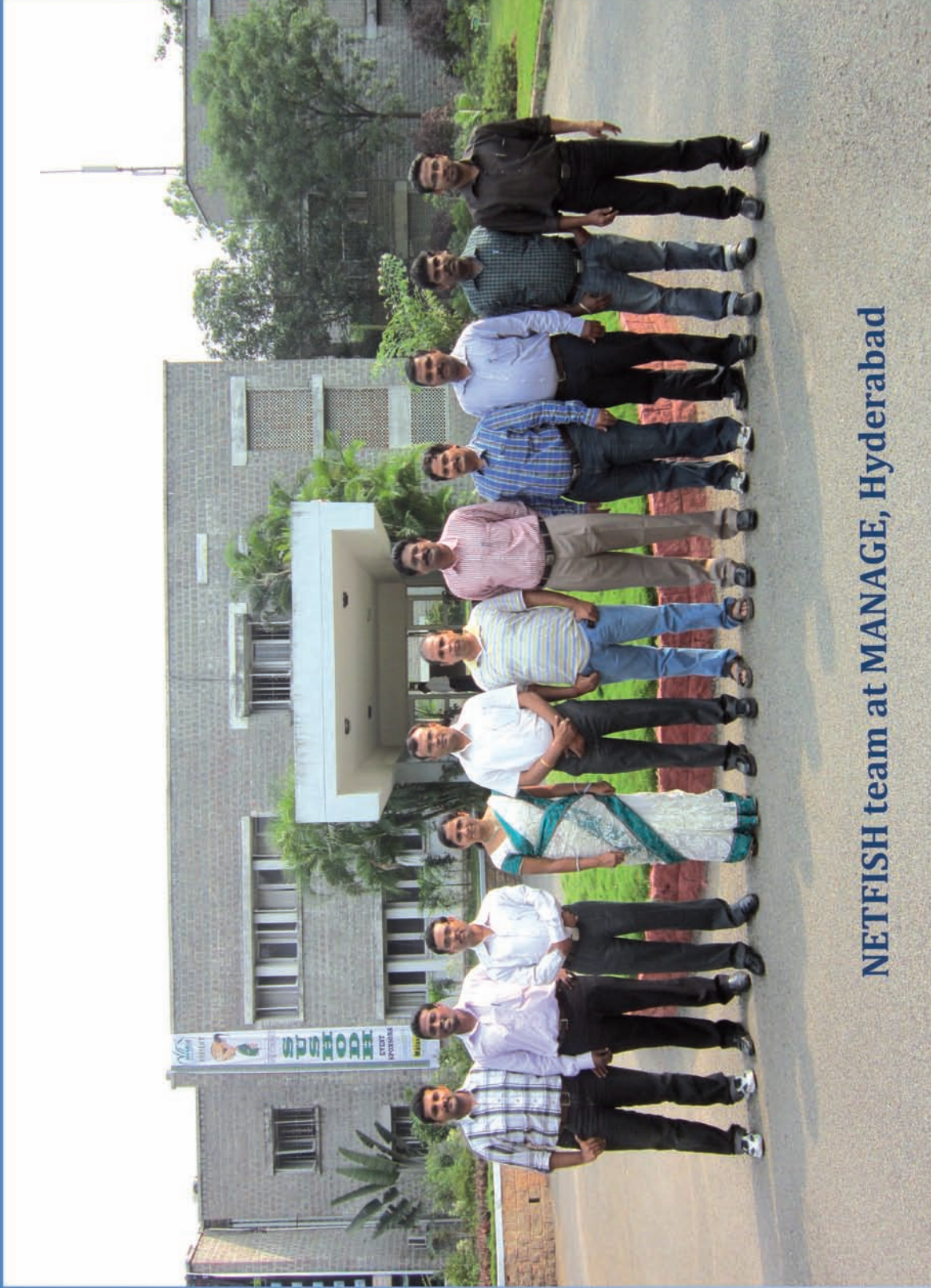


ANNUAL REPORT 2012-13



NETFISH





NETFISH team at MANAGE, Hyderabad

NETFISH

ANNUAL REPORT 2012-13



**Network for Fish Quality Management
and Sustainable Fishing (NETFISH)
(A registered society of MPEDA)
Kochi**



Published by

Network for Fish Quality Management and Sustainable Fishing (NETFISH)
Vallarpadam (P.O.), Ernakulam 682504,
Kerala, India.
Year : 2013
Tel. : (+91) 484 2100012
E-mail : netfishmpeda@gmail.com
Web : www.netfishmpeda.org

Compilation & Editing

Dr. Joice V. Thomas
Deepu A. V.
Afsal V. V.
Naveen Sathyan

Printed at

Printers Castle, Kochi

CONTENTS

| | Page No. |
|--|----------|
| 1. The NETFISH | 1 |
| 2. President | 1 |
| 3. Executive Committee | 1 |
| 4. Office structure | 2 |
| 5. Meetings | 2 |
| 6. Target set for the year 2012-13 | 2 |
| 7. Extension Activities during 2012-13 | 2 |
| 7.1 West Bengal | 4 |
| 7.2 Odisha | 8 |
| 7.3 Andhra Pradesh | 12 |
| 7.4 TamilNadu | 16 |
| 7.5 Kerala | 19 |
| 7.6 Karnataka & Goa | 22 |
| 7.7 Maharashtra | 26 |
| 7.8 Gujarat | 29 |
| 7.9 Plastic Basket Distribution | 34 |
| 7.10 Workshop | 35 |
| 7.11 Trolley Distribution | 36 |
| 7.12 PHT Campaign | 36 |
| 8. Training Programme at MANAGE, Hyderabad | 37 |
| 9. List of Member NGOs of NETFISH for the year 2012-13 | 37 |
| 10. Audit Report for the year 2012-13 | 39 |

NETFISH NETWORK



1. THE NETFISH

Network for Fish Quality Management and Sustainable Fishing (NETFISH) is a society formed in 2006 under the aegis of Marine Products Export Development Authority (MPEDA), Kochi. The Society is registered under the Travancore-Cochin Literary, Scientific and Charitable Societies Registration Act, 1955. NETFISH, the extension arm of MPEDA, stands for improving the quality of fishery products exported from the country and the sustainability of fishery resources as well. To achieve this aim, NETFISH organizes grass root level awareness programmes among fisherfolk and other fishery stakeholders in all the maritime states of the country thereby changing their

mindset towards fish quality management and responsible fishing.

2. PRESIDENT

Ms. Leena Nair IAS continued as the President of NETFISH during the year 2012-13.

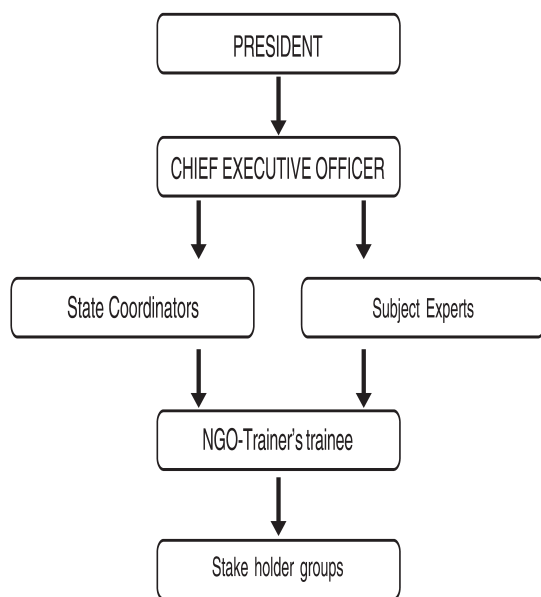
3. EXECUTIVE COMMITTEE

The Executive Committee of NETFISH for the year 2012-13 was reconstituted in the VI Annual General Body Meeting held at MPEDA headquarters, Cochin on 25th September 2012. The new Executive Committee members of NETFISH are as given in Table 1.

Table 1. Executive Committee members of NETFISH (2012-13)

| Sl.No. | Name | Address |
|--------|-----------------------------|--|
| 1 | Ms. Leena Nair I. A. S | Chairman, MPEDA, Cochin |
| 2 | Shri. N. Ramesh | Director (M), MPEDA, Cochin |
| 3 | Shri. P. Mohanasundaram | Director, MPEDA, Cochin |
| 4 | Shri. B. Sreekumar | Secretary, MPEDA, Cochin |
| 5 | Shri. Avinash P. Joshi, IAS | Director, MoCI, New Delhi |
| 6 | Dr. Sreenivasa Gopal | Director, CIFT, Cochin |
| 7 | Shri. R. C. Sinha | Director, CIFNET, Cochin |
| 8 | Shri. Vimal Kumar K. N. | Jt. Director (Q.C.), MPEDA, Cochin |
| 9 | Dr. Joice V. Thomas | Chief Executive, NETFISH, Cochin |
| 10 | Shri. Ravi Reddy | President, SEAI |
| 11 | Shri. V. Vivekanandan | Chief Advisor, SIFFS, Thiruvananthapuram |
| 12 | Shri. Gayadhar Gena | Secretary, SRMSS, Odisha |
| 13 | Shri. Sreedhar U. Bhat | Project Co-ordinator, Sneha Kunja Trust, Karnataka |
| 14 | Dr. Nammalwar | Chairman, GAIA International, Tamil Nadu |
| 15 | Shri. Arjili Dasu | President, DFYWA, Andhra Pradesh. |
| 16 | Shri. N. B. Boghani | Executive Director, Manava Vikas Sevabhavi, Maharashtra |
| 17 | Shri. Bimal Kumar Sen Gupta | Resource Person, The Science Association of Bengal, Kolkata, West Bengal |
| 18 | Shri. M.S.H. Sheikh | President, Brackish Water Research Centre, Gujarat |

4. OFFICE STRUCTURE



5. MEETINGS

Review meeting with NGO members and MPEDA officials were held in April by NETFISH

State Coordinators in their respective regions to discuss the achievements and short falls of NETFISH activities in previous years and the action plan for the new fiscal year was primed. The Monitoring Committee consisting of Secretary, Director and JD (QC) of MPEDA and CE of NETFISH held a meeting on 13th September 2012 and scrutinized the activities of NETFISH. The Executive Committee of NETFISH met twice during the year, on 17th April and 17th September, at MPEDA, Kochi. NETFISH review meeting was held on 24th September 2012 at MPEDA, Kochi and the VI Annual General body Meeting of NETFISH was convened on 25th September 2012 at Kochi.

6. TARGET SET FOR THE YEAR 2012-13

A target of 2000 programmes was set for NETFISH for the year 2012-13 and the region wise target was 200 programmes. The programme wise target set for each region is given in the Table 2.

7. EXTENSION ACTIVITIES DURING 2012-13

NETFISH operates in all maritime states of India, conducting repeated training programmes at areas in and around selected fishing harbours and

Table 2. Target set for 2012-13

| S.N. | State/Region | Landing Site-Quality | Landing Site-Conservation | Onboard | Pre-Processing | Aquaculture | Dryfish | Total |
|------|----------------|----------------------|---------------------------|------------|----------------|-------------|------------|-------------|
| 1 | West Bengal | 65 | 25 | 20 | 15 | 60 | 15 | 200 |
| 2 | Odisha | 40 | 45 | 90 | 10 | 10 | 5 | 200 |
| 3 | Andhra Pradesh | 80 | 48 | 24 | 12 | 12 | 24 | 200 |
| 4 | TN-North | 82 | 50 | 48 | - | - | 20 | 200 |
| 5 | TN-South | 80 | 80 | 20 | 10 | 10 | - | 200 |
| 6 | Kerala -South | 45 | 40 | 15 | 100 | - | - | 200 |
| 7 | Kerala - North | 90 | 90 | 20 | - | - | - | 200 |
| 8 | Karnataka /Goa | 105 | 50 | 10 | 10 | 10 | 15 | 200 |
| 9 | Maharashtra | 60 | 60 | 30 | 20 | - | 30 | 200 |
| 10 | Gujarat | 80 | 61 | 8 | 33 | 5 | 13 | 200 |
| | Total | 727 | 549 | 285 | 210 | 107 | 122 | 2000 |

landing centers in these states. During the financial year 2012-13, NETFISH conducted 2386 extension programmes which consisted of 1883 regular awareness classes and 503 special programmes such as Street plays (421 nos.), Clean-ups (9 nos.), Rally (1 no.), School programmes (18 nos.), Mass communications (16 nos.) and other special programmes (38 nos.) (Table 3). The number of beneficiaries from regular programmes is around 56000 whereas the special programmes have benefitted more than 40000 people. The extension tools developed by NETFISH such as posters, leaflets, documentaries and animation films were used as tools for delivering the messages effectively during the programmes. Awareness on MPEDA's subsidy schemes were also given to the beneficiaries in the training programmes. Apart from these programmes, a series of meetings and discussions were held and certain linkages were established with various national/state departments, institutes, agencies etc. to solve various issues regarding fish quality management & sustainable fishing and

also for the development of infrastructure facilities at harbours and landing centers. NETFISH state coordinators actively participated in various seminars and workshops conducted in their regions by other organizations. Moreover, NETFISH participated in several exhibitions conducted at different provinces during which leaflets and posters depicting NETFISH activities & messages were displayed and all NETFISH documentaries & animation films were played continuously in the stalls. NETFISH participated in the 'Aqua Aquaria 2013' held at Layola College Ground, Vijayawada from 8th to 10th February'13 in which a stall was set up for displaying posters, leaflets, documentaries and animation films developed by NETFISH. Also street play shows were conducted, which attracted huge crowd.

A new documentary film entitled "*Hygienic handling of Fish at Pre-processing Centers*" and an animation film entitled "*An Escape to the Depths*" were produced in 9 regional languages. Four new leaflets viz. '*Good Practices in Shrimp Farming*', '*Mesh Size Regulation for Sustainable Fishing*',

Table 3. Details of extension programmes conducted during 2012-13

| Sl. No: | State/Region | Regular Programmes | | | | | | Special Programmes | | | | | | Total |
|---------|-----------------|------------------------|-----------------------------|----------|----------------|-----------|----------|--------------------|---------------------------|--------------------|------------------|---------------------|--------------------------|-------|
| | | Landing Site - Quality | Landing Site - Conservation | On board | Pre-processing | Aqua farm | Dry fish | Street-plays | Harbour/coastal clean-ups | Procession / Rally | School programme | Mass communications | Other special programmes | |
| 1 | West Bengal | 76 | 26 | 25 | 15 | 49 | 15 | 60 | 5 | - | 3 | - | - | 274 |
| 2 | Odisha | 56 | 41 | 108 | 16 | 10 | 8 | 24 | - | - | 4 | - | - | 267 |
| 3 | Andhra Pradesh | 83 | 53 | 12 | 12 | 15 | 25 | 40 | - | - | 2 | 6 | 2 | 250 |
| 4 | TamilNadu-North | 97 | 59 | 26 | - | - | 20 | 28 | - | - | - | - | 2 | 232 |
| 5 | TamilNadu-South | 33 | 37 | 9 | - | 3 | - | - | - | - | - | - | - | 82 |
| 6 | Kerala-South | 38 | 20 | 2 | 74 | - | 2 | 45 | 1 | - | 1 | - | 1 | 184 |
| 7 | Kerala-North | 92 | 91 | 8 | - | - | - | 110 | 1 | - | - | 9 | 3 | 314 |
| 8 | Karnataka/Goa | 90 | 61 | 12 | 21 | 10 | 24 | 24 | - | - | 4 | - | - | 246 |
| 9 | Maharashtra | 60 | 61 | 30 | 20 | - | 30 | 10 | 2 | - | - | - | 23 | 236 |
| 10 | Gujarat | 87 | 62 | 9 | 37 | - | 13 | 80 | - | 1 | 4 | 1 | 7 | 301 |
| | Break-up | 712 | 511 | 241 | 195 | 87 | 137 | 421 | 9 | 1 | 18 | 16 | 38 | 2386 |

'Personal Hygiene in Seafood Handling', and 'Overfishing' were developed in English and 9 regional languages. Three pictorial charts on 'Good Practice Onboard Fishing Vessels', 'Good Practices in A Pre-processing Centre', 'Good Practices in Fish Landing Centres' were also prepared in 10 languages.

7.1 WEST BENGAL

The state of West Bengal not only leads all states in fish production but is also unique in harbouring all type of resources ie. marine, brackish water, fresh water and cold water. Majority of the fishery is from Inland resources. South 24 Parganas and Purba Medinipur are the two maritime districts of the state bordered by Bay of Bengal. The length of coastline is 158 Kms. In the Marine sector there are 1237 fishermen villages and the fishermen population is 3,80,138. Almost equal nos. of mechanized boats and non mechanized boats are operated from different harbours & landing centres. As per the records, 2941 mechanized and 4149 non-mechanized fishing boats from South 24 Parganas and 1688 mechanized and 220 non-mechanized fishing boats from Purba Medinipur were operated during 2012-13. Gillnetters are dominated over trawlers followed by hook & liners and set bag netters (*Behundi*). There are about 5 fishing harbours and 75 landing centres in the state. Marine Fish Production was 1.40 lakh tonnes in 2012-13 in contrary to inland fish production of 13.50 lakh tonnes. Shrimp production was recorded as 1.06 lakh tonnes in 2012-13. Export from Kolkata Region during 2012-13 was 64785 MT valuing up to Rs. 1790.67 crores.

Activities in West Bengal during 2012-13

In the year 2012-13, the selected areas for extension activities were Digha in Purba Medinipur district and Kakdwip, Freserganj and Raidighi in South 24 Parganas district. Additionally, NETFISH had conducted aquaculture awareness programmes at Purba Medinipur, South 24 Parganas & North 24 Parganas districts and training programmes to the preprocessing workers at the district of North 24 Parganas, South 24 Parganas and Kolkata. During the year 2012-13,

total 206 nos. of regular programmes and 68 nos. of special programmes were conducted by NETFISH on the various aspects.

