchability. They were not concerned with the struggle between men. They were concerned with the relation between man and God. They did not preach that all men were equal. They preached that all men were equal, in the eyes of God.”

3 MANGROVE ECOSYSTEM

Dr. Smita A Mazumdar, Supdt. of Fisheries

Directorate Of Fisheries, Panaji, Goa



Mangroves represent a special marine ecosystem characterized by dense tangle of prop roots growing in coastal saline or brackish water in muddy and loose sediments. They develop in tropical and sub-tropical areas, mainly between latitudes 25° N and 25° S. Mangrove forests flourish in shallow, coastal waters, estuaries, lagoons and deltas and are known to stabilize the coastline. They are complex network of submerged root system reducing erosion from storm surges, currents, waves, and tides. The intricate root system of mangroves also makes these forests attractive to fish and other organisms seeking food and shelter from predators. India has approximately 3,15,000 ha of mangrove out of which about 65000 ha are along the west coast. The mangrove sediments are composed of clay and fine silt and enriched in organic detritus from the plant materials. These plant detritus are rich food source for the fish population. Mangrove infested regions are gifted with large variety of fish, crab, shrimp, and mollusk species. Mangrove fisheries form an essential source of food/ livelihood for coastal communities. Around 105 species of fishes, 20 species of shellfishes and more than 225 species of crustaceans are reported from mangrove regions of India. *Crassostreasp.*, *Mugilcephalis*, *Meretrixsp.*, *Penaeussp.*, *Scylla serrata* are among the important ones. Crabs and mud lobster (*Thalassinaanomala*) thrive in the muddy bottom of mangrove estuaries.



“The masses do not make any distinction between texts which are genuine and texts which are interpolations.”

Mangroves are highly productive components of the food web of coastal ecosystem. It enhances fish production in two ways by the provision of food and shelter. Their leaves and woody matter (detritus) forms a key part of the marine food chains that supports fisheries. The decomposers process the leaves and woody matter into more palatable fragments for other consumer. Mangrove output is further boosted by production of periphyton and phytoplankton occurring on mangrove trees, in their soils and in the water column, which is nutritionally more accessible to consumers. Furthermore, mangroves regularly profit from incoming nutrients from rivers and other adjacent habitats. They may also export nutrients, in the form of dissolved and particulate organic carbon, and living biomass, such as planktonic larvae and maturing fish and invertebrates. Physical structure of mangroves is also beneficial. Mangrove roots and trunks provide a structure that helps species such as oysters to grow. Their roots also trap fine particles, creating soft soils ideal for molluscs and crustaceans to burrow in. Mangroves also provide shelter for many species, enabling them to avoid predation and also invest more time in feeding. Finally, driven by the nutritional and physical benefits, many species use mangroves as nursery grounds. These include species that spend time in mangroves as juveniles before moving to offshore habitats such as coral reefs. Thus fisheries in these offshore habitats benefit from mangroves.

“None of the saints ever attacked the Caste System. On the contrary, they were staunch believers in the System of Castes. Most of them lived and died, as members of the castes which they respectively belonged.”

4 SCOPE OF ORNAMENTAL FISHERIES IN GOA

Shri. Chandresh P. Haldankar, Asst. Supdt. of Fisheries

Directorate Of Fisheries, Panaji Goa



Keeping colourful and fancy fishes known as ornamental fishes in aquarium is one of the oldest and most popular hobbies in the world. The growing interest in aquarium fishes has resulted in steady increase in aquarium fish trade globally.

Ornamental fish keeping and its propagation has been an interesting activity for many, which provide not only aesthetic pleasure but also financial openings. About 600 ornamental fish species have been reported worldwide from various aquatic environments. Indian waters possess a rich diversity of ornamental fish, with over 100 indigenous varieties, in addition to a similar number of exotic species that are bred in captivity.

There are quite a large number of tropical aquarium fishes known to the aquarists. While many of the fishes are easy to breed, some of these are rare, difficult to breed and expensive. Most of the exotic species can be bred and reared easily since the technology is simple and well developed. It is advisable to start with common, attractive, easily bred and less expensive species before attempting the more challenging ones. Aquarium fishes are mainly grouped into two categories, viz., Oviparous (egg - layers) and Viviparous (live-bearers).



“Chaturvarnya is harmful because the effect of the Varnavyavastha is to degrade the masses by denying them opportunity to acquire knowledge and to emasculate them by denying them the right to be armed.”

An ornamental fish unit can be categorized in three types depending upon the space available for the unit, scale of operations desired, scale of Production and the level of expertise.

1) Rearing Unit 2) Breeding Unit 3) Breeding and Rearing Unit

At present the market is mainly domestic and the demand is increasing steadily. The export market for indigenously bred exotic species is also fast growing and encouraging.



Goa with its highly sympathetic climatic conditions provides scope for the development of ornamental fisheries. This sector assumes special significance due to its huge potential in providing employment to the people especially from rural sector. The low production cost and higher returns with in a very short time, growing demand for fishes both from domestic and international market are the major attractions of this sector when compared to any other sector.

In order to address these opportunities in the State, the Directorate of Fisheries, Government of Goa have introduced a scheme “Financial Assistance for setting up of Ornamental fish unit in Goa” and it is promoted by organizing training programs and meetings on regular basis, ensuring participation of scientists, expertise’s and entrepreneurs. This will approach for the development in this sector in a scientific and organized manner resulting in upcoming entrepreneurs for taking up this activity.

“I am not in the habit of entering into controversy with my opponents unless there are special reasons which compel me to act otherwise.”

X. STATISTICS

A. TRAWLERS/PURSE-SEINERS REGISTERED

The Department has registered 1091 numbers of fishing vessels (Trawlers/Purse-seiners). Under replacement to its old vessels, the Department has issued 32 nos. of permissions to construct new vessel for the year 2015.

B. WATER SPORTS

The Department issues no objection certificate to the Water sports vessels operating at different beaches of Goa. The total number of NOC's granted for the year 2015-16 Taluka wise are as follows:

Sr. No.	Taluka	No. of Water Sports Vessels
1	Salcete	192
2	Bardez	1903
3	Tiswadi	86
4	Mormugao	14
5	Canacona	5
6	Pernem	1
	Total	2201

C. FISHING LICENCE:

The Department issues fishing license to the fishing vessels which is Mandatory documents to be kept onboard. The total number of new fishing license issued to the trawlers/purse-seiners and fishing canoes for the year 2015-16 is as follows:

Sr. No	Category	Number of Vessels
1	Trawler/Purse-seiners	23
2	Canoes	93
	Total	116

“You may dislike exceedingly a scheme of morality, which, if universally practised within a nation, would make that nation the strongest nation on the face of the earth.”

D. NO. OF VESSELS (TRAWLERS/PURSE-SEINERS) OPERATED AT MAJOR LANDING CENTRES FROM 1ST APRIL,2015 TO 31ST MARCH, 2016

Sr. No.	Fish Landing Centres	No. of Vessels
1	Chapora	49
2	Malim	278
3	Cutbona	279
4	Cortalim	2
5	Vasco	157
6	Talpona	-
Total		765

E. SPORT FISHING VESSEL:

Sport fishing is a major draw for tourist in any State. Sport fishing means fishing for pleasure or competition it is usually done with hook, line. This activity is carried out all over the World and is ecologically safe, it does not use nets and has zero impact on commercial fishing. This kind of fishing is not catching fish in bulk rather selective fishing. The Department has registered 3 Sport fishing vessels upto 2015.

F. BLOCK- WISE TOTAL CANOES REGISTERED FOR THE YEAR 2015-16

Bardez	Nos
Candolim	1
Nerul	3
Siolim	2
Britona	1
Calangute	4
Chapora	3
Total	14

Vasco	Nos
Katem Baina	10
Cortalim	2
Khariwada	5
Bogmalo	2
Velsao	4
Total	23

“Change is the law of life for individuals as well as for society.”

