

Annual Report 2013-14



NETFISH

C/o MPEDA, Ministry of Commerce & Industry, Govt. of India



NETFISH

ANNUAL REPORT 2013-14



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



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Network for Fish Quality Management and Sustainable Fishing (NETFISH)
Vallarpadam (P.O.), Ernakulam 682504,
Kerala, India.
Year : 2014
Tel. : (+91) 484 2100012
E-mail : netfishmpeda@gmail.com
Web : www.netfishmpeda.org

Compilation & Editing

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

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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 related stakeholders in all the maritime states of the country thereby changing their mindset towards fish quality management and responsible fishing.

Since 2007, NETFISH has been conducting effective extension works in all maritime states of India. Repeated training programmes are executed at areas in and around selected harbours & landing centers in these states. So far, NETFISH has conducted more than 16000 extension programmes. NETFISH programmes include Fish quality management programmes conducted at

landing sites, fishing vessels, fishermen villages, pre-processing centers, processing factories and fish drying areas. Also, awareness programmes on conservation of marine resources and sustainable fishing were conducted in fishing vessels, fishing harbours and nearby places. To spread the message more effectively among the beneficiaries, a variety of special programmes like street plays, clean-up programmes, mass communication programmes, school children programmes, medical camps, rallies etc were also organized by NETFISH.

2. PRESIDENT

Ms. Leena Nair IAS continued as the President of NETFISH during 2013-14.

3. EXECUTIVE COMMITTEE

The Executive Committee of NETFISH for the year 2013-14 was reconstituted in the 7th Annual General body Meeting held at MPEDA headquarters, Cochin on 25th September, 2013. The list of newly elected Executive Committee members is given in Table 1.

Table 1. Executive Committee members of NETFISH (2013-14)

No.	Name	Address
1	Ms. Leena Nair IAS	Chairman, MPEDA
2	Mr. P. Mohanasundaram	Director, MPEDA
3	Mr. N. Ramesh	Director (M), MPEDA
4	Mr. B. Sreekumar	Secretary, MPEDA
5	Mr. A.J. Tharakan	President, SEAI
6	Mr. Avinash P. Joshi, IAS	Director, MoCI
7	Smt. Asha C. Parameswaran	Jt. Director (QC), MPEDA
8	Dr. Sreenivasa Gopal	Director, CIFT
9	Mr. R.C. Sinha	Director, CIFNET
10	Dr. Joice V. Thomas	CE, NETFISH
11	Mr. V. Vivekanandan	Chief Advisor, SIFFS, Kerala
12	Mr. Hare Krushna Khatei	Secretary, RPRDS, Odisha
13	Mr. Venkatesh Naik	Secretary, SCODWES, Karnataka
14	Mr. M.A. Sekar	Secretary, SOHES, Tamil Nadu
15	Mr. C.H. Pardhasaradhi	Secretary, SEARCH, Andhra Pradesh
16	Mr. M.B. Boghani	Executive Director, MVS, Maharashtra
17	Mr. Tarun Kumar Giri	Secretary, SAB, West Bengal
18	Mr. M.S.H. Sheikh	President, BWRC, Gujarat

4. MEETINGS

Review meeting with NGO members and MPEDA officials were organized during April 2013 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 15th & 16th Executive Committee meetings of NETFISH were held on 29th April & 25th September 2013, respectively at MPEDA, Kochi. The seventh Annual General body Meeting of NETFISH was convened on 25th September 2013 at Kochi. A review meeting, to scrutinize the performance of all the State Coordinators, was carried out on 26th September 2013 at MPEDA, Kochi.

5. OFFICE STRUCTURE



6. TARGET

A target of 2000 regular extension programmes was set for NETFISH for the year 2013-14 and the region wise target was 200 programmes. The programme wise action plan for each region is given in the Table 2. Special programmes were organized, wherever needed, above these specified targets.