Fish Quality Management Programme at Landing Site

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Digha | 21 |
| 2 | Kakdwip | 24 |
| 3 | Freserganj | 24 |
| 4 | Raidighi | 8 |
| | Total | 77 |

A total number of 77 fishermen training programmes on fish quality management were organized at harbours, landing centres and fishermen villages along the coastal districts of West Bengal. In fish quality management programmes, the fisher folks were given a lecture on sanitation & hygienic practices at landing centre, fish spoilage and the role of microbes, handling of ice and fish, role of ice, icing of catch, cold chain operation, personal hygiene, use of plastic basket instead of bamboo basket, different quality problems in export market etc. They were made aware of insulated boxes and PUF fish hold and the various MPEDA subsidy schemes for fishers. Leaflets on relevant topics were also distributed in the programmes and shown documentary and animation films on Hygienic handling of fishes at landing centres. To promote better handling of ice and fish NETFISH has given 17 nos. of steel trolleys to Deshapran fishing harbour and Digha mohana auction market.

Sustainable Fishing/Conservation Programme at Landing Site

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Digha | 5 |
| 2 | Kakdwip | 8 |
| 3 | Freserganj | 6 |
| 4 | Raidighi | 7 |
| | Total | 26 |

NETFISH conducted 26 awareness programmes at different harbours, landing centres and fishermen villages in South 24 Parganas and Purba Medinipur districts on various aspects of conservation such as destructive fishing, restriction on catch of fish seed, juveniles and gravid fishes during breeding season, observation of closed season, regulation of mesh size of gill net, introduction of square mesh in the cod end of trawl net, collection of wild seed of shrimp, prohibition of water pollution, stop destruction of mangrove vegetation in the coastal areas, prohibition of using plastics, protection of marine turtles etc. Extension tools such as leaflets, documentary and animation films were made use of in the programmes for effective convey of messages.

Onboard Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Digha | 5 |
| 2 | Kakdwip | 8 |
| 3 | Freserganj | 6 |
| 4 | Raidighi | 7 |
| | Total | 26 |

Onboard training programmes were conducted on mechanized boats only as they are the ones contributing to major landings for export markets. Around 1800, 2000, 600 & 250 mechanized boats are being operated from Kakdwip, Digha, Freserganj and Radighi region respectively. Onboard programme is comprised of two parts; (i) lecture on fish quality management, hygiene & sanitation practices, personal hygiene, utility of insulated fish box and fish hold; chill killing, various quality problems in exportable items, registration of fishing boats with MPEDA, MPEDA's subsidy scheme etc. and (ii) practical demonstration on use of detergents and liquid chlorine/bleaching powder for washing & sanitizing of deck of the boat, fish hold, utensils, net crates and other accessories, demonstration of sorting of fishes, demonstration on chill killing after immediate catching and its proper icing & preserving in the fish hold etc. Sticker depicting important points to be remembered

while fishing were pasted on fishing boats during the programmes.

Preprocessing Centre Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | 24 Pgs (S) | 2 |
| 2 | 24 Pgs North | 2 |
| 3 | Kolkata | 11 |
| | Total | 15 |

West Bengal is facilitated with 36 processing plants and 45 pre-processing units to contribute a lion share in export basket from India. Black tiger, scampi and sea caught shrimp are being pre-processed in these PPCs. Most of the PPCs are integrated with processing plants. In the year 2012-13, 15 awareness programmes were conducted in PPCs. The programmes emphasized on sanitation & hygienic practices in the preprocessing centre, hygienic handling of shrimps, uses of ice, fish spoilage and the role of microbes, freshness of fish, personal hygiene, uses of change room, abuse of antibiotics, GMP's & SSOP's etc. The programmes also included film show on sanitation and hygienic practices in sea food processing centre and also distribution of leaflets.

Aqua Farm Programme

| Sl.No | Area | No. of Programmes |
|-------|-------------------|-------------------|
| 1 | 24 Parganas South | 13 |
| 2 | 24 Parganas North | 2 |
| 3 | Purba Medinipur | 33 |
| | Total | 48 |

Black tiger shrimp (*Penaeus monodon*) and Scampi (*Macrobrachium resenbergi*) contribute to the major share of fish products exported from West Bengal. NETFISH conducted wide awareness programmes to the aqua farmers of North & South 24 Parganas and Purba Medinipur districts. The topics covered during the awareness programmes were different quality aspects of farm raised shrimp meant for exports as well as Good Aquaculture Practices such as chill killing of

shrimps, maintenance of cold chain from farm to processing plant, practice of hygiene & sanitation at farm, avoiding wild collected prawn seeds and introducing PCR tested hatchery seeds, avoiding using of ill seeds in farms, registration of farms with MPEDA for getting PHT certificate for export, avoiding antibiotics and using probiotics in farms, bio-security of aqua farms such as crab & bird fencing at aqua farms, use of potassium permanganate solution to avoid cross contamination at farm, prevention of contamination and disease problems, Pre Harvest Test for residual antibiotics, muddy moldy smell problems etc. Leaflets on abuse of antibiotics, muddy moldy smell problems, and registration of aqua farms with MPEDA etc were distributed during the awareness programmes. Also, films on BMP at aqua farms, abuse of antibiotics, sustainable aquaculture practices etc. were shown to the participants.

Dry Fish Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Digha | 9 |
| 2 | Kakdwip | 1 |
| 3 | Freserganj | 5 |
| | Total | 15 |

Dry fish is one of the major items being exported from West Bengal. Both South 24 Parganas and Purba Medinipur districts are having good potential for fish drying activities. Few khuties (dry fish yard) were selected in these regions for extension training programme. During NETFISH programmes, awareness were given on sanitation & hygienic practices at khuties, handling and sorting of catches for fish drying, role of ice & icing of catches during adverse weather condition, fish spoilage and the role of microbes, freshness of fish, personal hygiene & sanitation, different technologies of fish drying, solar drying and its packing, packaging of dry fish products etc. The beneficiaries were also made aware of various MPEDA subsidy schemes.

On 7th Feb'13 NETFISH conducted a hands-on training programme on fish drying in solar dryer for 27 women from Self Help Group of Junput

Sebika Mahila Matsyajibi Samabai Samity at Junput, Purba Medinipur. The programme consisted of brief description on different activities, washing of raw material, spoilage of fish, significances of solar drying and packaging. Demonstration on washing fishes on table, arranging fishes on drying trays and activities of solar drying were also carried out. After drying, materials were packed in the polythene bag and heat sealed properly. Hand gloves were given to all the participants.

Street Play

| Sl.No | Area | No. of Programmes |
|-------|-----------------------|-------------------|
| 1 | Purba Medinipur/Digha | 48 |
| 2 | Kakdwip | 8 |
| 3 | Freserganj | 4 |
| | Total | 60 |

Street Play is one of the vital tools of NETFISH to create awareness not only for fishermen & farmers community but also for general people of West Bengal. In West Bengal Contai Pratikee, Purba Medinipur performed two aspects of Street Plays in Purba Medinipur as well as in South 24 Parganas district namely "BISTIRNA BALUKATATE" on Fish quality management, conservation of marine resources & marine pollution and "VIRUS" on Best Management Practice in Aqua farms. The street play on fish quality management and conservation of fish resources covered topics like cleaning of beach, landing centre and fishing harbour, handling of fishes and ice in landing centre and harbour, proper icing of catches, avoiding rusty and unclean shovel, personal hygiene and habits of fisher folks, conservation of mangroves, avoiding juvenile fishing, avoiding uses of meen jal for indiscriminate collection of prawn seeds, marine pollution and protection of marine environment. Besides above aspects, the concept of Catch Certificate Scheme was also included for propagation among boat owners, auctioneers, skippers and fishermen. Street play on Best Management Practice in Aqua farms covered aspects such as disease of farm raised shrimp and its control, bio security practices at aqua farms, hygiene and sanitation practices at aqua farms

and personal hygiene, chill killing of shrimp, Ethoxyquin issues for export of shrimp, registration of aqua farms with MPEDA for Pre Harvest Test, Govt. regulation on aquaculture practices, role of NETFISH, NaCSA and MPEDA for sustainable aquaculture etc. In total, 60 street play shows in 15 days were arranged in Purba Medinipur and South 24 Parganas districts and these shows were conducted in various fish landing centres, fishing harbours, fishing villages, fish markets and aqua farms.

Mass Boat Clean-up Programme

In order to create awareness among fishing boat owners and fishermen about the proper hygienic and sanitation condition of fishing boats, fish hold and necessary accessories related to fishing, mass boat clean-up programmes were conducted at following fishing harbours and landing centre in the year 2012-13.

| Sl.No | Date | Place | No. of Boats cleaned |
|-------|----------|----------------------------------|----------------------|
| 1. | 23.06.12 | Namkhana LC, Kakdwip | 21 |
| 2. | 09.08.12 | Deshapran Fishing Harbour, Digha | 30 |
| 3. | 13.09.12 | Deshapran Fishing Harbour, Digha | 30 |
| 4. | 14.09.12 | Sankarpur Fishing Harbour, Digha | 30 |
| 5. | 21.11.12 | Sankarpur Fishing Harbour, Digha | 30 |
| | | Total | 141 |

The programmes consisted of lecture on significances of hygiene and cleaning of fishing boats, fish hold crates, nets and other necessary accessories and practical demonstration on cleaning sanitation practices at onboard, schedule of cleaning of boat i.e. after every haul boat to be cleaned & sanitized for next operation and after unloading the materials all crates to be cleaned etc. Sanitation kit consisting of liquid soap, liquid Chlorine water / bleaching powder were distributed to each boat for cleaning and sanitizing boat & other accessories. District Fishery Officer (Marine) and Secretary of the Fishermen Association

graced the occasion by their presence and distributed the sanitation kits to the boat owners and fishermen.

School Programme

To percolate the messages on Fish quality management and Conservation of fish resources & Sustainable fishing and Sustainable aquaculture, NETFISH is conducting awareness programme among the students of Class VIII to X in schools of coastal blocks, so that they can pass on the message to their parents and other family members who are engaged in fishing and allied activities. The school lectures cover topics on sustainable fishing, different aspects of conservational aspects in the marine sector, viz, protection of mangrove vegetation, marine turtle and fish seed of other varieties as well as the environment where they are dwelling. Besides these, many other aspects including present status of the fishery resources, exports from the state as well as from the country, fish quality management and personal hygiene and habits were also covered. For making notes on lectures in the class room NETFISH is providing writing pad and pen to each one of the students. Documentary & animation films on "Hygienic harvesting of aquaculture shrimp" and "Conservation of marine resources" were also shown to them.

| S.N | Date | Name of the School | Place | No. of Students |
|-----|---------|-----------------------------|----------------------------------|-----------------|
| 1 | 21.4.12 | Gorahar Adarsha High School | Gorahar, Khejuri Purba Medinipur | 90 |
| 2 | 22.5.09 | Islampur High School | Chaulkhola Purba Medinipur | 120 |
| 3 | 17.6.09 | Basantia High School | Basantia, Contai Purba Medinipur | 100 |
| | | | Total | 310 |

Outcomes achieved during the year

- ◆ In most of the fishing vessels, fishing harbours and landing centres fishers have started using plastic baskets instead of bamboo baskets.
- ◆ Fishermen are now carrying enough ice while going for fishing.

- ❖ In Sankarpur & Deshapran fishing harbours and in Shoula & Digha landing centres crushed ice is used to minimize the damages of fishes and also to reduce the spoilage.
- ❖ Now Insulated Fish Boxes are used in landing centres and fish auction markets for preserving exportable catch.
- ❖ Fishes are now being transported from landing centre to auction market either in plastic crates or in insulated fish boxes. From auction market fishes are transported to processing plants in insulated fish boxes.
- ❖ Vehicles are covered with poly sheet while transporting fish from fishing harbour to auction markets to prevent possible chances of contamination and melting of ice.
- ❖ All crates and other accessories are being cleaned with detergent after fishing.
- ❖ Boat owners are now registering their boat with MPEDA.
- ❖ Deshapran fishing harbour has applied for EIA approval.
- ❖ After catching, fishers are segregating the catch and placing it in water ice slurry for chill killing, as well as wash the shrimp in chill water and preserved in fish hold with proper icing.
- ❖ Fishing boat and fish contact surfaces are properly cleaned and well maintained.
- ❖ Crushed ice are loaded directly in to the vessel at Sankarpur & Deshapran fishing harbours which can minimize further handling and reduce cross contamination.
- ❖ Most of the fishing boats are having PUF insulated fish hold which can preserve fish for longer period and retain good quality, reduce ice consumption and fetch better price.
- ❖ Now boat owners are using Insulated Fish Boxes in their boats for preserving exportable catch availing MPEDA's subsidy. Quality of catch is better in IFB and subsequently fishermen are getting better price.
- ❖ In the year 2012-13, no consignment of black tiger shrimp and scampi has been rejected due to presence of residual antibiotic in West Bengal.
- ❖ Almost all the aqua farms at Purba Medinipur

are following proper washing of shrimp in chill water after harvest.

- ❖ Farmers are now well aware about muddy-moldy smell problem in black tiger and they are removing black soil during pond preparation.
- ❖ Most of the scientific aqua farms at Purba Medinipur & South 24 Parganas are following bio-security measures such as crab fencing, bird fencing and using potassium permanganate solution and bleaching water while at entry point to the farm.

7.2 ODISHA

Odisha, situated along eastern coast of India have a coastline of 482 Kms. dotted with some spectacular virgin beaches, lakes and lagoons. It is one of the major maritime states of India having excellent scope for development of inland, brackish water and marine fisheries. The state of Odisha offers scope of livelihood in fishing both in the sectors of inland and marine. The fishermen population of the state is about 12 lakhs, of which about 8 lakhs are in inland and 4 lakhs are in marine sector. The economic status of the fishermen is generally below poverty line. There are 6 marine coastal districts in Odisha namely Balasore, Bhadrak, Kendrapada, Jajatsinghpur, Puri and Ganjam. Major fishing harbours are Paradeep & Dhamara. There are 28 major landing centres in the state. Marine Fish production during year 2011-12 of the state was 11,4296 MT. Export of Marine product during year 2011-12 from the state was 21088 MT.

Activities in Odisha during 2012-13

Four areas were selected for NETFISH activities during the year 2012-13. These selected areas were Paradeep fishing harbour, Balaramgadi fish landing centre, Bahabalapur fish landing Jetty & Chilka Lake. Paradeep Fishing Harbour (P.F.H.), the largest fishing harbour of Odisha is now maintained by Paradeep Harbour Management Society. Around 550 mechanized fishing vessels are operated in this fishing harbour. Balaramgadi fish landing centre in Balasore district is one of the largest fish landing centres in the state. Around 600 mechanized fishing vessels are operated from

this landing centre. Bahabalapur fish landing jetty is operated by State Fisheries Department. Around 250 mechanized fishing vessels are being operated from this jetty. Chilka, the largest brackish water lagoon in Asia is situated in the east coast of Odisha. Chilika provides livelihood to about 2,00,000 fishermen living in 127 villages located in and around Chilika. In order to promote awareness for conservation and sustainable use of natural resources in Chilika lagoon, NETFISH and Chika Development Authority (CDA) are jointly conducting intensive extension training programmes for fishers in the lagoon with the support of Odisha State Fisheries Department since 2009.

During the year 2012-13 total 239 nos of regular extension programme and 42 nos of special programmes were conducted in the state by NETFISH. The regular extension programmes were Fish quality management, Conservation/sustainable fishing programme, On-board programmes, Pre-processing programmes, Dry fish programmes, Aquaculture Programmes. Special programmes included Street plays, School programmes, P.H.T. campaigns, Follow up programmes, etc.

Fish Quality Management Programme at Landing Site

| Sl.No | Area | No. of Programmes |
|-------|---------------------------------|-------------------|
| 1 | Paradeep fishing harbour | 14 |
| 2 | Balaramgadi fish landing centre | 12 |
| 3 | Bahabalapur fish landing jetty | 07 |
| 4 | Chilka | 30 |
| | Total | 63 |

Fish Quality Management Programmes were conducted in and around the fishing harbours, landing centres and the nearby fishing villages. In Chilka region the programmes were conducted jointly with CDA. The target groups for the programmes were trawlers owners, fishing vessel crews, ice crusher workers, fish traders, management society employees, cleaners, fish traders, fish trader's workers, etc. The programmes mainly emphasized on topics like spoilage, cleaning,

washing, preservation, ice and fish, handling the catch, bacteria, personal hygiene, etc. Practical part included hands on training on cleaning of utensils, icing, handling of catch, etc. During fish quality management programme free sanitation kits containing hypochlorite, liquid detergent and plastic round basket were distributed. Different type of leaflets and posters were also distributed during training programmes. A total of 1830 numbers of trainees were covered under this type of extension programme in the year 2012-13.

Sustainable Fishing/Conservation Programme at Landing Site

| Sl.No | Area | No. of Programmes |
|-------|---------------------------------|-------------------|
| 1 | Paradeep fishing harbour | 11 |
| 2 | Balaramgadi fish landing centre | 05 |
| 3 | Bahabalapur fish landing jetty | 07 |
| 4 | Chilka | 20 |
| | Total | 43 |

Sustainable Fishing / Conservation Programmes were conducted in and around the fishing harbours, landing centres and the nearby fishing villages. In this programme the targeted groups were trawler owners, fishing vessel crews, fish traders, management society employees, fish trader's workers, etc. In this programme, theory classes on topics such as overfishing, by-catch and how to reduce by-catch, destructive fishing, mangroves and how to protect mangroves, coral reefs and its importance, marine pollution, mesh size regulation, fishing ban period, etc. were given. NETFISH leaflets and posters related to marine conservation were distributed to the participants during the training programmes. Altogether 1110 numbers of trainees were covered under these programmes during 2012-13. The programmes in Chilka were arranged jointly by NETFISH & CDA.