Pernem	Nos
Morjim	2
Keri	2
Arambol	4
Mandrem	4
Total	12

Tiswadi	Nos
Dona Paula	3
Agassaim	1
Siridao	3
Cacra	2
Odxel	4
Caranzalem	3
Chorao	4
Total	20

Canacona	Nos
Palolem	15
Poinguinim	1
Agonda	6
Cola	2
Total	24

Salcete	Nos
Ambelim	2
Benaulim	2
Colva	2
Cavelossim	1
Total	07

G TOTAL MOTORIZED & NON-MOTORIZED CANOES UPTO 2015

Sr. No.	Taluka	Motorized	Non-Motorized	Total
1	Bardez	340	200	540
2	Tiswadi	285	175	460
3	Salcete	103	118	221
4	Vasco	450	202	652
5	Canacona	198	196	394
6	Pernem	141	64	205
7	Ponda	-	13	13
TOTAL		1517	968	2485

“The real remedy is to destroy the belief in the sanctity of the Shastras.”

H TALUKA WISE FISHING GEARS REGISTERED UPTO 2015

Type of Gear	Tiswadi	Bardez	Ponda	Pernem	Canacona	Mormugao	Salcete	Total
Sea gill net	819	780	25	308	674	1071	376	4053
Sea cast net	1	7	-	5	36	-	-	49
River gill net	78	54	48	18	12	10	37	257
River cast net	1	31	2	16	15	2		67
Rampon net	14	5	-	-	8	5	26	58
Drag net	26	48	-	-	5	62	21	162
Purse-seine net	84	59	-	-	1	94	200	438
Trawl net	418	395	-	21	18	362	364	1578
Barrier(Futauni)	69	57	73	6	36	48	47	336
Sluice gate	23	-	13	-	6	9	10	61
Stake net	79	49	86	8	-	6	194	422
Kadsari net	-	-	6	-	-	-	-	6
Other net	101	-	-	-	3	10	-	114
Ormol net	16	-	-	-	-	22	-	38
Singel net	8	-	-	-	-	73	-	81
Hook & line	-	-	-	1	-	-	-	1
Total	1737	1485	253	383	814	1774	1275	7721

“Political tyranny is nothing compared to social tyranny.”

Marine Fish Production of Goa for the period from 2006 to 2015 (in tonnes)

Table 1.1

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Marine Fish Catch (in tonnes)	96326	91185	88771	80687	87062	86185	86628	87984	128107	108240

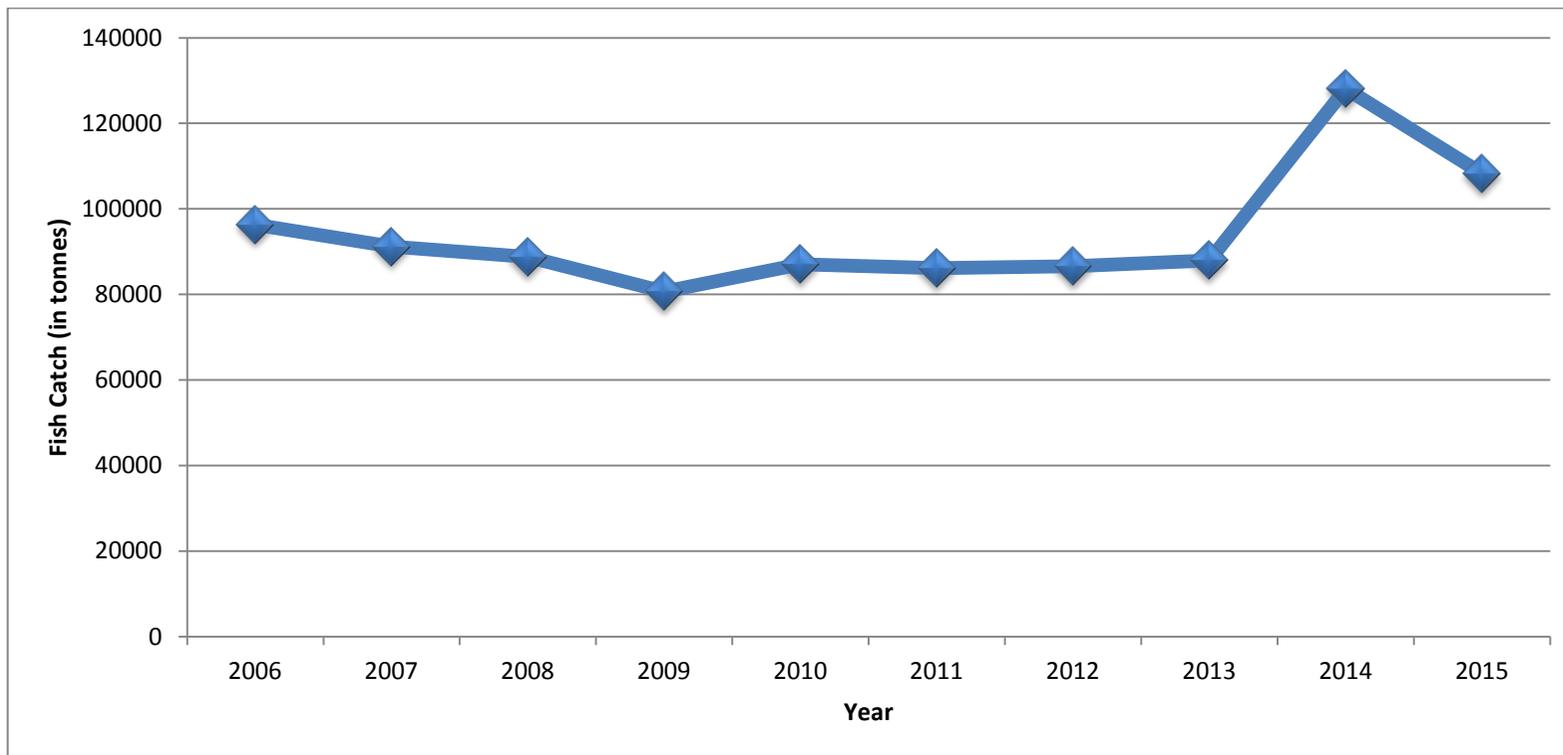


Fig.1.1

Inland Fish Production of Goa for the period from 2006 to 2015 (in tonnes)

Table 1.2

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Inland Fish Catch (in tonnes)	4131	2447	3077	3283	3311	3538	3887	4678	3718	4648