7. EXTENSION ACTIVITIES

NETFISH operates in all maritime states of India, conducting grass root level training programmes for fishery stakeholders at areas in and around selected fishing harbours and landing centers in these states. During the financial year 2013-14, NETFISH conducted 2378 extension programmes which consisted of 1888 regular awareness classes and 490 special programmes such as Street plays (288 nos.), medical camps (6 nos.), Clean-ups (18 nos.), Rallies (5 nos.), School programmes (29 nos.), Door to door programmes (15 nos.), Mass communications (48 nos.) and other special programmes (81 nos.) (Table 3). The number of beneficiaries from regular programmes was around 51899 whereas the special programmes have benefitted more than 27277 people. The extension tools developed by NETFISH such as posters, leaflets, documentaries and animation films were used for delivering

Table 2. Target set for 2013-14

S.N.	State/Region	Landing Site-Quality	Landing Site-Conservation	Onboard	Pre-Processing	Dryfish	Total
1	West Bengal	90	35	30	20	25	200
2	Odisha	45	45	85	20	5	200
3	Andhra Pradesh	72	44	24	24	36	200
4	TN-North	75	75	20	15	15	200
5	TN-South	65	70	10	10	45	200
6	Kerala -South	55	55	20	70	..	200
7	Kerala - North	90	90	20	200
8	Karnataka /Goa	110	50	14	13	13	200
9	Maharashtra	60	80	20	20	20	200
10	Gujarat	85	55	10	35	15	200
	Total	747	599	253	227	174	2000

the messages effectively during the programmes. Awareness on MPEDA's subsidy schemes were also given to the beneficiaries in the training programmes.

This year, issue on catch decline in marine fisheries was taken up by MPEDA & NETFISH, and had jointly organized stakeholders meetings and state level workshops to collect the opinions directly from the stakeholder groups so as to frame recommendations to be submitted to the authorities concerned. NETFISH has also started the observance of important World Days and had organized wide campaigns in view of World Oceans Day & World Fisheries Day. Another major activity during the year was initiation of small projects by NETFISH in collaboration with other organizations. In Gujarat Dry Fish Demo units were set up in alliance with CIFT, and training for hygienic production of dry fish were given to Self Help Groups involved in dry fish production. In Maharashtra, NETFISH along with MPEDA & RGCA has started a project on Mangrove Crab, which is funded by UNDP.

Apart from these activities, a series of meetings and discussions were held and certain link-

ages 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 many meetings, seminars and workshops conducted in their regions by other organizations and departments with regard to development in fisheries sector. Moreover, NETFISH participated in 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. 'Aqua Aquaria 2014' held at Chennai during February 2014 was one of the major events in which NETFISH actively participated by setting up a stall displaying NETFISH posters, leaflets, documentaries and animation films and performing NETFISH street plays.

Production of a new animation film entitled "Hygienic Practices in Seafood Processing Factories" has started this year, which will be released

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

Sl. No:	State/Region	Landing Centre - Quality	Conservation	On board	Pre-processing	Processing	Dry fish	Street-plays	Medical Camps	Harbour/coastal clean-ups	Procession / Rally	School programme	Door to door m programme	Mass communications	Other special programmes	Total
1	West Bengal	94	42	35	2	21	26	16	2	10	1	16	0	0	12	277
2	Odisha	50	33	111	5	17	3	0	0	0	0	0	0	0	2	221
3	Andhra Pradesh	71	50	19	18	4	39	45	0	0	1	3	0	9	1	260
4	Tamil Nadu-North	77	67	4	3	0	28	15	0	3	0	0	0	0	13	210
5	Tamil Nadu-South	76	68	14	12	0	3	12	0	0	0	1	0	0	2	188
6	Kerala-South	60	27	0	63	1	0	50	2	1	0	0	0	17	3	224
7	Kerala-North	78	74	0	0	0	0	56	0	1	0	0	0	16	5	230
8	Karnataka & Goa	125	57	12	15	1	0	14	2	1	1	1	11	6	12	258
9	Maharashtra	64	73	12	18	0	19	0	0	0	1	0	0	0	15	202
10	Gujarat	85	54	10	20	17	11	80	0	2	1	8	4	0	16	308
	Total	780	545	217	156	61	129	288	6	18	5	29	15	48	81	2378

in 10 languages. Two new Street plays on Aquaculture & Juvenile fishing were scripted and performed successfully during the year. Also, NETFISH activities and achievements were regularly publicized in the form of articles in journals, newsletters and newspapers.