Onboard Programme

Awareness training programmes were conducted for trawler owners and fishing vessel crews on the themes fish quality management and conservation. The programmes included both theory

| Sl.No | Area | No. of Programmes |
|-------|---------------------------------|-------------------|
| 1 | Paradeep fishing harbour | 43 |
| 2 | Balaramgadi fish landing centre | 25 |
| 3 | Bahabalapur fish landing jetty | 30 |
| 4 | Chilka | 10 |
| | Total | 108 |

and practical parts. The theory part contained awareness on fish spoilage, cleaning, washing, preservation, ice and fish, handling the catch, bacteria, personal hygiene, overfishing, by-catch and how to reduce by-catch, destructive fishing, mangroves and how to protect them, coral reefs and its importance, marine pollution, mesh size regulation, fishing ban period, etc. The practical part included hands on training like cleaning of boat deck, utensils, handling of catch, catch segregation, preservation of catch by icing, etc. Hypochlorite and liquid detergent were supplied free of cost to fishing vessels to encourage regular cleaning and also provided plastic baskets to improve hygienic handling. Leaflets and posters depicting hygienic practices onboard and measures for conservation were distributed among the participants. In total, 1620 numbers of trainees were covered under onboard training programme during 2012-13.

Dry Fish Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Paradeep | 2 |
| 2 | Balaramgadi | 5 |
| | Total | 7 |

In this programme the targeted groups were dry fish owners & dry fish workers. The programme aimed at improving quality of dryfish products and mainly involved awareness classes on cleaning, washing, preservation, handling the catch, bacteria & fish spoilage, personal hygiene, packaging of finished products, demerits of traditional drying method, etc. They were also introduced to various improved technologies of fish drying like sun drying through rack system, hang drying etc. Leaflets

and posters on hygienic fish drying were distributed during our training programme. A total of 210 nos. of trainees were covered under dryfish training programme during 2012-13.

Pre-processing Centre Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Balaramgadi | 6 |
| | Total | 6 |

Awareness programmes on hygiene and sanitation were conducted for pre-processing centre owners, pre-processing supervisors, pre-processing workers, etc. The programme mainly emphasized on bacteria and fish spoilage, cleaning, washing, preservation, ice and fish, hygienic handling, personal hygiene etc. Practical training on the right procedure of cleaning the pre-processing hall, utensils, icing, handling of catch, etc. were also given as part of the programme. Hypochlorite, liquid detergent and plastic baskets were provided to encourage them in following hygienic practices at pre-processing centres. Leaflets and posters were also distributed during the training programme. Altogether 180 numbers of trainees were covered under these extension programmes during the year 2012-13.

Aqua Farm Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Balasore | 8 |
| 2 | Bhadrak | 2 |
| | Total | 10 |

Majority of our seafood export constitute of shrimps cultured at aqua farms. Hence quality management in aqua farms is of prime importance. NETFISH conducted 10 numbers of aquaculture extension programmes in this year. In Odisha the aquaculture practices are mostly concentrated in Balasore and Bhadrak district. By this programme, aqua farmers were given awareness on better management practices in aqua fields, preparation for harvest, hygienic harvesting and handling etc.

During 2012-13 around 300 aqua farmers were covered through the aqua extension programme in the state.

Street Play

NETFISH arranged 24 street plays programmes around Chilka lake. Fishermen villages covered during street play programmes were Mudirath, Karimpur, Gopinathpur, Arakhakuda, Gola, Sanapatana, Gobakunda, Parbatipur, Banamalipur, Gangadharpur, Dayabihar, Nuadokanda, Saraswatinagar, Gangadharpur, Kaudkani, Jagulaieipadar, Arakhakuda School, Arakhakuda Village, Berhampur, Satapada, Barakudi & Baghalanzi. The subjects covered in street plays included fish quality, conservation of Chilka fish and fishery resources, environment and government rules and regulations and different welfare schemes. More than 3000 fishers in villages around Chilka had seen the show, which helped to spread the messages quickly among fishermen community.

School Programme

NETFISH conducted 5 School programmes during the year and about 150 nos of students, whose family members are engaged in fishing and allied activities, participated in the programmes. The date and place of the programmes is given in the table below.

| Sl.No | Date | Place |
|-------|----------|---------------------------|
| 1 | 05.09.12 | Arakhakuda School,Chilka. |
| 2 | 07.09.12 | Sanapatana School,Chilka |
| 3 | 20.11.12 | Sanapatana,Chilka |
| 4 | 18.12.12 | Arakhakuda,Chilka |
| 5 | 18.01.13 | Sanapatana,Chilka |

For each school programme, 30 students from class 5th to 8th were selected as participants. The school teachers also actively participated in these programmes. The topics highlighted in the programmes were quality and conservation of Chilka fish and fishery. The entire programme was divided in to two sessions. In the morning session the participants were explained about the aim and objective of the school programme and they were asked some general information about their vil-

lage, Chilka fish and fishers, ice, etc. After that leaflets on Ice & Fish and Hygiene & Sanitation were distributed among the children and told them to read it thoroughly. The school Headmaster also took a class and told some interesting stories related to Chilka. In the afternoon, a question answer session was conducted and prizes were distributed among the winners. Also a few students were called up to the dais and made them narrate what they have learnt from the programme. Plastic pollution and its harmful impact on environment was also explained in the programme and the students were put on a task to keep their village and surroundings free from plastic materials like polyethylene bags, tobacco covers, etc.

Follow-Up Programme

On 18th & 19th of May 2012, two follow-up programmes were conducted at Balaramgadi and Bahabalapur landing centres respectively. AD of MPEDA, SRO & A.D.F (Marine) of State Fisheries attended the follow-up programmes. Issues regarding fish quality and conservation were discussed in the programmes. AD, MPEDA advised the trawler owners to take-up measures to improve sanitary and hygienic condition of the trawlers, landing centres, auction halls, go-downs, etc. to produce quality raw materials as per the international standards. During the extension programmes a demonstration of round plastic basket was done and explained them how plastic baskets are better than bamboo baskets. NETFISH also donated Round Plastic Baskets to both the trawler associations for demonstration purpose and urged the trawler owners to avoid using bamboo basket and phenoline in trawlers.

Outcomes achieved during the year

- ◆ In Paradeep and Balaramgadi Trawlers and Gill netters are now carrying sufficient ice while going for fishing.
- ◆ In Balaramgadi & Bahabalapur crushed ice is collected directly from ice crushers to the fishing vessels.
- ◆ In Paradeep ice is transported in covered condition.
- ◆ In Paradeep, all fishing vessels are cleaned regularly.

- ❖ In Paradeep, Harbour premises and old auction hall are cleaned regularly.
- ❖ In Balaramgadi, temporary roof cover has been adopted by most of the ice crusher centres.
- ❖ In Paradeep, Balaramgadi and Bahabalapur most of the fishing vessels are using plastic baskets instead of bamboo baskets.
- ❖ Complete fishing ban was observed in Paradeep and Balarangadi.
- ❖ In Balaramgadi and Bahabalapur almost all mechanized fishing vessels are equipped with plastic crates for keeping their catch in fish hold.
- ❖ In Balaramgadi, daily cleaning of all fish godowns is being carried out before and after work.
- ❖ As a result of awareness created among trawler owners, the trawler association members constructed a new auction hall to handle fish hygienically.
- ❖ In Balaramgadi, insulated fish boxes are used for storage of economically important species.
- ❖ Bamboo baskets are no more in use in Bahabalapur auction hall.
- ❖ Now Chilka fishers have started using Insulated fish boxes supplied by M.P.E.D.A through C.D.A. Around 3556 nos of insulated fish boxes are supplied through M.P.E.D.A. scheme to date.
- ❖ Price of fishery product from Chilka show an increase after use of IFBs. The fishermen were happy with the use of IFBs since, as reported by them, the average selling price of their catch increased by more than 30% in comparison to the price they were getting before.
- ❖ Some private ice factory owners have already set up ice plant in Chilka region owing to increased demand of ice by fishermen.
- ❖ Due to NETFISH awareness programme, 7 Primary fishermen co-operative societies have started their own fish trading activities in Chilka area.

7.3 ANDHRA PRADESH

The State of Andhra Pradesh is having a bountiful of fishery resources with a coastline of 974 Kms spread in 9 coastal districts and continental shelf area of 33000 Sq Kms. Andhra Pradesh ranks fifth in marine fish production, first in brackish wa-

ter shrimp production and fresh water prawn production, and second in fresh water fish production. The major fishing harbours are Visakhapatnam, Kakinada, Machilipatnam and Nizampatnam and there are 36 major and minor fish landing centers. About 1240 mechanized, 5056 motorized and 17762 traditional fishing vessels operate in the state, of which only 7% are deep sea fishing vessels. The AP coast is with 98 fishing villages with a fisher folk population of 509991. The annual fish production of the state is 16.5 lakh tonnes of which 6.39 lakh tonnes of fish and shrimp are exported during the year 2012-13. The inshore areas are relatively over-exploited while the off-shore marine fishery wealth remain under-exploited.

Activities in Andhra Pradesh during 2012-13

NETFISH has been conducting various awareness campaigns along the coastal regions of Andhra Pradesh since 2007 with a view to improve the quality of fisheries products that are being exported and also to conserve the marine resources for its sustainable use. Extension awareness programmes were conducted in and around the selected areas, ie., Visakhapatnam, Kakinada, Nizampatnam, Machilipatnam and Narsapuram. Visakhapatnam fishing harbour is situated in the premises of Visakhapatnam port trust. About 600 mechanized fishing vessels are being operated from the harbour. This harbour is having major fish landing centers at Pudimadaka, Mangamaripet and Mutyalammalem which are beach landing centers. Most of the fishing vessels are operating with trawl net but now some of the fishing vessels have resorted to gill nets. The major landings are big size tuna, seer fish and shrimps. Kakinada harbour, maintained by the Dept. of State Fisheries, is operating with 270 mechanized fishing vessels. The nearby fish landing centers are Uppada and Kumbabishkam which are beach landing centers and the major landings are of fish and shrimps. Machilipatnam and Nizampatnam harbours are also maintained by Dept. of Fisheries and are operating 97 and 172 mechanized fishing vessels respectively. Gilakaladindi and Manginapudi are the nearby landing centers of Machilipatnam. The major fish landing centers

around Nizampatnam are Odarev and Nakshatranagar which are beach landing centers. Narsapuram in West Godavari District is one of the potential areas for Aquaculture. The major aquaculture species are *Penaeus monodon*, *Macrobrachium rosenbergii*, *Letopenaeus vannamei* and little carps. Aquaculture has increased in recent years as the farmers are taking successful crop by stocking *L. vannamei*. In West Godavari district 75 thousand acres is brought under culture and in the Narsapuram division alone 55 thousand acres is under aquaculture.

During 2012-13 NETFISH conducted 249 programmes which included 198 regular programmes and 51 special programmes, with the active role of member NGOs -District Fishermen Youth Welfare Association (DFYWA), Jankalyan Welfare Society (JKWS) and Socio Economic Alternatives Research Resource Community for Humanity (SEARCH).

Fish Quality Management Programme at Landing Site

| Sl.No | Area | No. of Programmes |
|-------|---------------|-------------------|
| 1 | Visakhapatnam | 31 |
| 2 | Kakinada | 27 |
| 3 | Machilipatnam | 12 |
| 4 | Nizampatnam | 10 |
| | Total | 80 |

Fishermen, mechanized and fiber boat owners, fish traders and fisher woman were trained on fish quality management by conducting awareness programmes at fishing harbours of Visakhapatnam, Kakinada, Machilipatnam and Nizampatnam fishing harbours and at major fish landing centers around the harbours. During 2012-13, about 2472 beneficiaries were given awareness by conducting 80 fish quality management programmes. They were made aware on keeping the fishing harbours, fish landing centers, fish contact surfaces and fish holds clean. Information about the fish hold and insulated fish box subsidy schemes of MPEDA were also given to them. One of the major objectives was to avoid the use of bamboo baskets and to avoid direct landing of catches on bare sand for

auction. They were advised to carry enough ice even in small boats to avoid the spoilage of catch and were educated about personal hygiene.

Sustainable Fishing/Conservation Programme at Landing Site

| Sl.No | Area | No. of Programmes |
|-------|---------------|-------------------|
| 1 | Visakhapatnam | 17 |
| 2 | Kakinada | 18 |
| 3 | Machilipatnam | 10 |
| 4 | Nizampatnam | 9 |
| | Total | 54 |

Conservation and sustainable fishing training programmes were conducted for fishermen, fishing boat owners, fish traders and fisher woman at selected fishing harbours, its nearby landing centres and fishing villages. A total of 1640 beneficiaries were trained by conducting 54 programmes during the year. The topics mainly discussed in the programmes were the need to avoid ring seine net operations, strict implementation of closed season, conservation of mangroves, importance of mangroves as nursery ground for fry etc. Usage of square mesh cod ends for reducing juvenile fishing and by-catch and for saving fuel were also explained in the programmes. The fishermen were urged to use selective fishing gears like hook and line, long line fishing etc. Documentary, animation films, leaflets and posters developed by NETFISH were used to train the participants.

Onboard Programme

| Sl.No | Area | No. of Programmes |
|-------|---------------|-------------------|
| 1 | Visakhapatnam | 12 |
| | Total | 12 |

A total of 144 crew members of fiber fishing boats were trained by conducting 12 onboard training programmes at Visakhapatnam. The main aspects of training were regular cleaning of boat, hygienic handling practices, importance of ice to maintain quality, cold chain operations etc. Demonstration on boat cleaning was also done as part

of the training. The crews were made aware of keeping fish boxes and insulated boxes neat and clean and made them understood not to mix fish and shrimp in the same fish holds or in insulated boxes while ice packing. NETFISH posters and leaflets on fish quality management and conservation of fishery resources were used in the training.

Pre-processing Centre Programme

| Sl.No | Area | No. of Programmes |
|-------|---------------|-------------------|
| 1 | Visakhapatnam | 5 |
| 2 | Kakinada | 3 |
| 3 | Machilipatnam | 2 |
| 4 | Nizampatnam | 2 |
| | Total | 12 |

Awareness programmes on hygiene and sanitation were conducted for 310 preprocessing workers of processing plants and peeling shed during the year. Importance of chlorination of water, hand washing procedure, cleaning schedule, importance of ice and cold chain operation throughout the process, etc. were explained to the participants. They were advised to practice regular cleaning of containers and to avoid floor peeling. NETFISH documentary on 'Hygienic Handling of Fishery Products in Preprocessing Centres' was shown in the programme.

Aqua Farm Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Narsapuram | 14 |
| 2 | Srikakulam | 01 |
| | Total | 15 |

Aquafarm programmes were meant for improving the quality of aquafarm products by following hygienic practices. The programmes were conducted to the societies formed by NaSCA. About 354 Aqua farmers of Narsapuram and Srikakulam are trained by conducting 15 programmes. They were given awareness on different types of con-

taminations, effect of bacterial contaminations and its effects on sea food exports, cold chain operation, importance of traceability of aqua products and its procedure, sustainable culture practices, market trend, etc. Importance of MPEDA record book facility and the need for registration of farms with competent authority were also taught in the programmes. The farmers were advised to practice chill killing and to avoid use of antibiotics in culture farms.

Dry Fish Programme

| Sl.No | Area | No. of Programmes |
|-------|---------------|-------------------|
| 1 | Visakhapatnam | 7 |
| 2 | Kakinada | 12 |
| 3 | Nizampatnam | 6 |
| | Total | 25 |

To improve the quality of dryfish by improving the handling methods 25 awareness programmes were conducted for about 712 Dry fisher women in Visakhapatnam, Kakinada and Nizampatnam. They were explained about the hygienic way salt curing and fish drying practices, using PVC sheet for drying and segregation of fish to avoid contamination, etc. The dryfish workers were introduced to drying rack structures made with PVC pipes. Also they were informed about the solar dryer installed freely by the Govt. of Pondicherry and motivated the dry fisher's society members for maintaining solar dryer by themselves.

Street Play

| Sl.No | Area | No. of Programmes |
|-------|--------------------------|-------------------|
| 1 | Nizampatnam | 5 |
| 2 | Odarevu | 4 |
| 3 | Machilipatnam/Vijayawada | 30 |
| | Total | 39 |

Street plays on fish quality management and conservation of fishery resources were conducted at Odarev fish landing center, Chirala and Nizampatnam fishing harbour and nearby village. The street plays were used as a medium to propa-

gate messages on hygiene in beach landing centers, avoid direct landings on bare sand, conservation aspects like avoid ring seine nets, use hook and line, sustainable fishing etc. The street plays were organized by the SEARCH, Bapatla. Around 900 fisher folks would be benefitted by these programmes. In addition to these programmes 30 street play shows on fish quality management and post harvesting techniques of aqua culture ponds were organized in 3 days as part of Aqua Aquaria 2013 held at Layola College Grounds, Vijayawada.

School Programme

| Sl.No | Area | No. of Programmes |
|-------|---------------|-------------------|
| 1 | Visakhapatnam | 1 |
| 2 | Kakinada | 1 |
| | Total | 2 |

School children awareness programmes were organized on 23.10.12 at KDPM High School, Jalaripeta in Visakhapatnam and on 16.11.12 at Upper Primary School, Suradapeta in Kakinada. About 30 students participated in the programme in Vasakhapatnam whereas 40 students took part in the programme in Kakinada. During the programme the students were taught about the hygiene standards and how to keep our premises and house neat and clean. The procedure of hand washing was explained to them and urged them to maintain personal hygiene. Discussions on the problems faced by fishermen due to poor knowledge on hygiene and sanitation, how unhygienic conditions in fishing vessels are affecting the market price of catch, its effect on the income and economic standards of fishermen, catch depletion, fishing of protected species, different kind of contaminations and its effects on health etc. were also carried out in the programmes. The children were advised to avoid the practice of open defecation at beach landing centers. NETFISH documentaries on hygienic fishing harbour and fishing vessels and conservation of fishery resources were also shown for the participants. Pens were given as a complement for the children who participated in the programmes.