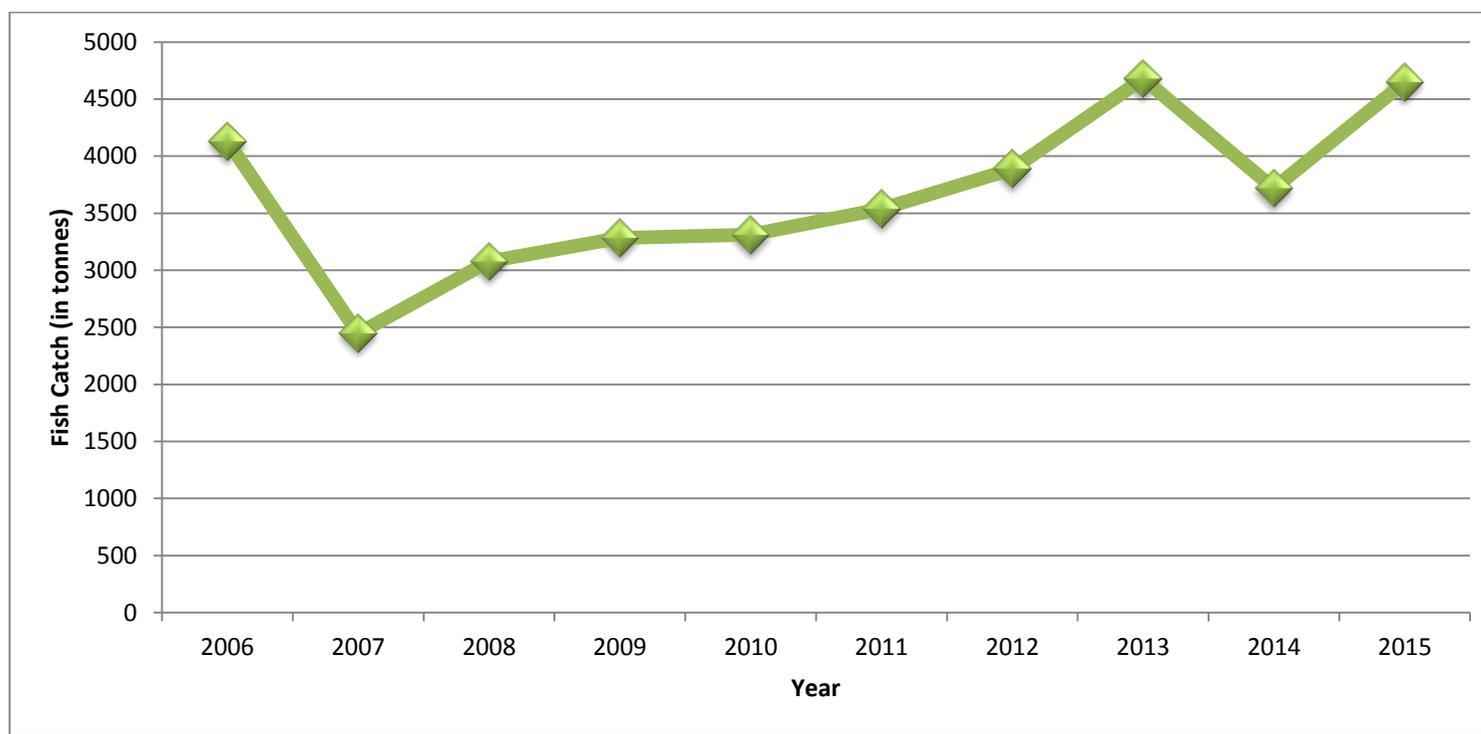


Fig.1.2

Major Jetty Wise Marine Fish Catch from 2006 to 2015 (in tonnes)

Table 1.3

Year	Malim	Cutbona	Vasco	Chapora	Talpona	Others	Total
2006	14378	17467	32102	904	425	31050	96326
2007	14756	14595	37373	1226	152	23083	91185
2008	16341	10027	34837	765	107	26694	88771
2009	17524	9386	29193	304	164	24116	80687
2010	15767	21857	28457	731	92	20158	87062
2011	10905	24879	27075	1507	150	21669	86185
2012	11194	31661	19567	1777	573	21856	86628
2013	24510	26589	17913	776	918	17278	87984
2014	22299	72351	14528	724	478	17727	128107
2015	28216	46179	17176	1441	365	14863	108240

Major Jetty Wise Marine Fish Catch from 2006 to 2015 (in tonnes)

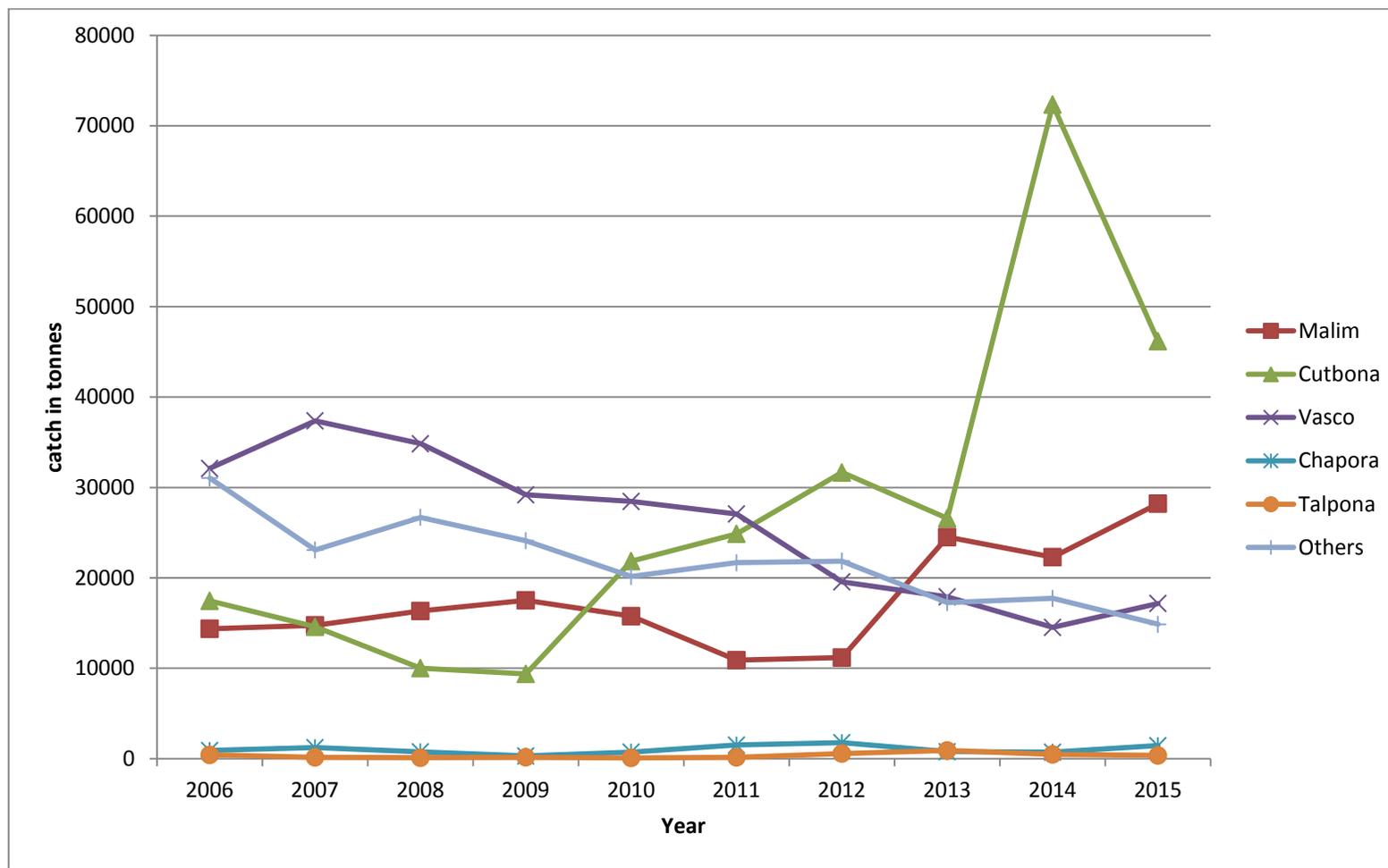


Fig.1.3

Table 1.4
Inland Fish Catch for the Year 2015

Species	Catch (In Tonnes)
Prawns	822
Lady Fish	95
Mulletts	429
Lutianus	88
Cat Fish	423
Pearl Sport	291
Channok	63
Mud Crabs	368
Shell Fish	856
Others	1213
Total	4648