7.1. WEST BENGAL

7.1.1. General Introduction

The state of West Bengal is blessed with varied types of fishery resources like coastal fishery, brackish water fishery, inland fishery and cold water fishery. West Bengal has a 9629 sq. km of unique mangrove vegetation - "The Sundarban", comprising of 102 islands and exhibiting a rich aquatic biodiversity. The State has 158 km. coast line spread over two coastal districts, South 24 Parganas and Purba Medinipur. West Bengal has 6348 Inland fishermen villages and 1237 Marine fishermen villages with fishermen population of 26,13,163 and 3,80,138 respectively. In the marine sector there are 5 fishing harbours at Sankarpur, Deshapran, Sultanpur, Kakdwip and Freserganj and 78 minor and major fish landing centers in the state. In 2013-14 total fish production from West Bengal was 15.48 lakh tonnes contributed by Inland fishery (13.92 lakh tonnes), Marine fishery (1.56 lakh ton) and Brackish water fishery (1.56 lakh ton). Seafood Export from the state in the year 2013-14 accounted for 68405.21 tonnes of materials of value Rs. 305566.87 lakhs.

7.1.2. NETFISH activities in West Bengal

NETFISH organized extensive training and extension programmes in harbours, landing centres and fishing villages all along the coasts of West Bengal. The areas/harbours selected for conducting training programmes include Digha, Kakdwip, Freserganj and Raidighi. Digha Mohana, one of the major landing centers in West Bengal, is located in Purba Medinipur district. The district is having 676 fishing villages and a coast line of 68 km. There are two fishing harbours viz. Sankarpur FH and Dehapran FH and 42 major and minor fish landing centers in Purba Medinipur. Deshapran FH is India's first EIA approved fishing harbour. Major dry fish areas are also located in the district and they contribute to the major share

of dry fish export from the state. Kakdwip, one of the major marine fisheries hubs in West Bengal, has a fishing harbour and 3 major fish landing centers. It is having a minor harbour at Mayagoalinighat and a few minor landing centers too. Four dry fish khuties are located at Sagar Island. Frezerganj is a potential fishing area in South 24 Parganas, located at the mouth of Bay of Bengal. Fresrganj and its surroundings have landing centres (Kailaghata, Dash mile, Jetty ghat), a fishing harbour (Freserganj FH) and a number of fishing villages. Two major fish drying khuties namely Uttar Bakkhali (Kalisthan) and Lakhipur are located in and around Freserganj. Raidighi is connected with various islands and fishing villages of Sunderban. About 200 mechanized boats and 150 non mechanized fishing boats are being operated from Raidighi fish landing centre. As these areas/harbours contribute significantly to the state and nation fisheries, they were selected for conducting training programmes so as to improve the quality of the catch and to ensure sustainable fishing.

During the year 2013-14 a total of 277 extension programmes were organized which included 220 regular programmes and 57 special programmes. The special programmes consisted of street plays, medical camps, school programmes, clean-up programmes, rally, workshop, special campaigns on diseases in aquafarms and awareness programmes on value added products. District level and state level workshops related to 'catch decline in marine fisheries sector' were successfully conducted in the state during the year. Also, the World Oceans Day & World Fisheries day were celebrated by arranging special programmes.

7.1.2.1. Regular Programmes

a) Fish Quality Management Programmes at landing sites and fishermen villages

Sl.No	Selected Area/Harbour	No. of Programmes
1	Digha	44
2	Kakdwip	24
3	Freserganj	16
4	Raidighi	10
	Total	94

The targeted beneficiaries of the programme included boat owners, skippers, fishermen, auctioneers and packers. Major topics covered in the programme were on sanitation & hygienic practices at landing centre and fish auction markets, handling and sorting of fishes, role of ice and handling of ice, fish spoilage and role of microbes, cold chain operation, introduction of insulated boxes and PUF fish hold, personal hygiene and habits and use of plastic basket instead of bamboo basket for handling of fish. Extension methods adopted for the conduct of programmes included lectures, interaction with trainees regarding various quality problems at landing centre, demonstration of importance of plastic baskets and feedback reports. Various extension tools like leaflets, posters etc were distributed during the programme and the documentary on "Handling of fishes at landing centre" were shown to participants.

b) Sustainable Fishing/Conservation Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Digha	27
2	Kakdwip	9
3	Freserganj	4
4	Raidighi	2
	Total	42