Mass Communication

| Sl.No | Area | No. of Programmes |
|-------|---------------|-------------------|
| 1 | Visakhapatnam | 5 |
| 2 | Kakinada | 3 |
| | Total | 8 |

To solve the issue of catching small sized tuna 3 mass communication programmes were organized at Kakinada and Visakhapatnam fishing harbours. Handouts explaining impact of juvenile fishing and advising fishermen to avoid catching under sized tuna were also distributed. About 110 fishermen attended the programmes. Mechanized boat owners have assured that they will not entertain such catches and will control it through local purchaser's associations.

Mass communication programmes as awareness campaigns on hygiene in fishing vessels were conducted in Visakhapatnam and Kakinada. Boat to boat canvassing was done as part of the programme and informed the boat owners and crew members on the methods to be practiced for maintaining fishing vessel hygiene. They were also advised to maintain regular cleaning schedule by using detergent. NETFISH stickers having details on hygiene and conservatory methods to be implemented in fishing vessels were pasted on boats during the programme. Distribution of handouts prepared by both Dept. of Fisheries and NETFISH on Fish Quality Management and Conservation of Fishery resources was also done in the campaign.

Outcomes achieved during the year

- ◆ Regular cleaning activity was initiated at Visakhapatnam fishing harbour. Sweepers were appointed and they are regularly cleaning the roads and collecting the waste and disposing out from the fishing harbour.
- ◆ The fish traders association of Visakhapatnam fishing harbour is cooperating with fishing harbour sweepers for easy disposal of wastes generated during packing of fish materials.
- ◆ At Visakhapatnam, dry fishers are partially shifted from the finger jetties and started their activities at the area spared for them by the Port. Dry fishers are cleaning the premises

- before drying and using nets over floor to avoid direct contact with the floor.
- ◆ Fishing vessels are cleaned regularly before and after every catch. Most of the boat crews are avoiding the harbour water for cleaning material.
 - ◆ Increased the use of Plastic baskets at all the fishing harbours. About 90% of the bamboo baskets are replaced with plastic baskets for handling ice and fish. Local traders are pressurizing the boat owners to use plastic baskets at Visakhapatnam fishing harbour.
 - ◆ In Local Fish market of Visakhapatnam fishing harbour, vendors are upgrading their way of selling fish by using plastic basins, SS Trays and umbrella. They are using insulated boxes for storing fish before selling or exhibiting on tray. They use plastic sheets to exhibit their product to sell.
 - ◆ Fishermen hope that the ban period will help in protecting and replenishment of marine species thereby helping them to have a better catch. All the boat owners' unions and the federation of trawler owners of all the fishing harbours represented to the government to extend the ban period to 60 days as was done in 2010. Closed season was strictly implemented by all the coastal fishermen.
 - ◆ About 25% of the boats from all the major fishing harbours have replaced the trawl net with gill nets. By catch was reduced as they are using the fish nets of mesh size above 2 inches.
 - ◆ Preprocessing centers have stated using low height SS Tables for peeling operations at Machilipatnam.
 - ◆ Ice is crushed on cement flat forms at Machilipatnam fishing harbour before loading to the fish holds.
 - ◆ Traders are using plastic sheets for sorting fish to avoid contamination from floor.
 - ◆ Mechanized boat owners from Machilipatnam, Nizampatnam and Visakhapatnam fishing harbours are applying for the fish hold modification using the MPEDA fish hold subsidy schemes for better preservation of catch.
 - ◆ Fiber boat owners are carrying ice with insulated fish boxes at Odarev, Machilipatnam and Kakinada fish landing centers.
 - ◆ Auctioneers of Manginapudi fishing landing center started using plastic sheets for auction of fish to avoid keeping fish directly on sand.
 - ◆ The fiber boat owners of Mayapatnam fish landing center of Kakinada are using plastic trays for auction thereby avoiding spreading fish directly on floor.
 - ◆ The small fiber boat owners are constructing small permanent fish hold in their boats to preserve the catch.
 - ◆ Aqua farmers of Narsapuram are doing chill killing of shrimps at the time of harvesting and are also using plastic sheets for keeping catch.
 - ◆ Due to the awareness generated among the boat owners of Machilipatnam and Nizampatnam, they pressurized the port department authorities for arranging separate bore wells and pipe line facility for regular cleaning of jetties before and after auction and also for auction halls.

7.4 TAMIL NADU

The Fisheries sector in Tamil Nadu plays a crucial role in overall economic development of the state and the rich fish biodiversity of the state offers good scope for development. Tamil Nadu has a coastal length of 1076 km (13% of the country's coast line) 0.19 million sq.km of EEZ (9.4% of the India's EEZ) and a continental shelf of about 441,412 sq.km. and is one of the leading state in marine fish production. The marine fisheries potential of the state is estimated at 0.719 million tonnes (0.369 million tonnes from less than 50mt. depth and 0.35 million tonnes beyond 50 mt. depth). The State has fishermen population of 1.05 million of which 0.20 million fishermen are actively engaged in fishing from 591 marine fishing villages scattered along the 13 coastal districts. In the inshore waters, the fishery potential is exploited by 56792 traditional crafts (motorized and non motorized) and 6728 mechanized boats. The infrastructure facilities include 3 major fishing harbours (Chennai, Tuticorin and Chinnamuttam), 3 medium fishing harbours (Pazhaiyar, Mallipattinam and Vallinokkam) and 363 fish landing centres. Tamil Nadu contributes 10-12 % of the total marine fish production in India (4.25 lakh tones). The export of marine products from the state

during 2011-12 amounted to 73,991 MT. valued at Rs.2800.81 crores.

Activities in Tamil Nadu during 2012-13

NETFISH has selected the following FH/Landing centers for the year 2012-13 to improve the hygienic handling of fishes and sustainable fishing.

Along Northern regions of Tamil Nadu the selected areas were Chennai, Cuddalore, Mudasalodai, Pazhaiyar, Nagapattinam and Karaikkal. Chennai Fishing Harbour is one of the major fishing harbours along the East coast, from where over a dozen of big deep-sea trawlers, more than 729 mechanized fishing boats and hundreds of motorized and non motorized traditional crafts are operated. In Cuddalore the original fishing harbour become defunct and at present the island jetty is used for landing fish from more than 600 mechanized boats. Mudasalodai Fish Landing Centre, owned and managed by State Fisheries department, has been upgraded in 2011 by providing adequate infrastructure facilities. From Pazhaiyar fishing harbour, situated in Sirkali Taluk of Nagapattinam District, around 238 mechanized boats are operated and the harbour is managed by State Fisheries department. Nagapattinam Fishing Wharf, even though in a dilapidated condition, is a landing site for more than 1000 mechanized boats. The state government has decided to set up 4 fishing harbours in Nagapattinam District of which construction work is in progress. Karaikkal Fishing Harbour is located in southern bank of Arasalar river and 148 mechanized fishing vessels and 400 FRP boats fitted with OBM are operating here. The harbour was handed over to State fisheries Department in January 2013.

The selected areas along Southern regions were Tuticorin, Mandapam, Mallipattinam and Chinnamuttam. The Tuticorin Fisheries Harbour is one of the old and important fishery ports of India located on the southern Tamil Nadu coast and on the western side of the Gulf of Mannar. There are 450 mechanized boats, 1300 vallams and 900 Kattamarans in Tuticorin district and about 5,428 Fishermen families are directly engaged in fishing in these vessels. The Mandapam fish landing centre on the Gulf of Mannar side is a medium one

offering landing place for about 700 trawlers. Three processing factories and three ice plants are located in the vicinity of the landing centre. Mallipattinam, situated in Pattukkottai Taluk of Thanjavur District is one of the biggest fishing areas in the Palk Strait. Chinnamuttam is the only harbour located on the eastern side of the Kanyakumai district and about 1500 mechanized fishing vessels and around 12,000 traditional fishing craft are involved in fishing operation in the district.

NETFISH awareness programmes conducted along Northern regions included 97 fish quality management programmes, 59 conservation and sustainable fishing programmes, 26 onboard programmes, 20 dryfish awareness programmes, 28 street plays and 2 coastal sanitation programmes. In southern regions of the state 33 fish quality management programmes, 37 conservation and sustainable fishing programmes, 9 onboard programmes and 3 aquafarm programmes were arranged during the year.

Fish Quality Management Programme at Landing Site

| Sl.No | Area | No. of Programmes |
|-------|---------------|-------------------|
| 1 | Kasimedu | 32 |
| 2 | Cuddalore | 21 |
| 3 | Pazhaiyar | 10 |
| 4 | Nagapattinam | 10 |
| 5 | Mudasalodai | 12 |
| 6 | Karraikkal | 12 |
| 7 | Tuticorin | 12 |
| 8 | Mandapam | 8 |
| 9 | Mallipattinam | 12 |
| 10 | Chinnamuttam | 1 |
| | Total | 130 |

Training programmes were conducted in fishing harbours, nearby landing centres and fishermen villages to create awareness among fishermen and other stakeholders on various aspects of fish quality management. Major problems such as poor hygiene and sanitation in the harbour, open defecation, lack of adequate toilet facilities, lack of

infrastructure facilities etc. which may affect the quality of the catch were discussed in the programmes. Awareness on personal hygiene, improvement of handling of fishes by using plastic baskets, icing of fishes, need of cold chain operation etc. were given during the programme.

Sustainable Fishing/Conservation Programme at Landing Site

| Sl.No | Area | No. of Programmes |
|-------|---------------|-------------------|
| 1 | Kasimedu | 15 |
| 2 | Cuddalore | 14 |
| 3 | Nagapattinam | 10 |
| 4 | Mudasalodai | 10 |
| 5 | Karraikkal | 10 |
| 6 | Tuticorin | 15 |
| 7 | Mandapam | 9 |
| 8 | Mallipattinam | 12 |
| 9 | Chinnamuttam | 1 |
| | Total | 96 |

In view of creating awareness on conservation of fishery resources and sustainable fishing, awareness classes were arranged for fisherfolks at selected harbours and nearby places. The major topics dealt in the programmes included mesh size regulation, protection of turtles, throwing of plastic materials into the sea, conservation of mangroves, catch decline affecting the livelihood of fishermen, impact of operation of purse seine, etc.

Onboard Programme

| Sl.No | Area | No. of Programmes |
|-------|---------------|-------------------|
| 1 | Kasimedu | 4 |
| 2 | Cuddalore | 5 |
| 3 | Pazhaiyar | 1 |
| 4 | Nagapattinam | 10 |
| 5 | Mudasalodai | 3 |
| 6 | Karraikkal | 3 |
| 7 | Tuticorin | 4 |
| 8 | Mandapam | 2 |
| 9 | Mallipattinam | 3 |
| | Total | 35 |

Onboard training programmes were conducted in view of creating awareness on hygienic handling of fishes onboard as well as on conservation measures to be followed while fishing. Quality aspects like washing of nets before and after fishing, washing of decks, immediate sorting and icing of fish etc. were discussed in the programmes. Fishermen were trained to use hand gloves while handling fishes onboard and to clean the fish deck using soap oil/detergents on a regular basis. They were also urged to avoid bamboo baskets and use plastic baskets instead. The fishing crews were also made aware of importance of responsible fishing for the sustainability of fisheries and the various conservation measures like use of square mesh cod ends, avoiding juvenile fishing and by-catch, use of selective fishing gears etc.

Dry Fish Programme

| Sl.No | Area | No. of Programmes |
|-------|-----------|-------------------|
| 1 | Pazhaiyar | 20 |

To improve the dry fish handling at Pazhaiyar awareness programmes were conducted for the dry fish workers. More than 600 women from surrounding villages are engaged in dry fish activities near the harbour. The fisher women were advised to follow hygienic practices for dry fish production. The major problem they are facing is inadequate space for drying and it was demanded to the state fisheries to allocate separate dry fish yard exclusively for dry fish activities. Many fisherwomen are willing to dry their fish in coconut fiber mat but it is not easily available in Pazhaiyar region. As part of the training programme, NETFISH provided SRF tarpaulin sheet for drying the fishes.

Aqua Farm Programme

| Sl.No | Area | No. of Programmes |
|-------|---------------|-------------------|
| 1 | Mallipattinam | 3 |
| | Total | 3 |

In Mallipattinam of Thanjavur District, 3 awareness training programmes were conducted for the aquafarmers and farm workers. The programmes

West Bengal



Mass boat clean-up programme at Namkhana LC



Meeting with boat owners at Kakdwip



Awareness class for pre-processing workers



Hands-on training for dryfish workers



School children programme



Distribution of plastic baskets



Pasting of sticker on fishing vessel



Lecture class in Farmer's meet organized by MPEDA, SRC (Aqua)

Odisha



Fishermen training programme



Hands-on training during onboard programme



Cleaning materials distributed during onboard training



Pre-processing centre programme



Street play



Dress code provided by NETFISH at Paradeep harbour



Distribution of plastic basket at Bahabalapur



School children programme

Andhra Pradesh



Onboard training programme at Visakhapatnam



Awareness programme on conservation of fishery resources at Vizag



Awareness programme on MPEDA subsidy schemes at Nizampatnam



Help desk arranged for Aqua farmers at Bhimavaram



Mass communication programme at Visakhapatnam



Popularizing plastic baskets at Visakhapatnam



NETFISH stall at Aqua Aquaria 2013, Vijayawada



Chairman, MPEDA with street play team at Aqua Aquaria 2013

Tamil Nadu North



Onboard programme at Nagapattinam



Hygienic handling of ice onboard



Explaining drawbacks of bamboo baskets to stakeholders



Plastic basket distribution



Coastal sanitation campaign at Chennai



Coastal sanitation campaign at Cuddalore



Stakeholder's meeting at Kasimedu fishing harbour



Storing fishes in plastic boxes with proper icing for transportation

Tamil Nadu South



Onboard awareness programme



Practical session of onboard programme



Fishermen awareness programme in harbour



Awareness programme for fisherwomen



Awareness programme for aquafarmers at Mallipattinam



Distributing NETFISH leaflets to the participants



Explaining NETFISH posters to the participants



Documentary show for the participants

Kerala North



Onboard training programme



Fishermen training programme



Mass communication programme



Plastic basket distribution at Beypore



Interaction with stakeholders



Discussion with officials



Street play



Workshop on development of fishing harbours

Kerala South



Fishermen training programme



Onboard training programme



Pre-processing centre training



School children programme



Coastal clean-up programme



Street play



Survey at peeling sheds



Trolley distribution at Sakthikulangara

Karnataka & Goa



Fish quality management programme



Training in pre-processing centres



Square mesh awareness programme



Harbour clean-up in Tadri



Medical camp



Plastic baskets distributed at Goa



School children programme



Street play

Maharashtra



Onboard training



Plastic baskets distributed for fishing boats



Training for dryfish workers



Pre-processing centre programme



Square mesh training programme



Harbour development workshop at Sassondock



Workshop on use of life saving equipments



Practical session of workshop on life saving equipments

Gujarat



School children rally at Mangrol



School children programme at Veraval



Demonstration of insulated fish box



Exposure visit for fishermen of Kutchh to Veraval



Training on conversion of diamond mesh to square mesh at Veraval



Mangrove plantation programme at Kutchh



Plastic basket distribution at Mangrol



Exhibition stall in Sagar Khedu Sammelan at Veraval

mainly emphasized on the practices for improving the quality of culture products and the need for maintaining personal hygiene.

Street Play

Street play shows aimed at wide reach of NETFISH messages were conducted in and around fishing villages of Kasimedu FH. Altogether 28 shows were arranged during the year. The programmes helped in creating awareness among fisherfolk on the impact of open defecation on their health as well as on the quality of fish, the importance of personal hygiene, and the need of hygienic handling of fishes and on various conservation aspects too.

Coastal Sanitation Campaign

Identifying the need to educate the fishing community on coastal cleanliness and personal hygiene, NETFISH and its member NGO, SOHES organized a fully fledged awareness campaign focusing on coastal sanitation at Chennai and Cuddalore. The main aim of the coastal sanitation campaign was to create awareness among the fishing community on proper use of toilets and avoiding open defecation. The coastal sanitation campaigns were conducted on 24th & 27th March 2013 covering the fishing villages around Cuddalore and Chennai Fishing Harbours. Banners depicting the pictures of a contaminated hand, occasion for hand washing, hand washing methods and proper use of toilets were prepared for the campaign. A two paged handout on coastal sanitation was also prepared in Tamil language. The campaign included a 'Van Yathra' along the fishermen villages exhibiting the banners. Street Corner meetings were also conducted and distributed the handouts. A wider publicity was given on Government schemes for fishermen communities to construct individual toilets in their houses and also they were encouraged to use the already available individual as well as community toilets in their fishing villages. Hundreds of children were also met during the campaign and they were taught on hygiene and sanitation.

Outcomes achieved during the year

- ◆ Improved handling of fish at Pazhaiyar fishing harbour.
- ◆ Crushing of ice on floor has been stopped and instead ice is now crushed on polythene sheets.
- ◆ Auction hall, wharf and harbour premises at Mudasalodai FLC are being neatly maintained by Boat Owners Association by engaging 2 cleaning workers.
- ◆ Improved practices of dry fish handling.
- ◆ Cleaning of auction hall and harbour premises at Karaikkal fishing harbour is being carried out on a regular basis by Karaikkalmedu and Kilinjalmedu Panchayath by engaging 10 cleaning workers.
- ◆ In Cuddalore as a result of NETFISH programmes and pressure from various fishermen groups the purse seine operators came forward to self impose ban on purse seine operation for 3 months apart from the regular ban period.
- ◆ Use of ice and ice box has been popularized among traditional fisher folks.
- ◆ Fisher folks are using ice in proper manner to keep the cold chain operation.
- ◆ Mechanized boats are being regularly cleaned using seawater, detergent and bleaching powder.
- ◆ Bamboo baskets are replaced by plastic crates in many harbours/landing centers.
- ◆ Safe disposal of trash fish (Trash fish is iced and covered by Polythene sheets before transporting) is being implemented through the intervention of Deputy Director of Fisheries, Karaikkal with 10 fishing village panchayath members.