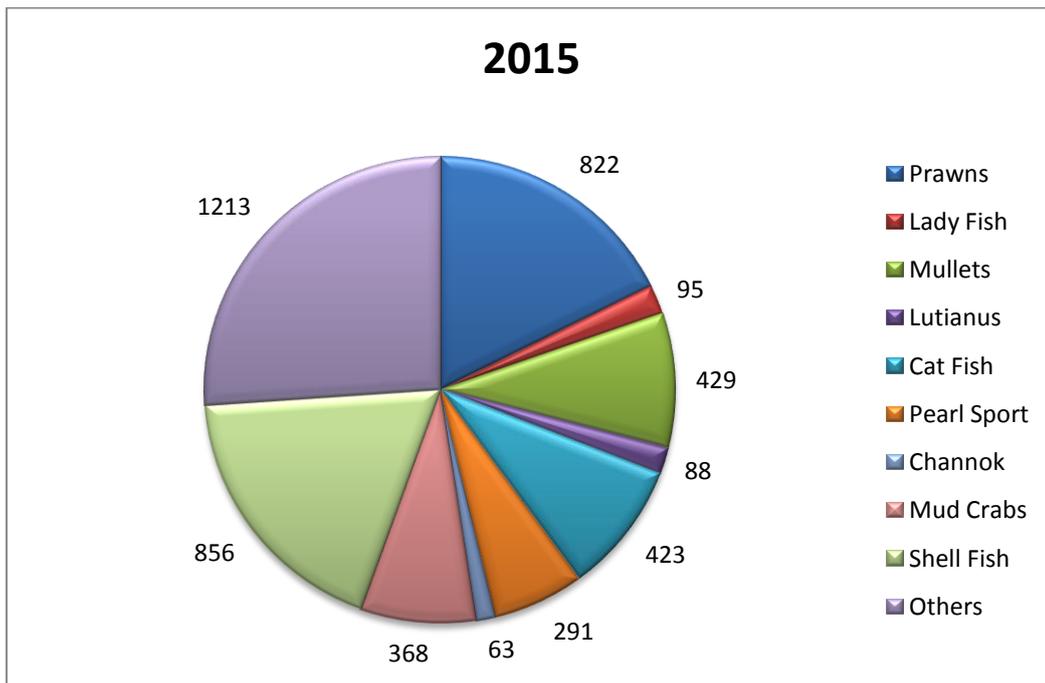


Fig.1.4

“Religion, in the sense of spiritual principles, truly universal, applicable to all races, to all countries, to all times.”

Table 1.5

Marine Fish Catch in tonnes for the Year 2015

Species	Catch (In Tonnes)
Mackerel	10876
Sardine	57270
Cat fish	367
Shark	216
Seerfish	2363
Shrimp	9012
Pomfret	977
Others	27159
Total	108240

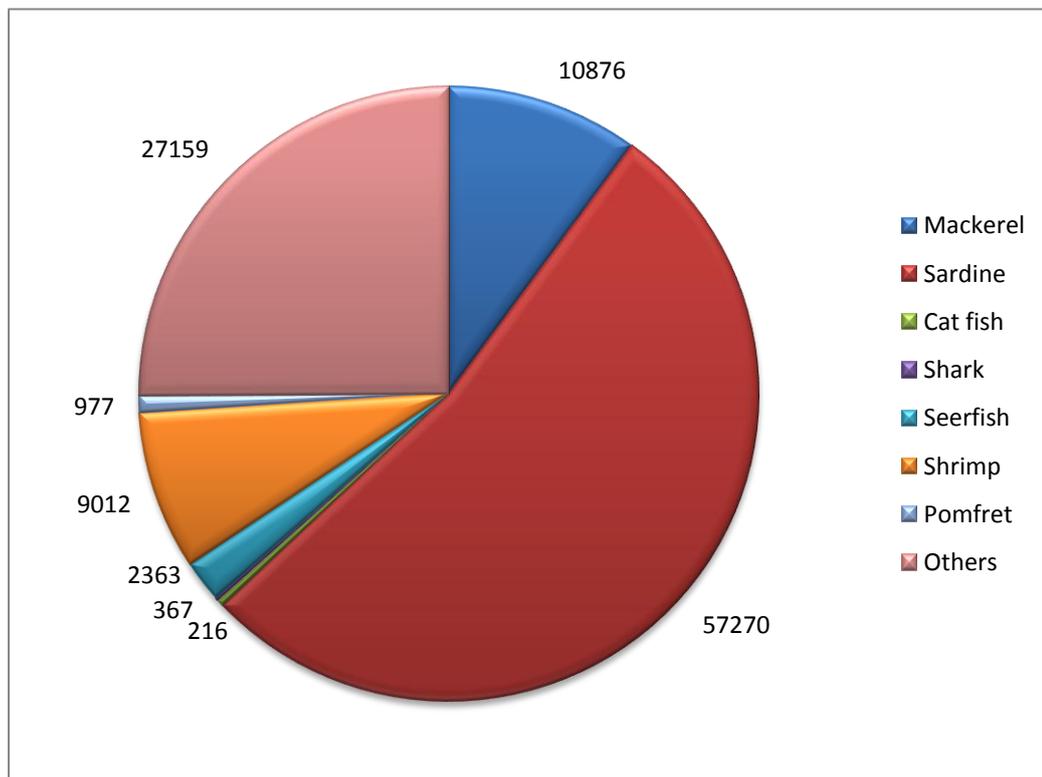


Fig.1.5

“Religion must mainly be a matter of principles only. It cannot be a matter of rules.”

Marine Fish Production of Goa for the period from 2006 to 2015 (in tonnes)

Table 1.6

Sr. No.	Species	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	2	3	4	5	6	7	8	9	10	11	12
1	Mackerals (Bangdo)	12244	19980	16597	15169	23831	22128	17860	12994	10308	10876
2	Sardines (Tarlo)	30558	28574	34062	23496	23732	26391	34329	31629	80849	57270
3	Cat Fish (Sangot)	2586	1821	1480	2279	1402	1545	364	383	598	367
4	Shark fish (Mori)	988	1007	1019	1329	3159	375	234	281	307	216
5	Seer Fish (Wiswan)	3522	4407	3777	2285	1229	1844	1616	2751	1621	2363
6	Prawns (Sungtam)	9065	8642	7458	9795	9970	8008	8968	8380	9283	9012
7	Pomprets (Paplet)	446	559	534	284	185	376	174	1342	643	977
8	Cuttle Fish (Manki)	1919	330	2201	--	1941	1012	1180	4422	2150	1737
9	Tuna (Bokdo)	589	1916	2095	1044	2524	3801	2621	3520	1368	3896
10	Ribbon Fish (Balle)	5354	1368	2551	558	839	49	644	1107	376	966
11	Reef Cod (Gobro)	--	--	276	--	1303	5	495	1409	1262	1993
12	Kowala kowal (Velli)	724	226	455	395	279	438	562	1046	618	282
13	Golden Anchovy (Kapsale)	30	3	57	0	2	--	50	29	2	33
14	Silver Belly (Kampi)	3187	1664	1688	1976	1584	1012	1146	3328	1991	1240
15	Soles (Lepo)	2339	1950	1795	1532	1606	3995	3683	2579	3982	4487
16	Silver Bar (Karli)	435	251	336	637	219	62	98	54	121	110
17	Crabs (Kurlio)	1092	819	1021	1349	763	1236	1160	830	1256	1568
18	Sciaenoids (Dodiaro)	2404	1938	2780	2207	1376	1448	1629	1425	1802	1966
19	Butter Fish (Soundale)	892	615	655	1353	1116	978	656	594	676	630
20	Others	17952	15115	7934	14999	10002	11482	9159	9881	8894	8251
	Total	96326	91185	88771	80687	87062	86185	86628	87984	128107	108240

“You must destroy the Religion of the Shrutis and the Smritis. Nothing else will avail.”