Targeted beneficiaries of the programme were boat owners, skippers and fishermen. During the programmes topics on significance of conservation, mangrove and its importance, proper implementation of mesh size regulation, closed season and its impact, juvenile fishing, pollution in the sea, marine turtle conservation, destructive fishing gear & eco friendly fishing gear, impact of bottom trawling, introduction of square meshed cod end for trawl net etc. were covered. Programmes were conducted to generate awareness on wild harvest of juvenile mud crabs and gravid marine crabs (*Portunus* sp.) and impact of indiscriminate collection of juvenile fish fauna due to prawn seed by-catch. NETFISH leaflets were distributed to the

participants during each programme and were shown and explained NETFISH posters and animation films/ documentaries.

c) Onboard Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Digha	24
2	Kakdwip	7
3	Freserganj	3
4	Raidighi	1
	Total	35

Targeted beneficiaries of the programme were boat owners, skippers and fishermen. Major Topics covered by the programme included onboard sanitation & hygienic practices, post harvest handling and sorting of catches, preservation and icing of catches, fish spoilage and role of microbes, cold chain operation, use of insulated fish boxes and fish hold, personal hygiene, cleaning by using detergent powder/liquid soap and chlorine sanitization, demonstration of chill killing of fishes onboard, registration and licensing of fishing boat, safety & security onboard and MPEDA schemes for improving quality of fish. NETFISH posters and animation films / documentaries were displayed and NETFISH leaflets were distributed to the participants during each programme. NETFISH distributed 231 numbers of life jackets to the boat owners through fishermen associations to motivate fishers on following safety practices at sea.

d) Pre-processing Centre Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Kolkata	2
	Total	2

Targeted beneficiaries of the programmes included Pre-processing workers and supervisors. The beneficiaries were given lectures on various topics including sanitation & hygienic practices in the pre-processing centre, hygienic handling of shrimps, role of ice, fish spoilage and role of mi-

crobes, personal hygiene & habits, proper use of change room and abuse of antibiotics. Practical demonstration of change room activities and hand washing procedure were given to the participants. NETFISH leaflets were distributed and posters and animation film on sanitation and hygienic practices in seafood pre-processing centers were displayed during the programme.

e) Processing Centre Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	North 24 Parganas	3
2	Kolkata	17
3	Purba Medinipur	1
	Total	21

Targeted Beneficiaries were workers and supervisors of processing centers. To the participants lectures were given on sanitation & hygienic practices in the processing centre, hygienic handling of shrimps, physical, chemical & biological hazards, role of ice, fish spoilage and the role of microbes, personal hygiene & habits, uses of change room, and abuse of antibiotics. Lectures on HACCP system, hygiene and sanitation practices were also given to processing workers. Film on Sanitation and hygienic practices in Sea food processing centre were shown to the participants. NETFISH posters and leaflets were distributed among the participants.

f) Dry fish Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Digha	15
2	Kakdwip	5
3	Freserganj	6
	Total	26

Dry fish workers were the targeted beneficiaries of the programme. Major topics covered during the programmes include sanitation & hygienic practices, handling and sorting of catches, Fish spoilage and role of microbes, personal hygiene,

different technologies of fish drying, solar drying and its packing and adverse effect of harmful chemicals & pesticides. Interaction with trainees on various quality problems on dry fish was also conducted. Notices on MPEDA subsidy schemes and NETFISH leaflets were distributed during the programmes.

7.1.2.2. Special Programmes

a) Street-plays

Sl.No	Selected Area/Harbour	No. of Programmes
1	Purba Medinipur	16
	Total	16

Targeted beneficiaries of the programme included fishermen, general public and students. NETFISH conducted street plays on fish quality management and conservation of fish resources highlighting cleaning of beaches, landing centres and fishing harbours, handling of fishes and ice in landing centre and harbour, proper icing of catches, avoiding rusty and unclean shovel, personal hygiene & sanitation, conservation of mangrove, juvenile fishing, avoiding use of "meen jal" for indiscriminate collection of prawn seeds from river and sea and pollution of marine environment. Street plays got good response from fisher folks. Different problems were raised by fishers regarding bottom trawling & other conservation aspects.

b) Medical camps

Sl.No	Date	Selected Area/Harbour
1	06.09.13	Khejuri, Digha, Purba Medinipur
2	13.11.13	Paschim Amarabati, Freserganj, South 24 Parganas