7.5 KERALA

The state of Kerala, bordered on the west by a coastline of length about 590km, is rich in marine flora and fauna. The potential of the state in terms of marine fisheries is believed to be about 7.5 lakh tonnes and the net production from this sector is more than 6 lakhs tonnes. There are 9 major harbours and 17 major landing centres in the state. Fishermen population in marine sector is more than 8 lakhs, residing in about 222 fishermen villages

along nine coastal districts. Most of the people of these villages depend on fishing industry in one way or other for their livelihood. Of the total seafood export from India, around 18 percent is from Kerala. The seafood export from Kerala in 2011-12 was 1.46 lakh tonnes and it is worth Rs. 2,782.39 crores.

NETFISH activities in Kerala during 2012-13

NETFISH organised its training programmes in all selected harbours, landing centers and fishing villages of Kerala from Kasargod to Thiruvananthapuram. Along Southern regions of Kerala the selected areas were Thoppumpady, Aroor, Ambalappuzha, Thottappilly, Arattupuzha, Kayamkulam, Sakthikulangara and Vizhinjam. Cochin Fisheries harbours (CFH) in Thoppumpady and Sakthikulangara/Neendakara harbours in Kollam district are the major harbours in southern region of Kerala. Aroor and Ambalappuzha are areas in Alappuzha district where large numbers of peeling sheds are located. The selected areas along Northern regions included Munambam, Munakkakadavu, Ponnani, Beypore, Puthiyappa, and Valapattanam. Munambam harbour, one of the major harbours in Ernakulam district, is managed by harbour management society and can be considered as a model harbour in the country. Beypore and Puthiyappa harbours in Kozhikode district are also major fishing areas.

A total of 498 programmes were organised along Kerala coast during 2012-13, out of which 184 programmes were organised in the southern region and 314 programmes were organised in the northern region. Other than the regular programmes special programmes such as street plays, school children programmes, beach cleanup programmes etc were also organised to spread NETFISH message more effectively. Signboards depicting do's and don'ts were fixed at Puthiyappa harbour during the year. In order to get the desired outcome, NETFISH concentrated its activities in the selected harbours and fishing villages. Activities of all fishing harbours of Kerala were also closely monitored and given advice and suggestions to fishermen and officials related to the fishing harbour. Overall, hygienic standard of the state is rapidly improving and fishermen themselves are coming forward for the conservation of fishery resources.

Fish Quality Management Programme at Landing Site

| Sl.No | Area | No. of Programmes |
|-------|--------------------------|-------------------|
| 1 | Munakkakadavu | 13 |
| 2 | Ponnani | 22 |
| 3 | Beypore | 17 |
| 4 | Puthiyappa | 24 |
| 5 | Valapattanam | 16 |
| 6 | Thoppumpady | 25 |
| 7 | Arattupuzha/Thottappilly | 5 |
| 8 | Sakthikulangara | 5 |
| 9 | Vizhinjam | 5 |
| | Total | 130 |

The fish quality management programmes were organised along the coastal villages, harbours and landing centres of Kerala. In Thoppumpady region 2 fish quality management programmes were conducted for dry fish workers also. These programmes were mainly focused at improving the hygienic standard of fish handling. Each programme covered a group of 30 beneficiaries. The programme included awareness classes on hygiene in fish handling, distribution of leaflets prepared by NETFISH on the subjects and explanation of NETFISH posters. This was followed by discussions with the participants regarding their view towards fish quality management and also about their various problems related to the industry. To encourage the stakeholders for following hygienic practices while handling fish and ice, NETFISH has distributed 22 stainless steel shovels at Munambam and Beypore harbours. At Munambam harbour, 8 Stainless steel trays were also distributed to avoid the practice of keeping crushed ice on floor.

Sustainable Fishing/Conservation Programme at Landing Site

These programmes were conducted for fisherfolks and other stakeholders in fishing harbour, landing centers and nearby villages. The programme aimed at conservation of marine resources by making fishermen to practice respon-

| Sl.No | Area | No. of Programmes |
|-------|--------------------------|-------------------|
| 1 | Munakkakadavu | 13 |
| 2 | Ponnani | 21 |
| 3 | Beyepore | 17 |
| 4 | Puthiyappa | 24 |
| 5 | Valapattanam | 16 |
| 6 | Thoppumpady | 8 |
| 7 | Arattupuzha/Thottappilly | 6 |
| 8 | Sakthikulangara | 5 |
| 9 | Vizhinjam | 1 |
| | Total | 111 |

sible fishing. These training programmes covered the topics such as conservation of juveniles, measures for by-catch reduction, need for the use of selective fishing gears, conservation of coral reefs and mangrove ecosystems, etc. During these training programmes fishermen showed their willingness to follow conservation measures and requested to implement strict rules for the same.

Onboard Programme

| Sl.No | Area | No. of Programmes |
|-------|-----------------|-------------------|
| 1 | Munakkakadavu | 1 |
| 2 | Ponnani | 2 |
| 3 | Beyepore | 1 |
| 4 | Puthiyappa | 3 |
| 5 | Valapattanam | 1 |
| 6 | Thoppumpady | 1 |
| 7 | Sakthikulangara | 1 |
| | Total | 10 |

A total of 10 numbers of onboard training programmes were organised during 2012-13 in Kerala. This type of programme is conducted for giving awareness mostly to the crews working in fishing vessels. During these onboard trainings, fishermen were given practical training on cleaning of fishing vessels, proper icing of catch, how to reduce juvenile catch etc.

Pre-processing Centre Programme

Pre-processing centre training programmes

| Sl.No | Area | No. of Programmes |
|-------|--------------------------|-------------------|
| 1 | Aroor | 32 |
| 2 | Ambalappuzha | 19 |
| 3 | Arattupuzha/Thottappilly | 10 |
| 4 | Sakthikulangara | 11 |
| 5 | Vizhinjam | 2 |
| | Total | 74 |

were organised for the pre-processing workers in peeling sheds and pre-processing units along southern part of Kerala. The participants were trained on hygiene and sanitation procedures to be followed while doing peeling work. Apart from conventional lecture classes audio visual tools also were used for the training to communicate the message more effectively. On 12th December 2012 a pilot survey was conducted at a few selected peeling sheds in Aroor and Ambalappuzha regions to study the socioeconomic status of peeling shed workers and owners.

Street Play

During 2012-13, NETFISH organized 155 numbers of street play programmes which comprised of 110 shows along Northern coastal districts of Kerala and 45 programmes along southern districts. The street play made especially for the training purpose covered conservation aspects as well as quality aspects. The street play was scripted in a simple manner for the easy understanding of the common people. The street play was designed by including different aspects of fish quality management and sustainable fishing mixed with folksongs. The programme attracted huge audience in all parts and people readily accepted the messages NETFISH tried to convey.

Mass Communication

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Munambam | 5 |
| 2 | Puthiyappa | 4 |
| | Total | 9 |

Mike announcement campaigns were organized in Munambam and Puthiyappa harbours

during the peak hours to invite the attention of workers who are busy with their work and not available for other type of programmes. One of the advantages with this type of programme is its wide reach and workers can listen to the messages even when they are working. General hygienic practices that has to be followed in the fishing harbour and any special message that NETFISH was liked to convey to large number of audience in a short span of period were announced through mike during the campaign.

School Programme

An awareness programme was organized on 10th September 2012 for the students of Vocational Government Higher Secondary School, Cheriazheekal, Alappuzha, Kerala. Cheriazheekal is primarily a fishing village with majority of its population belonging to fishing community. About 90% of the students of this school belong to fishermen community. Fisheries and Aquaculture are two vocational subjects handled in the school and hundreds of students are present in each stream. This programme was arranged with a view that these children can act as effective medium to spread NETFISH messages among the family members who are involved in fisheries activities. All the 100 students of fisheries stream had participated in the programme. The programme included three lecture classes on the topics Hygienic handling of fish onboard, Hygienic handling of fish at fishing harbour/landing centres and Hygienic handling at Pre-Processing centres. Documentary and Animation films developed by NETFISH on the above said subjects were also shown to the children. NETFISH stickers, posters, leaflets were explained and distributed in the programme.

Harbour Clean-up Programme

NETFISH organized a harbour clean-up programme at Ponnani on 25th October 2012 to make the stakeholders aware of the importance of harbour cleanliness. NETFISH provided cleaning materials such as brooms, baskets, bleaching powder, spades etc. to the stakeholders for cleaning. Earlier in May 2012, a cleanup programme was conducted at Mannassery landing centre near Thoppumpady harbour.

Outcomes achieved during the year

- ◆ In Thoppumpady 80% of bamboo baskets are now replaced by plastic baskets
- ◆ Cleaning of auction hall in Cochin Fisheries harbour by out sourcing workers is continuing as per NETFISH proposal
- ◆ Fish cutting inside harbour and staking of crates on raised platform are also controlled
- ◆ In Aroor and Ambalappuzha a good number of PPCs have changed from floor peeling to table peeling
- ◆ Overall hygienic standards of the peeling sheds have improved. 50% of small scale peeling units are using plastic sheets to keep the material
- ◆ In Thottappilly and Arattupuzha regions 90% of mini-trawling have converted to gillnetting
- ◆ Onboard fish handling practices have improved considerably. Fishermen have started using plastic baskets instead of bamboo baskets.
- ◆ In Sakthikulangara regular cleaning of harbour and its surroundings is taking place
- ◆ Mixing of sand with fish in Vizhinjam region was also controlled
- ◆ Stainless steel trays are used in Munambam to avoid keeping crushed ice on floor and stainless steel shovels are used to handle ice and fish.
- ◆ In Munakkakadavu and Chettuva workers were outsourced for regular cleaning of the harbour
- ◆ Usage of bamboo baskets were stopped in Beypore harbour.
- ◆ NETFISH had supplied 10 stainless steel trolleys in Beypore. After using these trolleys the stakeholders got motivated and purchased 10 more stainless steel trolleys by themselves for carrying fish and ice in crates
- ◆ NETFISH has supplied stainless steel shovels in Beypore harbour and they are using it.
- ◆ Waste dumping practice in Puthiyappa has stopped
- ◆ Hygienic condition of the harbours was improved due to continuous training programmes by NETFISH.

7.6 KARNATAKA & GOA

Karnataka and Goa states have 405 km coast line with a continental shelf area of 47,000 sq.km

and 10000 ha. of potential brackish water resources for aquaculture. In Karnataka there are 6 major harbours and 24 fish landing centers and jetties. Karnataka have 3.12 lakh fisher populations and 475 active primary fishermen co-operative societies. There are about 3454 mechanized fishing vessels, 5697 motorized boats and 5686 traditional boats operating in the state. The total marine fish production in Karnataka is estimated around 3.58 lakh tonnes. The fish production from the state contributed about 5 to 6% of India's total fish production. Total fish exported from the state is about 0.85 lakh tonnes valued at Rs. 750 crores.

The marine fisheries sector of Goa has attained the status of a capital-incentive industry. About 75% of the marine fish production comes from the mechanized sector and 25% from the traditional sector. Goa has 47 licensed aquaculture farms covering 200 hectares and an estimated 400 tidal fish / prawn filtration farms. The fish production from Goa is around 0.7 to 0.9 lakh tonnes. Goa has 71 fishing villages and 22,000 fishermen. Fishermen from 8 taluks are involved in fishing activities and fishermen from 42 villages are involved in marine fishing. The estimated population of fishermen in the state is over 30,000 and population of active fishermen is 12,000. Currently Goa has a registered fleet of 1,134 mechanized boats, 755 country crafts, 1,963 non-motorized country crafts and 6,463 nets. There are 5 fish landing centers and 14 fish landing ramps. Total fish exported is about 0.53 lakh tonnes valued at Rs. 572 crores.

The fisheries sector plays an important role in the socio economic development of both Karnataka & Goa, in view of its contribution to the food basket, nutritional security, large foreign exchange earnings, employment generation and income. Over-exploitation of marine resources and excessive mechanization were responsible for the fall in the quantity of fish catch. A policy is being followed as regards total ban on the registration of new fishing trawlers.

NETFISH activities in Karnataka & Goa during 2012-13

NETFISH selected the following area for its activities during 2012-13: Mangalore, Malpe, Honnavar, Tadri & Karwar in Karnataka and Malim

& Cutbona in Goa. Mangalore is the major fishing harbour of Karnataka state, managed by the department of fisheries. Essential infrastructures like closed auction halls, water, wharf, electricity, ice plants are available in this harbour. Malpe fishing harbour is situated in Udupi district, known for its "all-seasons harbour". The harbour is managed by the department of fisheries and there are 3 auction halls, wharf and protected berthing place. Honnavar harbour is situated on the bank of Sharavathi River in Uttara Kannada District. Recently the harbour is being developed with NFDB fund and construction work is continuing. Tadri harbour is in Uttara Kannada district located on the bank of river Aghanashini. The harbour is known for day trawling and purse seining. Karwar fishing harbour, monitored by the state fisheries department, is a natural harbour located near Karwar port. Malim fish landing centre, monitored by Mandovi Fishermen Association, is located on the bank of Mandovi river in North Goa district whereas Cutbona landing centre is managed by Cutbund fishers association and is located in South Goa district.

Altogether 217 regular awareness classes comprised of Fish Quality Management programmes, Sustainable Fishing programmes, Onboard programmes, Pre-processing centre programmes, Dryfish programmes and Aquafarm programmes were conducted in these selected areas during the year. In addition to this, special programmes such as Street Plays (24 nos.) and School Children Programmes (4 nos.) were also arranged in the state.

Fish Quality Management Programme at Landing site

| Sl.No | Area | No. of Programmes |
|-------|-------------------|-------------------|
| 1 | Mangalore | 27 |
| 2 | Malpe | 19 |
| 3 | Honnavar | 11 |
| 4 | Tadri | 14 |
| 5 | Karwar | 16 |
| 6 | Malim and Cutbona | 15 |
| | Total | 102 |

In fishing harbours, landing centres and villages, 102 programmes for giving awareness to fisherfolks on fish quality management were conducted during 2012-13. Each of these programmes was arranged for a group of 30 fishers involved in fish/ice handling. The programme included a lecture on spoilage of fish, role of ice in fish preservation, handling of fish and usage of ice, personal hygiene, hygiene at fishing harbours etc. Demonstration of proper icing of fish, cleaning of harbours and hand washing procedure was also given. NETFISH leaflets on Fish and ice, Hygienic handling of fish at harbours, Pollution at fishing harbours were distributed and explained about Do's and Don'ts by showing NETFISH posters. Documentary & Animation Film show was done for the trainees. MPEDA Subsidy Schemes were popularized among trainees in the programmes. Feedback from trainees was also collected as a part of the programme.

Sustainable Fishing/Conservation Programme at Landing site

| Sl.No | Area | No. of Programmes |
|-------|-------------------|-------------------|
| 1 | Mangalore | 8 |
| 2 | Malpe | 5 |
| 3 | Honnavar | 5 |
| 4 | Tadri | 10 |
| 5 | Karwar | 13 |
| 6 | Malim and Cutbona | 14 |
| | Total | 55 |

During 2012-13, a total of 55 sustainable fishing programmes were conducted. Each programme was organized for a group consisting of 30 fishers. Lecture on juvenile fishing, by-catch reduction, turtle conservation, importance of ban period, mangrove plantation, responsible fishing and mesh size regulation were given for the participants. NETFISH leaflets on juvenile fishing, turtle conservation, coral reef conservation, mangrove plantation, sustainable fishing, responsible fishing and eco friendly fishing methods were distributed in the programme. Also explained the Dos and Don'ts by showing NETFISH posters. Conservation programmes in particular to aware the fish-

ers about illegal catch of cuttle fish were also conducted during the year in which hand bills in Kannada containing cuttle fish biology, method of illegal catching and its consequences are explained. Mike announcement was also done. Also scientific suggestions to ban the illegal catch were given to district administration.

Onboard Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Mangalore | 2 |
| 2 | Malpe | 2 |
| 3 | Honnavar | 2 |
| 4 | Tadri | 3 |
| 5 | Karwar | 3 |
| | Total | 12 |

These training programmes were conducted onboard fishing vessels and each programme was attended by a group of 15 fishers. Awareness class on spoilage of fish, role of ice in fish preservation, handling of fish and usage of ice, personal hygiene, and hygiene of fishing vessels, responsible fishing and importance of mesh size regulation were given to the participants and also had practical demonstration on hygienic handling of fishes onboard. NETFISH leaflets on fish and ice, hygienic handling of fish onboard, Pollution at fishing harbours and responsible fishing were made use of in the programmes.

Preprocessing Centre Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Mangalore | 8 |
| 2 | Malpe | 7 |
| | Total | 15 |

In Karnataka, most of the PPCs are located near Malpe and Mangalore fishing harbours. During 2012-13, 15 PPC trainings were conducted for the workers in these PPCs. Each programme was organized for a group of 30 workers of pre processing centers. Spoilage of fish, role of ice in fish preservation, handling of fish and usage of ice,

personal hygiene, hygiene at PPCs/ peeling sheds etc are the different topics taught in the programme. Demonstration of icing of fish, cleaning of PPCs/ peeling sheds and hand washing procedure was also done for the participants. NETFISH leaflets on hygienic handling of fish in pre-processing centers were distributed to the trainees. Feedback of the trainees was collected after each training programme.