Table 1.7

Inland Fish Production of Goa for the period from 2006 to 2015 (in tonnes)

Sr. No.	Species	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	2	3	4	5	6	7	8	9	10	11	12
1	Prawns										
a	Big	48	15	11	10	21	39	32	122	101	149
b	Medium	158	77	41	46	51	37	78	193	224	251
c	Small	979	811	571	618	333	285	361	405	373	422
2	Lady Fish	76	38	26	35	41	69	70	116	62	95
3	Mulletts	196	233	304	375	354	386	391	336	230	429
4	Gerres	70	79	81	96	102	128	100	110	63	78
5	Lutianus	37	5	7	7	16	37	44	55	55	88
6	Cat Fish	196	111	115	144	167	211	268	331	341	423
7	Anchovy	35	3	1	5	14	35	25	26	52	34
8	Pearl Spot	64	116	140	171	172	219	236	261	188	291
9	Betki	4	1	1	1	5	13	13	32	29	63
10	Milk Fish		30	26	33	39	65	52	61	18	28
11	Megalops		4	1	20	28	20	16	19	16	35
12	Scatophagus	33	36	37	45	54	75	42	81	54	89
13	Ambasis	88	9	27	48	32	65	69	131	128	154
14	Crabs	138	116	116	151	152	190	204	251	281	368
15	Black Water Clamps	718	604	307	332	330	130	76	119	21	151
16	False Clamps	155	70	360	158	555	592	442	759	442	614
17	Oysters	167	1	1	2	6	57	163	30	37	62
18	Mussel	358	88	113	-	1	11	9	24	33	29
19	Lepo	--	--	--	--	2	2	5	11	7	11
20	Indian Salmon	--	--	--	--		--	--	--	0	--
21	Balle Reddish	--	--	--	--	1	25	--	--	2	--
22	Sciaenoids	--	--	--	--		--	--	--	--	--
23	Others(Palu)	4	--	--	--	15	--	54	30	16	48
24	Others(Vagolem)	--	--	--	--	--	--	--	--	--	--
25	Others(Leather Jackets)	--	--	--	--	--	--	--	--	--	--
26	Others(Buyari)	--	--	--	--	--	--	--	--	--	--
27	Miscellaneous	607	--	791	986	820	847	1137	1175	945	736
	Total	4131	2447	3077	3283	3311	3538	3887	4678	3718	4648

Table 1.8**EXPORT OF MARINE FISH & FISHERY PRODUCTS**

Sr. No	Item	(MT)				
		2011	2012	2013	2014	2015 (Provisional)
1	Fr. Shrimps	-	-	297	2165	2472
2	Fr. Cuttle Fish	991	3802	2805	4817	2536
3	Fr. Squids	1342	2288	4721	4583	4573
4	Fr. Fresh Fish	-	-	-	-	22023
5	Fr. Tuna	-	27	55	274	-
6	Ribbon Fish	6415	6770	8142	5445	-
7	Indian Mackerels	16817	9252	8410	11411	-
8	Reef Cod	941	444	1258	184	-
9	Fr. Seer Fish	294	147	-	24	-
10	Fr. Assorted Fish	-	-	-	9834	-
11	Other fishes	11029	19945	8251	228	2610
12	Dried Fishes	-	-	-	1400	600
	Total	37829	42675	33939	40365	34814

The data provided by Marine Product Export Development Authority has been made available in this format which is exported through Mormugao Port Trust.

“Rules are practical ; they are habitual ways of doing things according to prescription. But principles are intellectual ; they are useful methods of judging things.”

Table 1.9

FINANCIAL YEAR-WISE MARINE FISH PRODUCTION

(In Tonnes)

Sr. No.	Species	2011-12	2012-13	2013-14	2014-15	2015-16
1	Mackerals (Bangdo)	23544	13458	13687	9526	11432
2	Sardines (Tarlo)	25110	27895	50551	68593	52901
3	Cat Fish (Sangot)	1496	395	502	578	329
4	Shark fish (Mori)	597	281	284	288	255
5	Seer Fish (Wiswan)	1967	1671	2853	1578	2750
6	Prawns (Sungtam)	8803	8080	9472	8378	9123
7	Pomprets (Paplet)	355	517	1226	449	1037
8	Cuttle Fish (Manki)	814	1375	4447	2302	2091
9	Tuna (Bokdo)	3121	1642	3366	1560	5577
10	Ribbon Fish (Balle)	299	426	1148	593	847
11	Reef Cod (Gobro)	22	624	1306	1876	1905
12	Kowala kowal (Velli)	429	564	1270	402	268
13	Golden Anchovy (Kapsale)	2	50	28	6	174
14	Silver Belly (Kampi)	944	1433	3353	1714	1722
15	Soles (Lepo)	4863	2666	2862	4266	4085
16	Silver Bar (Karli)	85	86	96	109	152
17	Crabs (Kurlio)	1273	1027	1084	1167	1390
18	Sciaenoids (Dodiario)	1361	1690	1689	1841	1980
19	Butter Fish (Soundale)	740	733	698	535	801
20	Others	10380	9100	9652	8939	8250
	Total	86205	73713	109574	114700	107069

“Doing what is said to be, good by virtue of a rule and doing good in the light of a principle are two different things. The principle may be wrong but the act is conscious and responsible. The rule may be right but the act is mechanical.”

Table 1.10

FINANCIAL YEAR-WISE INLAND FISH PRODUCTION

(In tonnes)

Sr. No.	Species	2011-12	2012-13	2013-14	2014-15	2015-16
1	Prawns (Sungtam) Big	36	52	132	82	160
2	Prawns (Sungtam) medium	49	106	218	196	236
3	Prawns (Sungtam) small	290	376	407	347	394
4	Lady fish (Muddoshi)	59	96	90	62	108
5	Mulletts (Shevto)	387	390	331	208	458
6	Gerres (Shetki)	128	102	105	49	88
7	Lutianus (Tamsa)	45	44	51	55	105
8	Cat fish (Sangot)	223	289	352	314	431
9	Anchovy (Motialli)	35	26	29	48	30
10	Parl spot (Kalunder)	234	251	237	180	305
11	Betki (Channok)	14	19	29	29	77
12	Milk fish (Gholi)	69	55	48	15	28
13	Megalops (Keri)	20	18	19	14	40
14	Scatophagus (Mutre)	72	45	72	57	99
15	Ambasis (Burante)	51	87	135	121	181
16	Crabs (Kurlio)	198	202	275	263	376
17	Black water clamps (Kubye)	128	71	94	18	164
18	False clamps (Tisrio)	555	702	584	266	765
19	Oysters (Kalwam)	163	57	28	36	79
20	Green clamps (Xinanee)	13	5	38	27	31
21	Lepo	3	4	11	7	12
22	Indian salmon	0	0	0	0	0
23	Balle Reddish	25	0	0	2	0
24	others	45	51	22	13	64
26	Miscellaneous	925	1118	1178	867	611
	Total	3767	4166	4485	3276	4842

“Reason and morality are the two most powerful weapons in the armoury of a Reformer. To deprive him of the use of these weapons is to disable him for action.”