Medical camps were mainly conducted for the sea going fishermen, fisher folk engaged in fish drying and their family members. Medical camp is a great tool to attract wide publicity among the fishermen community and at the same time creates awareness on health problem and personal hygiene. General health check up of fishers included

testing of blood pressure, blood group, general health, eye, cardiac diseases, diabetics, skin diseases and blood sugar. In addition to medical checkup, NETFISH has also organized free blood group detection camp for fisher folks. After determining blood group each fisherman has been provided one card with all relevant information. Both the medical camps received great response. In the medical camp conducted at Khejuri, about 68 fishers were examined by the Doctors and 52 fisher folks checked their blood group whereas 125 fishers were examined by the Doctors and 50 fisher folks checked their blood sugar in the medical camp at Paschim Amarabati. Newspaper media also covered the news and published it in their daily. Panchayat Pradhan and member of Panchayat Samity also attended the medical camp and requested to arrange such welfare activities for the fisher folks in other part of the district also.

c) Mass Boat Clean-up Programme

Sl.No	Date	Selected Area/Harbour	No. of Boats Cleaned
1	30.05.13	Deshapran Fishing Harbour	30
2	31.05.15	Sankarpur Fishing Harbour	30
3	01.06.13	Deshapran Fishing Harbour	30
4	04.06.13	Deshapran Fishing Harbour	30
5	05.06.13	Namkhana landing centre	30
6	27.06.14	Deshapran Fishing Harbour	23
7	09.08.13	Deshapran Fishing Harbour	30
8	20.02.14	Deshapran Fishing Harbour	20
9	21.02.14	Sankarpur Fishing Harbour	16
10	12.03.14	Sankarpur Fishing Harbour	18
		Total	257

The programmes were conducted to create awareness among fishing boat owners and fishermen on the proper hygienic and sanitation condition of fishing boats, fish hold and necessary accessories related to fishing. The programmes included lecture on significances of hygiene and cleaning of fishing boats, fish holds and necessary accessories and practical demonstration on sanitation practices onboard. Boat owners, skip-

pers and fishermen were the beneficiaries of the programme. Total 257 boats were cleaned during boat cleanup programmes. NETFISH distributed 30 sanitation kits consisting of liquid soap and brush to 30 boat owners, as part of the programme. Fishermen are now aware about the importance of hygiene and sanitation of fishing boats and accessories and are now cleaning their boat, nets, crates, baskets etc. before and after fishing on a daily basis.

d) School programmes

In order to percolate the messages on the various aspects of conservation of marine resources, sustainable fishing, personal hygiene & habits, fish quality management, best management practices at aqua farms, acts & rules of State Govt. & Central Govt. regarding fisheries etc, NETFISH conducted awareness programme at different schools of the coastal Blocks among the students of Class IX to XII, so that they can pass on the message to their parents and other family members who are engaged in fishing and allied activities. Altogether 16 school programmes benefitting 1431 students were conducted during the year by NETFISH. The School programmes included lectures different aspects of conservation in the marine sector viz. protection of mangrove vegetation, marine turtle and indiscriminate collection of shrimp & fish seed, sustainable fishing, different aspects of aqua farming etc. Besides these aspects the present status of the fishery resources and sea food export from the State as well as from India, fish quality management and personal hygiene and habits were also covered. NETFISH provided writing pads and pens to each of the students for taking notes during the lectures. Documentary and Animation films on fish quality, conservation of marine resources and sustainable aquaculture was also shown to the students and leaflets on conservation were distributed. A presentation on the impact of pollution caused due to dumping of plastic products in sea was also shown to the students. The Students showed interest in conservation of resources, water & environment. NETFISH received very good feedback from their parents and teachers.

e) Other Special Programmes

Hands-on training on Value Added Products

On 29th January 2014, NETFISH took the initiative of conducting a special Hands-on training programme on value addition of dry fish as well as low cost fresh fish at Tajpur- Jaldah, Bodhra, Purba Medinipur. Fifty participants from different dry fish yards of Purba Medinipur including members of SHG Groups attended the training programme. The programme was inaugurated by Dy. Director, MPEDA, R.O. Kolkata. As resource person Dr. Subrata Basu, Principal Scientist (Rtd.) & Head of the Dept. of Harvest & Post-harvest Technology, CIFE, Mumbai was present and he gave a demonstration on value addition of fishery products. During the training programme participants were given demonstration on scientific fish drying techniques by using Sodium sorbate and Sodium tri polyphosphate mixed with common salt instead of using harmful chemicals to prevent infestation with insects and flies. Dry fish stakeholders appreciated these techniques as they had realized the adverse impact of using harmful chemicals. Different fishermen associations requested to conduct such type of hands-on training programme to their women SHG to uplift their socioeconomic status.