Aqua Farm Programme

| Sl.No | Area | No. of Programmes |
|-------|-------------------|-------------------|
| 1 | Honnavar | 3 |
| 2 | Tadri | 3 |
| 3 | Karwar | 3 |
| 4 | Malim and Cutbona | 1 |
| | Total | 10 |

During the year 2012-13, 10 aqua farm trainings were conducted in Kundapur, Honnavar and Karwar region where most of the aquafarms are located. Each programme was conducted for a group of 30 farmers. Awareness class on spoilage of shrimp, role of ice in shrimp preservation, chill killing, handling of shrimp and usage of ice, personal hygiene, hygiene in farms, banned antibiotics and PHT were given to the participants. Also demonstration was done on chill killing and proper icing. NETFISH leaflet on fish and ice was distributed among the participants. Feedbacks were collected from the participants after each training programmes.

Dry fish Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Mangalore | 5 |
| 2 | Malpe | 5 |
| 3 | Honnavar | 4 |
| 4 | Tadri | 6 |
| 5 | Karwar | 3 |
| | Total | 23 |

Malpe, Mangalore and Tadri are the areas having major fish drying yards. During the current

year 23 programmes were conducted in these areas. Each of the programme was conducted for a group of 30 workers involved in fish drying. They were given a lecture on spoilage of fish, role of salt in fish preservation, handling of fish and usage of salt, personal hygiene, hygiene at drying yards and solar drier. Demonstration was also done on salting of fish, cleaning of fish cutting sheds and hand washing procedure. Feedbacks were collected from trainees after each training programme.

Street Play

| Sl.No | Area | No. of Programmes |
|-------|-------------------|-------------------|
| 1 | Malpe | 3 |
| 2 | Honnavar | 6 |
| 3 | Tadri | 6 |
| 4 | karwar | 6 |
| 5 | Malim and Cutbona | 3 |
| | Total | 24 |

In Karnataka region during 2012-13, 24 street play programmes were conducted. On an average 250 persons were gathered per street play and NETFISH message was spreading rapidly by this programme. The street play was prepared including various aspects of fisheries conservation and quality management in simple form. The drama includes demerits of juvenile fishing, by-catch reduction, turtle conservation, importance of ban period, mangrove plantation, responsible fishing and mesh size regulation, etc. The message will be effectively communicated to the participants through dance and songs. During the performance, NETFISH leaflets on juvenile fishing, turtle conservation, coral reef conservation, mangrove plantation, sustainable fishing, responsible fishing and eco friendly fishing methods were also distributed to the spectators. Feedback of the spectators was collected after each performance.

School Programme

Extension programmes for school childrens of coastal area were organized with the primary objective to reach the fishermen through their children and to spread awareness among children regarding the importance of conservation of fish-

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Malpe | 1 |
| 2 | Honnavar | 1 |
| 3 | Tadri | 1 |
| 4 | Karwar | 1 |
| | Total | 4 |

ery resources and fish quality management. During the year 4 school programmes were conducted in Karnataka. One special programme for high school children in Union school, Majali fishing village, Karwar was conducted on the eve of republic day in which AD MPEDA, SRO Mangalore also attended and gave a lecture on quality management and sustainable fishing.

Outcomes achieved during the year

- ◆ Daily washing in Mangalore and Malpe fishing harbours is being strictly practiced.
- ◆ In Karwar and Tadri fishers are involving in cleaning the harbour premises.
- ◆ Dumping of by catch on the wharf is almost stopped in Mangalore.
- ◆ More number of fishermen is now gathering for conservation training programmes.
- ◆ At the time of conflict on illegal catching of Cuttlefish, NETFISH support was taken by the district fisheries officials in Udupi district.
- ◆ Daily washing of PPCs before and after the work is being strictly practiced.
- ◆ Chill killing of shrimps immediately after the harvest is being strictly practiced.
- ◆ A 25% decrease in dumping of fish on the floor is noticed in Malim harbour as a result of the continuous awareness programmes by NETFISH.
- ◆ A 50% decrease is noticed in dumping by-catch/ trash on the jetties of Malim harbour.
- ◆ Permission was denied for new petty shops inside the Malim harbour premises due to NETFISH interference.
- ◆ 75% of fish drying practice was stopped near the wharfs in Honnavar harbour.
- ◆ In Malim harbour, 90% bamboo baskets were replaced by plastic baskets.

7.7 MAHARASHTRA

Fishing is one of the traditional activities of Maharashtra which is bestowed with 720km coast line. To meet the increasing demand for marine fish, fishermen have concentrated their attention to increase marine fish production which ultimately increased fish production. As a result of overexploitation, the marine fish production of the state is stagnant at 4.0 lakh m. tonnes / year during the last five years. Ensuring quality of fishery products and conservation of fishery resources are the two major challenges faced by the fisheries sector in Maharashtra. With this in mind, NETFISH has been organizing wide awareness programmes among fisher folk on these issues and trying to network with different stake holder groups of the sector to fight against these challenges.

NETFISH activities in Maharashtra during 2012-13

NETFISH conducted 236 extension programmes in Maharashtra during 2012-13 with a view to creating awareness among fisher community on fish quality management, conservation of marine environment and sustainable fishing. The programmes mainly focused on topics such as catastrophic effects of juvenile fishing, importance of the cleanliness of the fishing harbours, personal hygiene of the fish workers and several conservation aspects. The selected areas for NETFISH activities were Ratnagiri, Harne, Sasson Dock and Thane.

Regular extension programmes conducted in the state included 60 fish quality management programmes, 61 conservation programmes, 30 onboard programmes, 20 pre-processing center programmes and 30 dryfish awareness programmes. Further, some special programmes such as street plays, workshops, clean-up programmes, square mesh conversion trainings and fishery improvement programmes were also conducted during the year in the selected areas. To popularize MPEDA subsidy schemes, charts were prepared in Marathi language and were displayed in major fishermen societies and at landing centers.

Fish Quality Management Programme at Landing site

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Sasson dock | 19 |
| 2 | Ratnagiri | 19 |
| 3 | Harne | 22 |
| | Total | 60 |

NETFISH conducted a total of 60 fish quality management training programmes in and around selected areas. During these programmes, lectures were delivered on fish quality management topics such as how to maintain personal hygiene during handling of fish, sanitation of fish contact surfaces of fishing vessels, plastic crates, shovels, insulated fish boxes and the area where it is unloaded by using clean water, detergents and sanitizers. Efforts were taken to implement the cleaning schedule on fishing harbour and landing centers i.e. to clean and sanitize the fish contact surfaces and the areas before and after handling fish. Also, explained about the use and importance of good quality ice in preservation of fish catch to the participants. NETFISH extension material like documentaries, animation films, leaflets and posters were used to educate fishers.

Sustainable Fishing/Conservation Programme at Landing site

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Sasson dock | 20 |
| 2 | Ratnagiri | 20 |
| 3 | Harne | 20 |
| 4 | Thane | 1 |
| | Total | 61 |

Sustainable Fishing/conservation programmes were conducted for fishers and other stakeholders to create awareness on present situation of capture fisheries, crises in capture fisheries, over-fishing, juvenile fishing, catching of buried/egg laying females, loss of bio-diversity, the possible solutions to overcome the crisis like following mesh

size regulation, extension of fishing ban period, use of by-catch reduction devices, use of square mesh net instead of diagonal mesh, mangrove afforestation, etc. Altogether 61 programmes were conducted in selected harbours and the nearby landing centers and fishermen villages. Maharashtra Marine Fishing Regulation Act was also explained to the participants. NETFISH extension material like documentaries, animation films, leaflets and posters were made use of in the programmes to educate fishers.

Onboard Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Ratnagiri | 15 |
| 2 | Harne | 15 |
| | Total | 30 |

During 2012-13, 30 onboard training programmes were organized for fishing vessel crews in selected areas. The programme included lectures on how to maintain personal hygiene while working on fishing vessels, use of hand gloves and gumboots during handling of catch, sanitation of fish contact surfaces of fishing vessels using clean water, detergents and sanitizers, use and importance of good quality ice in preservation of fish, sorting and icing of catch etc. Demonstration of cleaning schedule on fishing vessels was also done as part of the programme. The practical session included demonstration of by-catch reduction devices by which we urged the fishers to avoid catching juveniles as a step towards sustainable fishing. NETFISH extension material like documentaries, animation films, leaflets and posters were used in the programmes. Also, feedback was collected from participants in each and every training programme. Two special on-board training programmes were conducted in Ratnagiri area in collaboration with Fisheries Training Centre, Ratnagiri in which training were given on operation of modern electronic equipments on fishing vessels, maintaining log books for diesel consumption and how to save diesel during fishing.

Pre-processing Centre Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Sasson dock | 13 |
| 2 | Ratnagiri | 7 |
| | Total | 20 |

In Maharashtra 20 Pre-processing training programmes were organized during the year of which 15 programmes were conducted in peeling sheds and the rest of the programmes in seafood factories. In Sassoon dock harbour area where road peeling and floor peeling was a common practice, NETFISH had made special efforts to change these unhygienic practices. The programme aimed at giving awareness to pre-processing workers on how to maintain personal hygiene during handling of fish, sanitation of fish contact surfaces in PPCs by using clean water, detergents, sanitizers, importance of good quality ice in preservation of fish catch etc. Also, emphasized on the implementation of regular cleaning schedule in PPCs before and after commencement of work. NETFISH extension material like documentaries, animation films, leaflets and posters were made use of to educate PPCs workers. A power point presentation on hygienic handling of seafood in pre-processing centers was also prepared and shown during the training programmes conducted in seafood industries.

Dry Fish Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Sasson dock | 10 |
| 2 | Ratnagiri | 10 |
| 3 | Harne | 10 |
| | Total | 30 |

To improve the quality of dry fish, 30 dry fish training programmes were arranged for dryfish workers in selected areas. How to maintain personal hygiene during handling of fish, sanitation of fish contact surfaces, cleaning schedule of dry fish cemented platforms before and after drying activity etc were taught to the participants. During

each and every training programme the MPEDA subsidy schemes were explained in detail and also given copy of details of MPEDA subsidy schemes to fisher co-operative societies. A preliminary survey on Dry fish trade potential from Thal, Navgao, Alibaag, Varsoli, Chalmala, etc in Raigad and Dahanu, Dhakti Dahanu, Gungawada in Thane district was also conducted by NETFISH.

Street Play

During the year, 10 Street play programmes were conducted in Sassoon dock area in Raigad district. Majority of the fishers operating their fishing vessels are from this area. Street plays are one of the best media to create awareness among fishers. The street plays covered subjects like over-fishing, juvenile fishing, catching of buried/egg laying females, conservation of marine ecosystem, mesh size regulation, fishing ban, by-catch reduction devices, use of square mesh net, mangrove afforestation, cleanliness at coastal areas, etc.

Mass Boat Clean-up Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Sasson dock | 1 |
| 2 | Ratnagiri | 2 |
| 3 | Harne | 5 |
| | Total | 8 |

Special programmes like mass boat clean-up programmes were organized in selected landing centres to make fishermen habitual to do regular cleaning/ washing of fishing vessels. They were trained to clean their fishing vessels using brush, detergents and sanitizers and insisted them to use hand gloves while handling fish.

Square Mesh Training Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Ratnagiri | 2 |
| 2 | Sasson dock | 1 |
| | Total | 3 |

Square mesh training programmes were organized in Sassondock and Ratnagiri area to make the fishermen aware of the advantages of square mesh over diamond mesh. During these training programmes fishermen were taught on how to convert diamond mesh to square meshed nets.

Fisheries Improvement Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Sasson dock | 2 |
| 2 | Thane | 10 |
| | Total | 12 |

These programmes were conducted with an aim to improve the fishery of Pomfret and Lobster in the state. A primary survey of Pomfret and Lobster fisheries was conducted in Arnala, Datiware, Dahanu, Zai, etc in Thane district. From the survey it was known that about 65 to 70 % in total Pomfret catch is contributed by juveniles of < 300g. Discussions were held with scientific personals regarding issues like juvenile fishing and overexploitation of spawning stock of Pomfret. It was decided to conduct workshop to address the issue among the public.

Outcomes achieved during the year

- ◆ Open transportation of fish and ice in trucks is minimized in Sasson dock and Harne.
- ◆ Hygienic conditions and handling of dry fish have improved in Sassoon dock. Cement platforms are being used for drying fish.
- ◆ Hand gloves are used for handling catch at Agrav Fishing Jetty in Sasson dock.
- ◆ In Ratnagiri and Harne area hand gloves and polythene sheet to protect fish from sunlight are being used onboard at the time of sorting.
- ◆ Fishermen have started following proper icing of the catch onboard in Ratnagiri.
- ◆ Dryfishers in Ratnagiri have started using polythene sheets to avoid contact with floor.
- ◆ Proper cleaning schedules are being followed in PPCs in Ratnagiri.
- ◆ In Dabhol fishermen are using plastic baskets onboard fishing vessels. They have also started using by-catch reduction devices during fishing.

- ◆ Keeping fish on soil is also minimized in Harne area.

7.8 GUJARAT

Gujarat, the northern-most maritime state on the west coast of India, is one of the richest states in the country in terms of fishery resources. With a coastline of 1,663 km, consisting about 22% of country's total coast line, Gujarat provides the largest share to India's total marine fish production. Gujarat coast is distinct from the other coasts of the country with its shallow depth, wider continental shelf and vast stretches of saline and tidal mudflats. Veraval and Porbandar are the two big landing centres in Gujarat. The general fish quality management standard of State was not up to the standards in almost all landing centres and harbours. Lack of Infrastructure facility was a common problem in Veraval, Porbandar, Mangrol, Okha, Vanakbara harbours and some small landing centre such as Sutrapada, Navi Bandar, Chorwad, Umersadi, Nargol, Umergam, Randh etc. Since NETFISH intervention, the conditions of harbours and landing centers have improved considerably.

NETFISH activities in Gujarat during 2012-13

The selected areas for NETFISH activities in Gujarat for the financial year were four major harbours, namely Veraval, Mangrol, Porbandar, and Vanakbara-DIU and two minor harbours such as Jakhau(Kutchh) and Dholai. Apart from these selected areas, programmes were also conducted at two big landing centers in South Gujarat Coast namely Umarsadi and Nargol. Veraval, Mangol and Porbandar harbours are dominated by Kharwas (fisher folk) and fishing is done mostly in traditional boats & trawlers. These centers also have nearby fish processing plants which export prime quality sea foods. There are 2091 trawlers and 680 (FRP, Gillnet etc.) boats operating at Varaval harbour, 1115 trawler and 564 (FRP, Gillnet etc.) boats at Mangrol harbour and 2311 trawlers and 1863 (FRP, Gillnet etc.) boats at Porbandar harbour. Vanakbara, located at DIU Island, is also an important fishing harbour with 632 trawlers and 225 (FRP, Gillnet etc.) boats operating from there. Jakhau harbour located at Kutchh is an operating place for 178 trawlers and

428 (FRP, Gillnet etc.) boats. Dholai harbour in South Gujarat has two surrounding landing centers i.e. Umarsadi and Nargol. About 72 trawlers and 35 boats are being operated from Dholai harbour.

During the year 2012-13 NETFISH conducted 300 programmes in Gujarat which were consisted of 87 Fish Quality Management Programmes, 62 Conservation and sustainable Fishing Programmes, 9 On Board programmes, 37 Pre-Processing center programmes and 13 Dry fish programmes as regular programmes. Special programmes included 4 School Children porogrammes, 6 training programmes on Conversion of Diamond Mesh to Square Mesh, 1 Rally, 1 Mass Communication programme and 80 Street Plays. Apart from training programmes meetings were conducted with Dept. of Fisheries & fishermen Boat Association for implementation of Square Mesh in Trawler at selected area. Also, an attempt was made to stop line fishing at Vanakbara, Veraval, Mangrol and Porbandar by conducting meeting with President of Fishermen community at different Harbour. Exposure visit was arranged for the fishermen of Kutchh at CIFT & CMFRI Veraval and awareness on lobster cage culture in sea, use of solar dryer, fishing technology by lecture and practically by the Scientist of CIFT, Veraval. Also, sign Boards on dos and donts were fixed at Varaval, Mangrol and Porbandar fishing harbours during the year.

Fish Quality Management Programme at Landing Site

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Veraval | 22 |
| 2 | Mangrol | 11 |
| 3 | Porbandar | 20 |
| 4 | Vanakbara | 12 |
| 5 | Dholai | 08 |
| 6 | Umersadi | 5 |
| 7 | Nargol | 7 |
| 8 | Jakhau | 2 |
| | Total | 87 |

Fish Quality Management Programmes were conducted at selected harbours, landing centers and nearby fishermen villages. The programme included a lecture on maintaining personal hygiene while handling fishes, role of Ice for keeping fish fresh, cleanliness of fish contact surfaces, use of sodium hypochlorite as disinfectant, handling fishes in insulated boxes, cleanliness of auction market, booth etc before and after fish landing, covered transportation, use of good ice etc. After lecture class, various leaflets and posters on relevant topics were read & explained. Documentary & Animation Film were also shown during the programme. In all training programmes the subsidy schemes of MPEDA for fishermen were explained. At the end of the programme feedback was collected from trainees.

Sustainable Fishing/Conservation Programme at Landing Site

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Veraval | 13 |
| 2 | Mangrol | 08 |
| 3 | Porbandar | 17 |
| 4 | Vanakbara | 08 |
| 5 | Dholai | 08 |
| 6 | Umersadi | 03 |
| 7 | Nargol | 03 |
| 8 | Jakhau | 02 |
| | Total | 62 |

This type of programme was aimed at giving awareness to fishermen on conservation of marine resources and sustainable fishing methods. Topics covered in the programme were importance of marine ecosystem, mangroves plantation for fish breeding, overfishing, mesh size regulation, complete monsoon ban for more catch, artificial reef etc. Fishermen were also explained about the benefit of using 40mm square mesh net with a sample of net (cod end) in each programme. After lecture class, various leaflets and posters on relevant topics were read & explained. Documentary & Animation Film were also shown during the programme. At the end of the programme feedback was collected from trainees.