XI. HUMAN RESOURCE

A. PROMOTION

Following Staff Were Promoted During 2015 - 2016

Sr. No.	Name of the Officers	Promoted to
1.	Shri Hanumant M. Vaigankar, Fisheries Officer	Asstt. Supdt. of Fisheries
2.	Smt. Kshama P. Shenui Navelkar, Junior Stenographer	Head Clerk
3.	Smt. Palhavi Vikas Sinai Dangui, LDC	UDC
4.	Shri Samir Santosh Parab, LDC	UDC
5.	Shri Alec Santan D'Souza, Fisheries Surveyor	Fisheries Officer
6.	Shri Vipul Mapari, Fisheries Surveyor	Fisheries Officer
7.	Shri Devanand Vinayak Lone, Junior Deckhand	Fisheries Surveyor
8.	Shri Gopal Ganpat Zuvatkar, Junior Deckhand	Fisheries Surveyor
9.	Shri Kamalkant Govind Gaude, Junior Deckhand	Fisheries Surveyor
10.	Shri Hari Fati Palyekar, Fieldman	Junior Deckhand
11.	Shri Anay Rajanikant Halarnkar, Fieldman	Junior Deckhand
12.	Shri Pravin Narayan Shirodkar, Fieldman	Junior Deckhand
13.	Shri Gopal Devraj Naik, Fieldman	Junior Deckhand
14.	Shri Siddarth Tulshidas Mishal, Helper	Fieldman

B. NEW APPOINTMENTS

Sr. No	Name of Employee Appointed	Designation
1	Shri Subhash Laxman Gaonkar	Fisheries Surveyor
2	Kum. Shenja Sabrina Coutinho	Fisheries Surveyor
3	Shri Rajesh Dhruva Nechkankar	Fisheries Surveyor
4	Shri Lavkush Krishna Malik	Fisheries Surveyor
5	Shri Vedanand Shirodkar	Fisheries Surveyor
6	Shri Kishen Rama Borcar	Fisheries Surveyor
7	Smt. Seema S. Shet Dessai	Fisheries Surveyor
8	Kum. Saily Subhash Korgaonkar	Fisheries Surveyor
9	Shri Vishal Nanu Pagi	Fisheries Surveyor
10	Smt Janhavi Tukaram Redkar	Fisheries Surveyor
11	Shri Nikhil Narayan Betkikar	Fisheries Surveyor
12	Shri Ankush Govind Shirodkar	Fisheries Surveyor

“Sadachar does not means good acts or acts of good men. It means ancient custom good or bad.”

Sr. No	Name of Employee Appointed	Designation
13	Shri Bablo Narayan Kalangutkar	Fisheries Surveyor
14	Shri Nitin Jotiba Anandache	Fisheries Surveyor
15	Shri Mahadev Vithu Gaonkar	Fisheries Surveyor
16	Shri Damodharan L. Naik	Fisheries Surveyor
17	Shri Sujay Jiva Dessai	Fisheries Surveyor
18	Shri Kalpesh Kamlakar Gaonkar	Fisheries Surveyor
19	Shri Prathamesh P. Khanadeparkar	Fisheries Surveyor
20	Shri Krishna Nandkishore Naik	Fisheries Surveyor
21	Shri Vinayak Jaywant Pednekar	Fisheries Surveyor
22	Shri Amogh Mahavarkar	Fisheries Surveyor
23	Shri. Richard Raicar	LDC
24	Smt. Prajakta A. Haldankar	LDC
25	Kum. Steffi Melissa Pires	LDC
26	Kum. Frida Severina Barretto	LDC
27	Kum. Renisha Cardozo	LDC
28	Shri. Prathamesh Shirodkar	LDC
29	Smt. Sonia A. Naik	LDC
30	Shri. Damodar Kalangutkar	LDC
31	Shri. Gaston DA Silva	LDC
32	Shri Ramesh Mahadev Gawas	Wireless operator
33	Shri Norman Ricardo Pires Soares	Peon
34	Shri Felipe Colaco	Peon
35	Kum. Pritam Prakash Shirodker	Peon
36	Kum. Niella Valancy Fernandes	Peon
37	Shri Rajendra Laxman Naik	Peon
38	Shri Gangaram Babu Rathod	Peon
39	Shri. Chandrakant N. Narulkar	Helper
40	Shri. Bhiva Prabhakar Gawas	Helper
41	Shri Ratnakar Jairam Kanolkar	Watchman
42	Shri Vaibhav V. Tamboskar	Watchman
43	Shri Dilesh Tuko Pagui	Engine Driver

“Man’s life is generally habitual and unreflective.”

C. RETIREMENTS



Following Staff Retired On Superannuation

Sr. No.	Name of the Officer/Official	Date	Designation
1.	Shri Eknath Phadte	31/05/2015	Engine Driver
2.	Shri Suresh Tari	31/05/2015	Junior Deckhand
3.	Shri Vishnu Harmalkar	30/09/2015	Fisheries officer
4.	Smt. Judith F.A. Lobo	31/12/2015	Head Clerk
5.	Smt. Inez Rodrigues	29/02/2016	UDC
6.	Shri Rohidas K. Naik	31/03/2016	Junior Deckhand

"An intellectual man can be a good man but he can easily be a rogue."

XII PHOTO GALLERY

A. AQUA GOA MEGA FISH FESTIVAL 2016 (NAVELIM)



“A revolutionist is not the kind of man who becomes a Pope and that a man who becomes a Pope has no wish to be a revolutionist.”



“Knowing the proper ways and means is more important than knowing the ideal.”



“Caste has a divine basis. You must therefore destroy the sacredness and divinity with which Caste has become invested. In the last analysis, this means you must destroy the authority of the Shastras and the Vedas.”

B. AQUA GOA MEGA FISH FESTIVAL 2016 (MAPUSA)



“Knowing the proper ways and means is more important than knowing the ideal.”



“You must not only discard the Shastras, you must deny their authority, as did Buddha and Nanak.”

C. CANOE RACE HELD ON 26TH JANUARY, 2016



D. STUDY TOUR TO KARNATAKA & KERALA FROM 18TH TO 24TH JAN, 2016



“Caste has a divine basis. You must therefore destroy the sacredness and divinity with which Caste has become invested. In the last analysis, this means you must destroy the authority of the Shastras and the Vedas.”



E. STUDY TOUR TO CHENNAI FROM 14TH TO 20TH FEBRUARY, 2016



People will not change their conduct until they cease to believe in the sanctity of the Shastras on which their conduct is founded.

F. STUDY TOUR TO GUJARAT FROM 22ND TO 27TH FEB, 2016



G. NARALI POORNIMA CELEBRATION ON 29th August, 2015



“Make every man and woman free from the thralldom of the Shastras, cleanse their minds of the pernicious notions founded on the Shastras, and he or she will inter-dine and inter-marry, without your telling him or her to do so.”

H. MASS AT MARY IMMACULATE CHURCH



I. HARVESTING OF OPEN SEA CAGE CULTURE



“People will not change their conduct until they cease to believe in the sanctity of the Shastras on which their conduct is founded.”

XIII EMPLOYEE DIRECTORY

Sr. No.	Name	Designation	Contact No.
1	Dr. Shamila Monteiro	Director of Fisheries	9326125026
2	Chandrakant D. Velip	Dy. Director of Fisheries	9923499855
3	Dr. Smita Mazumdar	Supdt. of Fisheries	8806086860
4	Megha Kerkar	Supdt. of Fisheries	9420162084
5	Chandresh P. Haldankar	Supdt. of Fisheries	9764480663
6	Manisha Gaonkar	Assistant Accounts Officer	9158056391
7	Pramodini P Mardolkar	Office Supdt.(Retd.)	9158372625
8	Chandan A Shirodkar	Asst. Supdt. of Fisheries	9270067014
9	Preetam Baburay Naik	Asst. Supdt. of Fisheries	8806839645
10	Zigyasaben Shankar Patel	Asst. Supdt. of Fisheries	8407973579
11	Kshama Navelkar	Head Clerk	9423075353
12	Hazel Almeida	Accountant	9921367879
13	Rosario Estevao Botelho	Stat. Asst.	9822984134
14	Francisco Victor Dos Milagres de souza	Stat. Asst.	9767807634
15	Samir R.Korgaonkar	Stat. Asst.	8888687764
16	Shailesh M Tari	Investigator	9922537646
17	Sanchita Nagvekar	Investigator	9049170956
18	Hanumant M Vaingankar	Asst. Supdt. of Fisheries	9922353425
19	Pundalik K Naik	Fisheries Officer	9765791442
20	Agnelo D Melo	Fisheries Officer	7507639755
21	Prakash S Morje	Fisheries Officer (Retd.)	9923852588
22	Gurudas A Kerkar	Fisheries Officer	9423883241
23	Mahesh V Korgaonkar	Fisheries Officer .(Retd.)	9923319025
24	Bhanudas T Madgaonkar	Fisheries Officer	9822031147
25	Dr. Sunita Rupesh Pauskar	Fisheries Officer	9850764554
26	Pradeep M. Gawas	Fisheries Officer	9403175091
27	Ravi Rodrigues	Fisheries Officer	9921948844
28	Dias Pearl Carmel	Fisheries Officer	9158387367
29	Alec Dsouza	Fisheries Officer	9604033152
30	Vipul V Mapari	Fisheries Officer	8806407880
31	Roshini Ulhas Naik	Jr. Technician	9764243587
32	Shamrao R Raikar	Lab Assistant	9923159494
33	Prakash P Kawthankar	Mech. Instructor	9822981836
34	Ganpat Shivram Chari	Net Mending Instructor	9765157218
35	Siddesh R Kerkar	Mech.Gr.I (Diesel)	9421248792
36	Dinesh S Naik	Mech.Gr.II (Ref.)	9423061334
37	Dina Narayan Volvoikar	Store Keeper	9049600907
38	Deepak Kunkollikar	Marketing Inspector	8806624355
39	Roshan R Taluanekar	UDC	9049270608
40	Joao F C Mascarenhas	UDC	8322787090
41	Gauri R Golatkar	UDC	9049481636
42	Govind K Gawde	UDC	9764864284
43	Samir S. Parab	UDC	8390829693
44	Uday Y. Kamat	UDC	9923748915
45	Pallavi V S Dangui	UDC	9850183385
46	Lavu C. Gauns	LDC	7774953547
47	Ujwala V. Naik Sirodkar	LDC	9860032006
48	Umesh Dattatray Kulkarni	LDC	8411025887

“The enemy, you must grapple with, is not the people who observe Caste, but the Shastras which teach them this religion of Caste.”

Sr. No.	Name	Designation	Contact No.
49	Sidhesh Naik	LDC	9823454593
50	Anita Madkaikar	LDC	9637017392
51	Richard Raicar	LDC	9765468413
52	Prajakta A. Haldankar	LDC	9823987389
53	Steffi Melissa Pires	LDC	9822518207
54	Frida Severina Barretto	LDC	7721889747
55	Renisha Cardozo	LDC	8805232307
56	Prathamesh Shirodkar	LDC	9881211999
57	Sonia A. Naik	LDC	8975101221
58	Damodar Kalangutkar	LDC	7588454082
59	Gaston DA Silva	LDC	9011124435
60	Florence I Rebello	Wireless Operator	8411993438
61	Janardhan H. Naik	Wireless Operator	8007382769
62	Shivanand Surlakar	Wireless Operator	8408872613
63	Ramesh Gawas	Wireless Operator	9552080099
64	Anant Satardekar	Driver	9421087353
65	Govind Z Naik	Driver	9881744298
66	Subhash R Salgaonkar	Driver	9049018315
67	Satish B Gawas	Driver	9420744956
68	Lenin Aguiar	Driver	9823672438
69	Edward A Pereira	Fisheries Surveyor	9922623011
70	Madhu H Gokarnkar	Fisheries Surveyor	9923962981
71	Divakar A Korgaonkar	Fisheries Surveyor	9423837493
72	Mahesh N Volvoikar	Fisheries Surveyor	9922598437
73	Uday Waman Khanolkar	Fisheries Surveyor	9422018550
74	Saby Moraes	Fisheries Surveyor	9763555380
75	Harish Rohidas Prabhu	Fisheries Surveyor	9545225033
76	Nishi Navin Naik	Fisheries Surveyor	9860435071
77	Anil T. Naik	Fisheries Surveyor	9823137561
78	Avinash Arjun Arondekar	Fisheries Surveyor	8806753314
79	Sagar Ankush Naik	Fisheries Surveyor	7798889240
80	Rajeshri Santosh Gaonkar	Fisheries Surveyor	9923850398
81	Subhash Laxman Gaonkar	Fisheries Surveyor	9579302298
82	Lavkush Krishna Malik	Fisheries Surveyor	9673549177
83	Mahadev Vithu Gaonkar	Fisheries Surveyor	9420158813
84	Kalpesh Kamlakar Gaonkar	Fisheries Surveyor	9764937170
85	Vedanand Shirodkar	Fisheries Surveyor	8308364110
86	Kishen Rama Borcar	Fisheries Surveyor	8411953837
87	Saily Subhash Korgaonkar	Fisheries Surveyor	9673257293
88	Vishal Nanu Pagi	Fisheries Surveyor	9764682588
89	Nikhil Narayan Betkikar	Fisheries Surveyor	7038474124
90	Ankush Govind Shirodkar	Fisheries Surveyor	7798124462
91	Bablo Narayan Kalangutkar	Fisheries Surveyor	9823352145
92	Damodharan L. Naik	Fisheries Surveyor	9923843930
93	Prathamesh P. Khandeparkar	Fisheries Surveyor	9673272527

“The destruction of Caste does not therefore mean the destruction of a physical barrier. It means a notional change.”

Sr. No.	Name	Designation	Contact No.
94	Vinayak Jaywant Pednekar	Fisheries Surveyor	8806474529
95	Shenia Sabrina Coutinho	Fisheries Surveyor	9923033457
96	Rajesh Dhruva Nechkankar	Fisheries Surveyor	9765973713
97	Seema S. Shet Dessai	Fisheries Surveyor	9850104424
98	Janhavi Tukaram Redkar	Fisheries Surveyor	8805247089
99	Nitin Jotiba Anandache	Fisheries Surveyor	9673601030
100	Sujay Jiva Dessai	Fisheries Surveyor	9665216551
101	Krishna Nandkishore Naik Shirodkar	Fisheries Surveyor	7798676067
102	Shyamsundar Mishal	Fisheries Surveyor	7588674297
103	Deelip B. Gawandi	Fisheries Surveyor	9923635200
104	Domingo Fernandes	Fisheries Surveyor	9421246892
105	Devanand Lone	Fisheries Surveyor	9823679921
106	Amogh Mahavarkar	Fisheries Surveyor	9960365724
107	Kamlakant G Gaude	Fisheries Surveyor	9422845037
108	Gopal G Zuvatkar	Fisheries Surveyor	9923040949
109	Jaganath S Gaonkar	Bosun	9890468748
110	Narayan Zilu Naik	Bosun	8275622373
111	Dilesh Tuko Pagui	Engine Driver	9823672438
112	Keshav R Dessai	Engine Driver	9822048383
113	Prajay P Parulekar	Junior Deckhand	8421137017
114	SubhashS Shetkar	Junior Deckhand	9623325335
115	Vishnu S Govenkar	Junior Deckhand	9767017910
116	Gokuldas U Tari	Junior Deckhand	9822904320
117	Somnath P Harlarnkar	Junior Deckhand	9975492818
118	Sudhakar P Pagui	Junior Deckhand	9158507173
119	Vikas Faldessai	Junior Deckhand	9822882455
120	Anand V Gaude	Junior Deckhand	9673243231
121	Rohidas K Naik	Junior Deckhand	9765948302
122	Premanand V Kalangutkar	Junior Deckhand	9423883043
123	Pravinder V Lone	Junior Deckhand	9923478888
124	Anand C Naik	Junior Deckhand	9158345953
125	Rohan D Morajkar	Junior Deckhand	9923880829
126	Nitin S. Sawant	Junior Deckhand	9923348696
127	Sameer S. Velip	Junior Deckhand	8390829693
128	Illo D Gawde	Junior Deckhand	7798555061
129	Anay Rajanikant Halarankar	Jr. Deckhand	9860314936
130	Hari Fati Palyekar	Jr. Deckhand	7798104790
131	Gopal Devraj Naik	Jr. Deckhand	9881779052
132	Pravin N. Shirodkar	Jr. Deckhand	8888632301
133	Bhalchandra P Parwar	Carpenter	9823261103
134	Surendra R Shirodkar	Asst. Electrician	9423060826
135	Indur R Kankonkar	Fieldman	08322224838
136	Prasanna Y Pagi	Fieldman	9763741525
137	Shashikant P Pagi	Fieldman	9923749464
138	Flavio Fernandes	Fieldman	9822689563
139	Siddarth T. Mishal	Fieldman	08322224838

“A reformer, who defies society, is a much more courageous man than a politician, who defies Government.”