Onboard Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Veraval | 9 |
| | Total | 09 |

During 2012-13, NETFISH conducted 9 onboard training programmes in Veraval region. In the programme a lecture on maintaining good personal hygiene while handling fishes, role of ice in keeping fish fresh, cleanliness of each and every fish contact surfaces inside the fishing vessel etc was delivered to the fishing vessel crews. Use of sodium hypochlorite as disinfectant, handling fishes in insulated boxes or clean crates, cleanliness of fish hold, crates etc before and after each fish trip, hygienic handling of fish onboard were taught in the programme. The use of GPS and Fish finder while going to sea were also explained to trainees. The participants were trained on washing & cleaning procedures for the fishing vessel and other equipments using detergent, liquid soap, brush etc. and disinfection using sodium hypochlorite. The necessary materials for cleaning are also provided to the trainees. The sustainable ways of fishing as well as hygienic storage of catch were taught to the fishermen by practical demonstration. NETFISH leaflet & Posters were also explained to the trainees. The Subsidy Schemes of MPEDA were also explained to the fishermen. Participant's feedback was also collected for further improvisation of the programme. NETFISH leaflets, posters and stickers were also distributed to the participants.

Pre-processing Centre Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Veraval | 26 |
| 2 | Mangrol | 2 |
| 3 | Porbandar | 7 |
| 4 | Dholai | 2 |
| | Total | 37 |

Training programme on sanitation and hygiene in pre-processing unit were conducted for

the pre-processing workers. This year 37 programmes were arranged in selected areas. During the programme, awareness was given on personal hygiene, hygienic handling of fish while peeling, role of ice in keeping fish fresh, cleanliness of fish contact surfaces, use of hypochlorite for disinfection, cleanliness of utensils, table, crates, drainage, walls, hall etc. The workers were taught about the importance of change room to prepare themselves before entering inside the plant and they were urged to do so. Leaflets and posters were also made use of for explaining the matter to the trainees. Documentary & animation film shows were arranged for the trainees during the programme. Practical demonstration on hygienic handling of fishes inside pre-processing hall and proper cleaning procedures were conducted for the workers.

Dry Fish Programme

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Umarsadi | 7 |
| 2 | Nargol | 6 |
| | Total | 13 |

Dryfish training programme targeted fisherwomen who are engaged in fish drying near beach. Umarsadi and Nargol landing center, where huge quantity of Bombay duck and small size shrimps are landed, were selected and conducted 13 programmes during the year. For the participants, first a lecture class was given on how to maintain good personal hygiene while handling fishes, washing of fishes, cleanliness of fish contact surfaces, cleanliness of wire rope, etc. Different types of sun drying like drying on rack/ wire rope etc, use of solar dryer, covering of fish drying area to avoid entry of animals, packaging and storage of finished products, demerits of traditional methods, demerits of bamboo basket for handling fishes, benefit of use of plastic basket etc. were also taught in the programme. After the lecture class leaflets, posters were explained to participants and also distributed among them. Awareness on MPEDA Subsidy Scheme for dryfish workers was also given in the programme.

Street Play

| Sl.No | Area | No. of Programmes |
|-------|--------------|-------------------|
| 1 | Veraval | 32 |
| 2 | Mangrol | 16 |
| 3 | Porbandar | 16 |
| 4 | Vanakbara | 16 |
| | Total | 80 |

NETFISH in Gujarat conducted 80 Street play shows during the year in and around major fishing harbours. Street plays are an important extension tool for changing the behaviour of fishermen community in short time. Through street play programme we delivered messages to fishermen community mainly on various issues of harbour/ landing centers such as catching of juveniles, impact of increasing number of boats, fishing during monsoon period, cutting of mangroves, use of diamond mesh etc. It also included various issues of fish quality aspects such as open transportation of fish, crushing of ice on dirty places, cleaning of fishing vessel before and after each trip, dumping of waste in harbour water etc. More than 20000 people participated during street play programmes.

Procession/Rally

On 16th October 2012, a rally was conducted as special programme at Mangrol fishing harbour. Around 100 higher secondary students of Parmesh High School, Mangrol took part in the rally to make it a big success. During the rally the students hold in their hands various posters, banners, slogans, slots etc prepared based on issues in fishing harbour. The President of Mangrol Kharwa Samaj, Mangrol flagged off the rally and the students marched from local fish market to areas of temporary booths, harbour, auction market hall, berthing place of boats, surroundings and street where fishermen community are staying. Along with the students, NGOs representatives, Representative from fishermen community, Kotwals, etc. also joined the rally. Mike announcements on stoppage of wrong practices of fish handling, transportation of Fish & Ice, use of diamond mesh etc. was also done as part of the programme to get the notice of fishermen. The rally got tremendous response from fish-

ermen and many of them asked for the reason of rally. Taking the opportunity, they were advised about various issues in harbour created by fishermen which is resulting in spoiling their future as well as their children. The rally ended with distribution of notebook & pen to the participants.

School Programme

| Sl.No | Date | Area | No. of Programmes |
|-------|----------|--------------|-------------------|
| 1 | 17/10/12 | Veraval | 1 |
| 2 | 17/07/12 | Mangrol | 1 |
| 3 | 07/09/12 | Porbandar | 1 |
| 4 | 27/07/12 | Vanakbara | 1 |
| | | Total | 4 |

School children programmes were conducted in selected area as a part of awareness on Conservation and Sustainable fishing. Schools along coastal blocks, where children belonging to fishermen community study were selected for the programme. These children were identified as the easy messengers to pass NETFISH messages to their parents who are involved in fishing and fishery related activities. The programme included lecture class on various aspects of conservation of marine resource and sustainable fishing. Once these children get proper awareness they can tell their parents to save juveniles, do not go for fishing during monsoon ban, increase mesh size to escape juvenile for future generation, over exploitation of sea, increasing more numbers of boats etc.

Mass Communication

NETFISH and MPEDA took active participation in Sagar Khedu Sammelan organized by Dept. of Fisheries, Gandhinagar, Gujarat at Veraval on 13th August 2012. In the event, Chief Minister of Gujarat addressed to the fishermen community of Veraval. NETFISH installed an exhibition stall in which various training materials like pamphlets and posters, banners on training programme, square mesh cod end, copies of MPEDA Subsidy Scheme etc were displayed for fishermen community. Around 15000 fishermen visited the stall. The Commissioner of Fisheries also visited the stall along with other officials.

Training Programme on Conversion of Diamond Mesh to Square Mesh

| Sl.No | Date | Area | No. of Programmes |
|-------|--|--------------|-------------------|
| 1 | 06/08/12, 11/03/13 and 22/03/13 | Veraval | 03 |
| 2 | 14/08/13, 21/12/12 | Mangrol | 02 |
| 3 | 22/02/13 | Vanakbara | 01 |
| | | Total | 06 |

In Gujarat, majority of the trawlers are using diamond meshed cod end of size 20-25mm which can bring lots of unwanted fishes or juveniles thereby spoiling the marine resource. Instead of diamond mesh if fishermen use 40mm square mesh net, it will save juveniles and unwanted fishes. With an aim to conserve the marine resources NETFISH organized 6 programmes to train fishermen on conversion of diamond mesh to square mesh. The training programme included both theory and practical sessions. In theory class the fishermen were taught about conservation of marine resources, advantages of square mesh etc. During practical session each trainees were made to prepare a small 40 mm mesh size net by their own. The technical staff of CIFT played an important role to train the fishermen mainly captains, owner of the vessel and net makers. The booklet published by CIFT on how to convert diamond mesh to square mesh, written in local language, was also supplied to the trainees. Documentary film was also shown to them. President and all members of fishermen community were also invited for the programme to make them understand use of square mesh net mainly in trawlers. They have given good feed back by informing that within coming seasons they will implement the same in their trawler to conserve the resource for their future.

Ecosystem Build-up Programme along Kutch Coastal Belt

As part of its' ecosystem build-up programmes, NETFISH organised a mangrove planting camp at

Randh intertidal area in the Mundra coast next to the mouth of Bhadravati river along the Kutch coastal belt of Gujarat. Kutch Coast is one of the rare ecological zones in the world having rich bio diversity. It comprises of mangroves, coral reefs, mudflats, seaweeds, commercial fishes and several rare marine species. Mundra coast had nearly 2096 Ha of mangroves. Due to indiscriminate cutting and blocking of creeks by industries, the mangrove cover has reduced by about 300 Ha since 2000. Because of the abundance of mangroves and associated biodiversity, scientists had recommended that the Mundra coast be demarcated as Marine national park and sanctuary.

Mangroves are critical to marine coastal soil conservation, breeding and nursery grounds for fish, crustaceans and other sea life, as well as vital habitat for birds and other wildlife. On 5th February 2013, NETFISH in cooperation with the member NGO, Setu Information centre and fishermen community of this region planted 680000 saplings of mangrove species, *Avicennia marina* along the creek of Randh and The belt of Bhadravati river. The president of Fishermen Community, Project Manager Setu Information Center and State Coordinator, NETFISH inaugurated the programme. The active participation by the fishermen community indicates their realization of the importance of Mangroves and this happened as a result of continues training programme by NETFISH.

Outcomes achieved during the year

- ◆ Fishermen are using sufficient Ice for maintaining sea foods quality at Vanakbara-DIU.
- ◆ All booth holders are maintaining good sanitation & hygiene practices at Vanakbara-DIU.
- ◆ Fishermen at Vanakbara -DIU are well aware to keep clean fishing harbour.
- ◆ Fishermen of Vanakbara are keeping clean their vessel before and after each trip.
- ◆ Fishermen at Veraval have started to unload ice from vehicle to crushing machine directly, instead of dumping on dirty land. For that they are paying around 300 to 400 Rupees as waiting charges because entire truck of Ice will take time for ice crushing. Fishermen found good fish material after using crushed bunkering like this.

- ◆ MPEDA RO Veraval and NETFISH has taken effective step/training to stop floor peeling by local Pre-Processing plant workers at Veraval, Mangrol and Porbandar. Now peeling is carried out on table.
- ◆ NETFISH has played active roll to stop line fishing at entire coast of Gujarat. President Kharwa Samaj, Mangrol has issued notice to stop line fishing by their community.
- ◆ Fishermen are well aware of importance of insulated fish box and are using it during fish transportation at Mangrol.
- ◆ Fishermen are maintaining good sanitation and hygiene practices inside their own booth/fish landing places.
- ◆ Fishermen are using gumboot and rubber gloves for handling of fish at Jakhau.
- ◆ It is observed that fishermen are maintaining cleanliness of Fishing Vessel at Jakhau.
- ◆ Improved condition of fish drying at Umersadi & Nargol Landing centers.
- ◆ NETFISH has conducted Conversion of Diamond mesh to square mesh training programmes at Veraval , Mangrol and Vanakbara Fishing Harbour and found tremendous response for implementation of Square mesh in all the Fishing vessel by coming seasons.
- ◆ It is noticed that fishermen have started to use more than 30mm mesh size cod end at all most all selected area.
- ◆ Improved condition of personal hygiene of Pre-processing workers.
- ◆ Complete ban was observed during monsoon period by fishermen of Porbandar especially FRP vessel operator of Subhash Nagar area.
- ◆ NETFISH also involved for demonstration of insulated fish box at Veraval, and Porbandar for fishermen of FRP vessel. After that they started to use such kind of insulated box instead of traditional fibre made box.
- ◆ Developed linkage with Adani Foundation, Mundra Kutchh to educated fishermen of Mundra and surroundings landing centers.
- ◆ Sign Boards were displayed at Veraval, Mangrol and Porbandar Fishing Harbours.

7.9 DISTRIBUTION OF PLASTIC BASKETS

NETFISH had widely campaigned during their extension training programmes about advantages of plastic baskets in keeping the quality of fish. To support this, NETFISH also distributed plastic baskets to stakeholders for handling of fishes onboard as well as at landing sites and thus to eradicate use of bamboo baskets. Plastic Basket distribution programmes were conducted at different regions in West Bengal, Balaramgadi, Bahabalapur and Paradeep in Odisha, at Pazhaiyar in Tamilnadu, at Beypore in Kerala, at Mandovi in Karnataka and at Mangrol & Nargol in Gujarat.

In West Bengal 470 nos. of round plastic baskets were distributed to the boat owners through stake holders/ fishermen association in Digha, Jaldah, Freserganj, Kailaghata, Dashmile, Namkhana, Kakdwip, Raidighi, Akshaynagar and Chemaguri. Two programmes exclusively for plastic basket distribution were also conducted during the year in West Bengal. One programme was arranged on 29th August'12 at Steamerghat, Kakdwip in which 40 plastic baskets were distributed to boat owners. The distribution programme had been organized in presence of Jt. Director & Asst. Direrctor of MPEDA RO Kolkata and President, Secretary and other members of Kakdwip Matsyajibi Unnayan Samity. NETFISH highlighted to the boat owners on adverse impact of bamboo basket and significances of plastic basket for handling of catch at onboard vessels as well as at landing points and also requested the boat owners to make proper use of plastic baskets to maintain quality of the fish and also to fetch better price. Another programme was organized at Digha mohana landing centre, Purba Medinipur and distributed 150 plastic baskets to the boat owners. Jt. Director & Asst. Director of MPEDA, RO Kolkata, State Fishery Officers, NGO member, Boat owners and Chairman & other members of Digha Fishermen & Fish Traders Association (DFFTA) attended the programme.

In Odisha, fish quality management training at fish landing centre or jetty or harbour was mainly concentrated on removal of bamboo basket and use of round plastic basket in fishing boats, trawlers, go downs, etc. The campaign started in the year 2011-12 and till the end of March 2013, a

total of 405 nos of Round Plastic baskets were distributed by NETFISH. Out of which 109 nos at Balaramgadi landing centre, 120 nos at Bahabalapur fishing Jetty total and 176 nos at Paradeep fishing Harbour. The different stakeholders groups to whom the plastic baskets were distributed included Trawler association members, Trawler crew members, Go-down owners and Pre-processing centre owners. During the campaign demonstration of round plastic basket were arranged to make the beneficiaries understand about the merits of Plastic basket compared to traditional Bamboo basket. The programmes were arranged in Pre-processing centres, on-board and landing centre go-downs. Also a few shopkeepers in landing centres were convinced to keep round plastic basket in their shops along with other fishing materials.

In Northern region of Tamil Nadu, 476 numbers of plastic baskets were distributed to the boat owners from Pazhaiyar fishing village. A plastic basket distribution ceremony was arranged in which DD RO Chennai distributed the baskets to beneficiaries.

In Northern Kerala, 100 plastic baskets were provided to fishermen in a function organised at Beypore harbour on September 10, 2012. The programme was inaugurated by Additional Sub Inspector of Police, Beypore by giving basket to Vice President of Harbour Vikasana Samiti. President of Harbour Vikasana Samiti urged fishermen to make use of these plastic baskets instead of bamboo baskets and appreciated NETFISH for its efforts to make Beypore harbour a bamboo basket free harbour. NETFISH State Coordinator explained the benefits of plastic baskets over bamboo baskets and advised the fishermen to buy more baskets and completely stop the use of bamboo baskets in the harbour.

In Karnataka, during April 2012, 500 plastic baskets were distributed to Mandovi Fishers Society by NETFISH to encourage fishermen to replace bamboo baskets.

NETFISH in Gujarat distributed plastic basket at Nargol, Umarsadi, Mangrol and Randh/Bhadreshwar Kutchh to remove bamboo basket. On May 10, 2012 in a function held at Nargol 75 plastic baskets were distributed to fishermen. Presi-

dent of Nargol Gram Panchayat, Secretary of Machhimar Cell, Nargol, Superintendent of Fisheries, Dept. of Fisheries, Umergam, leaders of the fishermen community etc. were among the attendees. The President appreciated NETFISH-MPEDA and directed fishermen to use plastic baskets to keep quality of fish. Officials of State Fisheries Dept. also insisted to use plastic basket instead of bamboo basket, as he latter was not suitable at all. NETFISH State Coordinator has explained the benefit of use of plastic baskets over bamboo basket.

7.10 WORKSHOPS

A state level consultative workshop for Development of Fishing Harbours in Kerala was organized on 21st June, 2012 at Cochin by involving participants from EIC, Sate Fisheries Department, MPEDA, HED and stake holders. The workshop included a presentation on the existing conditions of the fishing harbours of Kerala and followed by a constructive point by point discussion on essential requirements of a model fishing harbour. The suggestions on the requirements of a model fishing harbour were printed as deliberations of the workshop and dispatched to all the participants.

Similarly, another Workshop on Development of Sassoon dock fishing harbour was conducted on 22nd November, 2012 in Mumbai. MPEDA, EIA, Dept. of Fisheries, SEAI, MbPT officials and representatives from Auctioneer Association, Sassoon dock Seafood Suppliers' Association, Ice Suppliers' Association, Net makers' Association, Handcart Association, as well as representatives of ten Fishermen Co-operative Societies concerned to Sassoon dock harbour participated in the workshop. A presentation on "Present Condition of Sassoon dock fishing harbour and need for Development" was delivered by NETFISH State Coordinator. The Superintendent Engineer of Mumbai Port Trust had given a presentation on "Improvement Plan of Sassoon dock harbour". CEO, NETFISH explained the functions of Harbour Management Society at Munambam. He also highlighted the modernization of Munambam fishing harbour and explained the Role of Hygiene Inspector in maintaining the hygiene and sanitary conditions in the harbour and maintaining the

records for the fishery related activities in the harbour. In the workshop it was decided to form a Management Committee in line with Munambam Fishing harbour. A Core Committee consisting of 8 members from Govt. agencies and 4 members from Stake holders was formed.

A One Day Workshop on "Use of Modern Equipments and Life Saving Appliances in Marine Fishing" was conducted on 13.12.2012 at Fisheries Training Centre, Ratnagiri. The workshop was inaugurated by Mr. Ghatge, Assistant Commissioner of Fisheries, Ratnagiri district. Thirty fishers participated in the workshop and they were trained on operation and maintenance of modern fishing equipments and utilization of life saving appliances in marine fishing. An officer from District Information & Broadcasting Division, Ratnagiri also participated in this workshop.

7.11 TROLLEY DISTRIBUTION

For controlling unhygienic handling of fish and ice in harbour and to reduce the work load of stakeholders, NETFISH distributed 10 numbers of stainless steel trolleys at the Neendakara-Sakthikulangara harbours on 20th September 2012. Assistant Director of MPEDA SRO, Kollam, Deputy Director of EIA, Kollam, and Assistant Executive Engineer of Sakthikulangara Fisheries Harbour also attended the function. The trolleys were handed over to the leaders of 4 different worker's unions at the harbour. In West Bengal also NETFISH distributed 17 steel trolleys to Deshapran fishing harbour and Digha Mohana auction market for better handling of ice and fish.

7.12 PHT (PRE HARVEST TEST) CAMPAIGN

The testing of antibiotic residues of aquaculture shrimp in MPEDA ELISA labs concerned is mandatory for export. Govt. of India has approved that the aquaculture product from the unregistered farmers who has the legal entity can also be taken for export after Pre harvest testing in MPEDA ELISA labs to ensure the traceability of the produce. Hence it was decided to provide the record book to all unregistered farmers of the country to enable them to test their aquaculture product for antibiotic residues in MPEDA ELISA labs.

NETFISH has associated in PHT campaigns

of MPEDA at West Bengal, Odisha and Andhra Pradesh. The state coordinators were undergone a trainings conducted by MPEDA at Balasore, Odisha and at Bhimavaram, Andhra Pradesh. During the training programme the problems and present status of farm registration, Pre harvest test for unregistered farms, collecting details of unregistered farm owners, issue of pass books, procedure for collection of farm details and sample and operation of GPS were taught.

In West Bengal NETFISH formed 10 teams for conducting wide campaign and to collect the database from the unregistered farmers by camping in aqua villages of the state with active participation of MPEDA Regional Office & Sub Regional Center in Kolkata. Wide campaign was conducted in each fisheries block of Purba Medinipur (16 blocks) with the help of mike announcement, posters, leaflets etc. Paper advertisement had published in the leading Bengali newspapers as well as local Bengali news paper of Purba Medinipur with regards to the campaign and database collection. Thirty outsourced persons were taken to form teams which were headed by SRC officials and 2 persons from NGO of NETFISH. State Coordinator, NETFISH coordinated the entire programme and conducted series of meetings with State Fisheries officials, feed dealers, farmers, auctioneers, exporter's representative etc. for campaign and collection of application forms for record book. Altogether 3653 application forms were collected from Purba Medinipur district. Beside Purba Medinipur district, NETFISH also participated actively for registration of aqua farms with MPEDA in North 24 Parganas & South 24 Parganas through awareness programmes. For mass awareness, the concept of Record book programme for Pre-Harvest Test of aquaculture shrimp was broadcasted every day through All India Radio, Kolkata at Kolkata-A during June 2012.

In Odisha also 10 teams were formed for conducting wide campaign and to collect the database from the unregistered farmers by camping in aqua villages of the state with active participation of MPEDA, RC, Bhubaneswar. Wide campaign was conducted in Aquaculture villages in Balasore & Bhadrak districts with the help of mike announcement, posters, leaflets etc. Advertisement with re-

gards to the campaign and database collection was given in Balasore and Bhadrak editions of leading Odiya newspapers. Twenty outsourced persons were taken to formed teams which were headed by RC officials and one person from NGO of NETFISH. NETFISH State Coordinator, also activity participated and conducted series of meetings with, feed dealers, farmers, auctioneers, exporter's representative etc. for campaign and collection of application forms for record book.

In Andhra Pradesh the campaigns were conducted in Srikakulam and Kakinada areas. On 14th & 15th July 2012, two awareness campaigns on MPEDA record book were conducted at Battugalluru and Donkaluru villages of Srikakulam Districts. 54 Aqua farmers attended the meetings. NETFISH explained them about the importance of the record book and applications for record book were collected from the farmers.

8. TRAINING PROGRAMME AT MANAGE, HYDERABAD

NETFISH team comprising of Chief Executive, State Coordinators and Research Assistants attended a four day training programme on 'Training Methods for Trainers of Extension Institutes of Agriculture & Allied Departments' from 5th to 8th November 2012 at National Institute of Agricultural Extension Management (MANAGE), Hyderabad. Eminent personalities from renowned organizations gave lectures on various training methods and made the participants to perform practical demonstrations of various methods. All the classes were highly informative and refreshing. The importance of communication capabilities and leadership qualities for the effective functioning of extension programmes were explained during the training.

9. MEMBER NGOS OF NETFISH FOR THE YEAR 2012-13

1. The Science Association of Bengal (SAB), Diamond Harbour Road, Barisha P.O, Kolkata, West Bengal.
2. Sarbodday Sangha (SS), P.O Ajoya, Khejuri, Medinipur (East), West Bengal.

3. Subha Rashmi Mahila Seva Samiti (SRMSS), Balasore District, Odisha.
4. Rangalata Peoples Rural Development Society (RPRDS), Bentapur, Puri District, Odisha.
5. District Fishermen Youth Welfare Association (DFYWA), Vivekananda Bhavan, Vishakapatnam, Andhra Pradesh.
6. Socio Economic Alternatives Research Resource Community For Humanity (SEARCH), Guntur District, Andhra Pradesh.
7. Jnan Kalyan Welfare Society (JKWS), Durganagar, 2nd Street Mallayapet, Rajahmundry, Andhra Pradesh.
8. Village Resource Centre of MSSRF, Salai Road, Kurusady, Nagercoil, Kanyakumari District, Tamil Nadu.
9. Village Resource Centre of MSSRF, Iraiyrasu Valagam, Thangachimadam, Ramanathapuram District, Tamil Nadu.
10. Chevaliar Roshe Society (CRS), Derosse Centre, Polpettai, Thoothukudi, Tamil Nadu.
11. Scuba Social Service Organization (SCUBA), Singapore Plaza, Sethu Road, Adiramapattinam, Thajavur District, Tamil Nadu.
12. GAIA International Organization (GIO), First Main Road, Kamaraj Nager, Thiruvanniyur, Chennai, Tamil Nadu.
13. S.O.H.E.S., Pillayar Kovil Street, Kanchipuram District, Tamil Nadu.
14. Fisheries Professionals Organization (FPO), Chennai, Tamil Nadu.
15. South Indian Fisherman Federation Society (SIFFS), Karamana, Trivandrum, Kerala.

- | | |
|---|--|
| 16. Shri.Mustafa.K, Thalakkalakam, Parambu, West Hill, Kozhikode, Kerala. | 21.Nagrik Bhahu Udeshiya Seva Pratistan (NBUSP), Sindhudurg, Maharashtra. |
| 17. Shri. Joseph Francis, Fort Kochi, Kerala. | 22.Brackish Water Research Centre (BWRC), Kasba Mohalla, Mougul Street, Surat District, Gujarat. |
| 18. Sahyadri Community Development & Women Empowerment Society (SCODWES), Savinilaya Building, Maratikoppa Main Road, Sirsi, Karnataka. | 23. Development Foundation Trust (DFT), Maliya, Hatina District, Junagadh, Veraval, Gujarat. |
| 19. Snehakunja Trust, Honnavara, Post Kasarkod, Uttara Kannada District, Karnataka. | 24. Setu Information Center (SIC), Bhadreshwar, Kutch District, Gujarat. |
| 20. ManavVikas Sevabhavi (MVS), Chandranagar, Thane District, Maharashtra. | 25. Siddharth Development Foundation (SDF), Dr. Aambedkar Nagar, Ranvalikhan, Junagadh Gujarat. |

10. AUDIT REPORT & BALANCE SHEET FOR THE YEAR 2012-13

INDEPENDENT AUDITOR'S REPORT

To
The Members,
Network for Fish Quality Management & Sustainable Fishing (NETFISH)

I have audited the attached Balance Sheet of Network for Fish Quality Management & Sustainable Fishing (NETFISH) as at March 31, 2013 also the Income and Expenditure Account and Receipts and Payments Accounts for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation of these financial statements. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Standards on auditing issued by the Institute of Chartered Accountants of India. Those Standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit includes performing procedures to obtain audit evidence about the amounts and disclosure in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risk of material misstatement of the financial statement, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the company's preparation and fair presentation of the financial statement in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by the management as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

In my opinion and to the best of my information and according to the explanation given to me, the financial statement give a true and fair view in accordance with the accounting principles generally accepted in India.

- (a) in case of the Balance Sheet, of the state of affairs of the Society as at 31st March 2013
- (b) in the case of the Income and Expenditure Account of the Excess of Expenditure over Income for the year ended on that date and
- (c) in the case of Receipts and Payment Account of the receipts and payments for the year ended on that date.

Place: Kochi
Date : 18-06-2013

For Roshan Thomas & Co
Chartered Accountants

1. SIGNIFICANT ACCOUNTING POLICIES

- a. Basis of Accounting-
Accounts are prepared on accrual basis of accounting.
- b. Capital Fund-
Funds received from MPEDA (author/founder of the society) are credited to Capital fund. Excess of Income over Expenditure/ (Excess of Expenditure over Income) for the year is also added/ (deducted) to/from the Capital Fund.
- c. Fixed Assets-
Fixed assets are stated at cost less depreciation.
- d. Depreciation-
Depreciation is provided as per the rates prescribed under the Income Tax Act 1961. 50% of the normal depreciation has been charged in case of assets acquired after 30th September of the year.

II. NOTES TO ACCOUNT

- a. NETFISH is a society registered under the Travancore-Cochin Literary, Scientific & Charitable Societies Registration Act, 1955 and the income of the society is exempted under section 12AA of the Income Tax Act, 1962 vide order of the Commissioner of Income Tax Kochi dtd 21.07.2008.
- b. During the year 2012-13, an amount of Rs.1,80,00,000 has been received as fund transfer from MPEDA (author/founder of the Society) and the same has been credited to Capital fund.
- c. Travelling Expenses incurred by State Co-coordinators and Field Staff in connection with extension activities are also classified under "Extension Activities" (Schedule 5).
- d. Salary and allowances of the staff was revised from July 2011. In this regard salary arrears amounting to Rs. 11.73 Lakhs was paid during the year. This is included under employee cost (Schedule 6).
- e. Previous year figures have been regrouped wherever necessary.

Place: Kochi

Date : 18-06-2013

Audited Balance Sheet as at 31-03-2013

(In Rs. Ps.)

| LIABILITIES | Sch | As at 31.03.13 | As at 31.03.12 |
|--|-----|------------------|------------------|
| CAPITAL FUND | | | |
| Opening balance | | 55,89,506 | 19,34,656 |
| Add: Fund received from MPEDA during the year | | 1,80,00,000 | 2,00,00,000 |
| | | 2,35,89,506 | 2,19,34,656 |
| Less: Excess of Expenditure over income for the year | | -1,76,46,725 | -1,63,45,150 |
| | | 59,42,781 | 55,89,506 |
| TOTAL | | 59,42,781 | 55,89,506 |
| ASSETS | | | |
| FIXED ASSETS | 1 | | |
| Furniture | | 1,10,751 | 1,17,040 |
| Computer | | 5,73,176 | 25,538 |
| Camera | | 27,922 | - |
| | | 7,11,849 | 1,42,578 |
| CURRENT ASSETS, LOANS AND ADVANCES | | | |
| CASH & BANK BALANCE | | | |
| Cash in hand | | - | - |
| Balance with banks | 2 | 57,05,650 | 58,63,998 |
| LOANS & ADVANCES | | | |
| Salary & TA Claim Receivable from MPEDA | | 2,43,348 | 1,40,000 |
| | | 59,48,998 | 60,03,998 |
| CURRENT LIABILITIES AND PROVISIONS | | | |
| OTHER LIABILITIES & PROVISIONS | | | |
| Salary Payable | 3 | 5,98,905 | 5,06,300 |
| Expenses Payable | 4 | 1,09,161 | 44,152 |
| Audit Fee Payable | | 10,000 | 6,618 |
| | | 7,18,066 | 5,57,070 |
| NET CURRENT ASSETS | | 52,30,932 | 54,46,928 |
| TOTAL | | 59,42,781 | 55,89,506 |

Subject to notes forming part of accounts and my report of even date.

Sd/-
Chief ExecutiveSd/-
TreasurerSd/-
SecretarySd/-
Auditor

Place: Kochi

Date : 18-06-2013

Audited Income and Expenditure Account for the year ended 31-03-2013

(In Rs. Ps.)

| INCOME | Sch | For the year ended 31.03.13 | For the year ended 31.03.12 |
|--|-----|-----------------------------|-----------------------------|
| MISCELLANEOUS INCOME | | | |
| Application Fee | | 1,750 | - |
| Membership Fee | | 500 | 1,500 |
| Renewal Fee | | 600 | 400 |
| | | 2,850 | 1,900 |
| Profit on sale of assets | | 12,459 | - |
| TOTAL | | 15,309 | 1,900 |
| EXPENDITURE | | | |
| Extension Activities | 5 | | |
| Training Programmes | | | |
| 1) Trg. Fishermen | | 28,64,314 | 28,89,896 |
| 2) Trg. Pre Processing | | 6,09,709 | 6,67,876 |
| 3) Trg. Onboard | | 16,84,844 | 17,62,910 |
| 4) Trg. Tuna/Dry Fish/On Shore/Others | | 4,10,287 | 3,70,100 |
| 5) Trg. Conservation & Sustainability | | 12,15,431 | 17,05,906 |
| 6) Trg. Aquaculture | | 2,67,130 | 3,56,750 |
| 7) Street Play | | 11,41,379 | 16,19,558 |
| 8) Other Extension Programme | | 3,15,398 | 1,89,949 |
| 9) Fishermen Aid Programme | | 7,83,155 | 7,11,284 |
| 10) Publicity & Literature | | 5,42,669 | 1,85,754 |
| 11) FVO Visit | | - | 1,46,589 |
| Travelling for Extension Training Staff | | 4,53,237 | 5,13,915 |
| Training | | 11,820 | 33,090 |
| Animation | | 1,23,596 | - |
| Documentary | | 1,01,124 | - |
| | | 1,05,24,093 | 1,11,53,577 |
| Employee Cost | 6 | | |
| Salary - Chief Executive | | 6,89,250 | 4,80,000 |
| Salary - State Co-ordinators | | 42,86,662 | 32,40,000 |
| Salary - Research Assistant | | 6,68,700 | 4,80,000 |
| Salary - Staff | | 2,96,303 | 1,91,100 |
| | | 59,40,915 | 43,91,100 |
| Administrative Expenses | 7 | 6,87,310 | 7,51,061 |
| Depreciation | 1 | 5,09,716 | 51,312 |
| TOTAL | | 1,76,62,034 | 1,63,47,050 |
| Excess of Expenditure over Income | | -1,76,46,725 | -1,63,45,150 |

Subject to notes forming part of accounts and my report of even date.

Sd/-
Chief Executive

Sd/-
Treasurer

Sd/-
Secretary

Sd/-
Auditor

Place: Kochi

Date : 18-06-2013

Receipts & Payment Account For The Year ended 31.03.2013

| Receipts | (Rs.) | Payments | (Rs.) |
|--|--------------------|--|--------------------|
| Opening balance | - | Payments for Extension Activities | 85,08,492 |
| Cash | 58,63,998 | Training Programmes | 5,42,669 |
| Bank | 1,80,00,000 | Publicity & Literature | 7,83,155 |
| Funds received from MPEDA | 2,850 | Fishermen Aid Programme | 4,53,237 |
| Other Income | 16,44,416 | Travelling For Extension Training Staff | 2,24,720 |
| Salary, TA to Technical and Field Staff paid (MPEDA a/c) | 15,850 | Documentation | 11,820 |
| Sale of Fixed Asset | | Staff Training | 59,04,515 |
| | | Salary -CEO, SCO's etc | 16,91,559 |
| | | Salary, TA to Technical and Field Staff paid (MPEDA a/c) | 6,18,918 |
| | | Establishment & Other Items | 10,82,379 |
| | | Fixed Assets Purchased | |
| | | Closing balance | - |
| | | Cash in hand | 57,05,650 |
| | | Balance with banks | |
| | 2,55,27,114 | | 2,55,27,114 |

Subject to notes forming part of accounts and my report of even date.

Sd/-
Chief Executive

Sd/-
Treasurer

Sd/-
Secretary

Sd/-
Auditor

Place: Kochi

Date : 18-06-2013



OFFICE BEARERS



Ms. Leena Nair, I A S
President



Dr. Joice V. Thomas
Chief Executive



K.N. Vimal Kumar
Treasurer



Atanu Ray
SCo, West Bengal



S. Mohapatra
SCo, Odisha



P. Hanumantha Rao
SCo, Andhra Pradesh



K. Anandan
SCo, Tamil Nadu North



Dr. R. Balasubramanian
SCo, Tamil Nadu South



Dr. S. Shassi
SCo, Kerala South



Aliamma Kuriachan
SCo, Kerala North



K.A. Narayana
SCo, Karnataka & Goa



Santosh Kadam
SCo, Maharashtra



Jignesh Visavadia
SCo, Gujarat



Afsal V.V.
Research Assistant



Deepu A.V.
Research Assistant



Remya K.R.
Accountant



Swapana Cleatus
Accounts Assistant



**Network for Fish Quality Management & Sustainable Fishing
(NETFISH)**

**A registered society of MPEDA
Vallarpadam P.O., Kochi- 682 504**

Ph: 0484 2100012

E-mail: netfishmpeda@gmail.com

www.netfishmpeda.org