Sr. No.	Name	Designation	Contact No.
140	Vidhyanand S Phadte	Fieldman	08322224838
141	Rahul R. Tari	Fieldman	9049245236
142	Soccoro Pinto	Fieldman	9921879257
143	Bhupal U Phadte	Peon	9881732250
144	Shobha B Parab	Peon	9637749551
145	Suresh A Mahale	Peon	9527165272
146	Sudha P Gaude	Peon	9764775953
147	Gauri V. Chodankar	Peon	8390203141
148	Prabhakar Jairam Shetgaokar	Peon	9423154373
149	Rajan Rama Digvekar	Peon	7507846568
150	Filipe Colaco	Peon	8380958978
151	Pritam Shirodkar	Peon	9822824456
152	Rajendra Naik	Peon	9823783647
153	Gangaram Rathod	Peon	8550900815
154	Norman Pires	Peon	8308765217
155	Niella Fernandes	Peon	8888184392
156	Ibrahim Saha	Watchman	9822686515
157	Chandrakant Y Gaonkar	Watchman	9420746729
158	Atmaram S Naik	Watchman	9623371523
159	Narayan G Naik	Watchman	8407929658
160	Sambhaji G Sawant	Watchman	9420897288
161	Vaibhav V. Tamposkar	Watchman	9823188233
162	Ratnakar Jairam Kanolkar	Watchman	9923651057
163	Chandrakant N. Narulkar	Helper	9823535646
164	Bhiva Prabhakar Gawas	Helper	8805336547
165	Filomeno Henry Columbano Carvalho	Helper	9881882360
166	Pramila Shirodkar	Sweeper	08322224838
167	Joaquim S Sequiera	Messenger	9850456585
168	Mohan E Garudi	Messenger	9226792539
169	Ragunath D Gaonkar	Messenger	08322224838
170	Xavier Simoes	Messenger	9763133103

“Political tyranny is nothing compared to social tyranny.”

XIV. DIRECTORY OF FISHING SOCIETIES

A. LIST OF CO-OPERATIVE SOCIETIES OF FISHING VESSEL (TRAWLERS/ PURSE SEINE) MECHANISED SECTOR

Sr. No	Name of the Society	Name of the Society President/ Chairman	Address of the Society	Tele. Phone No./ Mobile No.
1.	Mandovi Fishermen Marketing Co-operative Society Ltd.,	Shri. Menino Afonso	Malim, Betim, Bardez-Goa.	9822149153
2.	The Cutbona Fisheries Co-Operative Society Ltd.,	Shri. Benjamin Silva	P.O. Velim 403 723, Cutbona, Salcete-Goa	9049207754
3.	Goa Fishing Boat Owner Association	Shri. Augusto Fernandes	Behind T.B. Cunha Chawk, Vasco-da-Gama, Goa.	9822181453
4.	Chapora Boat Owner Fisheries Co-operative Society Ltd.	Shri. Balbhim Malvankar	Chapora, Bardez-Goa.	9822142230
5.	Vasco Fishing Boat owner Marketing Co-Operative Society Ltd.,	Shri. Michael Pereira	Behind T.B. Cunha Chawk, Vasco-da-Gama, Goa.	8888886552
6.	Zuari Marketing Fisheries Co-operative Society Ltd.	Shri. Jerry Fernandes	Fishing jetty Near Acid Tank, Vasco-da-Gama, Goa.	9923037926
7.	South Goa Mechanized Boat Owners Co-Operative and Marketing Society Ltd.	Shri. Minguel Rodrigues	Cutbona, Velim, Salcete-Goa.	9822102255

**B. LIST OF CO-OPERATIVE SOCIETIES/ASSOCIATIONS OF FISHING
CANOES MOTORISED / NON MOTORISED SECTOR**

Sr. No	Name of the Society	Name of the Society President/ Chairman	Address of the Society	Tele. Phone No./ Mobile No.
1.	Shree Shantadurga Fisherman Association,	Shri. Sanjay Pereira	Nr, Goa University, Cacara- Goa.	9923284676 9763642964
2.	Goancho Ramponkaracho Ekvott,	Shri. Agnelo Rodrigues	Cansaulim, Salcete-Goa.	9623269344
3.	Akhil Goa Kshatriya Pagi Samaj	Shri. Nobash Pagi	Canacona-Goa.	9764719190
4.	Canacona Taluka Gabit Fisherman, Trawler/Mechanised Craft Owners Co-op Society Ltd;	Shri. Ulhas Salgaonkar	Talpona Sadolsem-Goa.	9423888339
5.	Desterro Fishermen Association,	Shri. Antonio Monteiro	Behind M.P.T Hospital, Vasco-da-Gama.	9960399255
6.	Nirvikar Fishing Co-op Society Ltd;	Shri. Bhim Pednekar	Tembwada, Morjim, Pernem, Goa.	9049571055
7.	Niz Goenche Ramponkaracho Ekvott	Shri. Idelking Baretto	Vaswado Benaulim-Goa.	9822137821 9881307721
8.	Ovleshwar Fishermen Assocoation,	Shri. Bhau Kalangutkar	Firguembhat, Nerul, Bardez-Goa.	9850764148
9.	Old cross Fishing Canoe Owners Co-Op Society Ltd	Shri. Custodio Dsouza	H.No 116, Non Mon, Dempo Bhat, Mormugao-Goa	9637891412 9545401532
10.	Baina Ramponkar & Fishing Canoe Owner Society	Shri. Mohammad Sajid/ Alcantro Gurjao	Katem Baina, Vasco Da Gama-Goa.	8806455754
11.	A.V.C.B. Traditional Fishermen Association,	Shri. Prashant N. Gakarnkar	Assolna Goa	9326120155
12.	Traditional Fisherman's Association of North Goa	Shri. Domnic Fernandes	Firguembhat, Nerul, Bardez Goa	9970318296
13.	Vailankanni Saibin Fisherman Association.	Shri. Caitano Fernandes	Dandadi, Nerul, Bardez, Goa	9860765641

“The real remedy for breaking Caste is inter-marriage. Nothing else will serve as the solvent of Caste.”

Sr. No	Name of the Society	Name of the Society President/ Chairman	Address of the Society	Tele. Phone No./ Mobile No.
14.	All Goa Fisherman's Co-Op Association Ltd;	Adv. C.V. Chodankar	c/o the Sahauddhar Urban Credit Co-Op Society Ltd; Fernandes Bldng, Malim, Betim, Bardez Goa	0832-2475099
15.	Odxel Fishermen Association	Shri. Diraj Diukar	H.No.417, Odxel, Taleigao, P.O. Goa university, Tiswadi, North Goa. Pincode:403206	9011307797 9922619508
16.	Baga Sant, Khuris Fishermen Association,	Shri. Ronnie P. Fernandes	Calangute, Bardez, Goa	9822986108
17.	Shri Ganesh Traditional Fisheries Association	Shri. Vishnu Keluskar	Gabitwada, Talpan Canacona-Goa	7798097837
18.	St. Andrew Canoes Owners Vasco Society	Shri. Sebastiao De Souza	R/o. H.No.257, Behind Tilak Ground, Vasco-da-Gama, Goa.	9860123987

“Inter-dining has not succeeded in killing the spirit of Caste and the consciousness of Caste.”