District Level Workshop on Sustainable Fishing

A District Level Workshop on Sustainable Fishing was organized at 24 Parganas Southern Central Fishermen's Cooperative Society Ltd., Diamond Harbour, South 24 Parganas on 2nd August 2013, by NETFISH - MPEDA in collaboration with Dept. of Fisheries (Marine division), Govt. of West Bengal. Sixty five participant including State fisheries officials, NGO representative of fishermen association, fishermen and boat owners attended the workshop. Asst. Director, MPEDA highlighted the need for conducting such type of workshops as the marine wealth is declining day by day. ADF (Marine), Diamond Harbour, South 24 Parganas discussed sustainable fishing, rules and regulation for marine fishing and gave a presentation on Hilsa fishery, importance of boat registration, use of DART on the fishing boat during adverse climatic condition, IUU fishing, IMBL issue etc. A presentation on the topic "Towards Sustainable Fishing" was delivered and discussed various aspects

of declining marine stocks. An animation film on conservation of marine resources and a documentary film on conservation of Hila fishery were also shown during the workshop. All the participants were provided with training kits and leaflets on conservation. Similar kind of workshop was conducted on 6th August 2013 at Meen Bhavan, Contai, Purba Medinipur where fifty participants including State fisheries officials, Commandant Coast Guard, NGO representative of fishermen association, fishermen, boat owners and media persons attended the workshop. The recommendations collected from stakeholders during these workshops were recorded to discuss in the state level workshop.

Rally for conservation of Hilsa

NETFISH along with MPEDA associated with State Fisheries Department in conducting 2 rallies organized on 4th September & 12th September 2013 at Digha and Kakdwip respectively for the conservation of Hilsa Fishery. NETFISH State Coordinator expressed his concern on proper implementation and proper monitoring of regulation on Hilsa conservation. An awareness programme on conservation of Hilsa was also organized as part of the campaign. About 500 fishermen attended the rally and the awareness programme organized at Digha whereas at Kakdwip, about 350 fishermen attended the rally and the awareness programme.

Aquaculture campaign on EMS

To avoid the threat of Early Mortality Syndrome (EMS) in aquafarms special campaigns were organized during the month of November 2013. As part of this field surveillance programme was conducted and collected samples from farms. Also, informed farmers about Early Mortality Syndrome and its impact. Awareness programmes were organized at Purba Medinipur during which presentations and discussions on the history of EMS, gross signs of EMS at farm level and measures adopted by various countries to control the EMS like proper pond preparation, seed selection, stocking densities, water parameter mainly regarding pH, bio-security in farm and concept of reservoir system etc. were carried out.

7.1.3. Specific Outcomes achieved during the year

- ❖ Fishermen are now carrying enough ice while going for fishing. In Sankarpur fish harbour, Deshapran FH, Shoula Landing Centre, Digha Mohona LC and Raidighi LC fishermen are using crushed ice in their boats to minimize the damages to fishes and also to reduce the spoilage.
- ❖ NETFISH had played its part in getting EIA approval for Deshapran fishing harbour
- ❖ Steel trolleys (17 nos.) were supplied to Deshapran fishing harbour and Digha Mohana auction market for better handling of ice and fish. All the trolleys are being used properly.
- ❖ In Deshapran FH block ice are not dragged on the floor, either block ice are hanged by rope & pole or carried by trolley van/ trolley.
- ❖ In Kakdwip FH ice blocks are brought to harbour through trolley van covered with poly sheets.
- ❖ In most of the fishing boats of Sankarpur FH, Deshapran FH, Digha landing centre and Shoula LC fishermen are now using gloves for handling of fishes.
- ❖ In most of the fishing harbour such as Kakdwip FH, Freserganj FH and Deshapran FH and landing centres like Namkhana landing centre, Akshayanagar LC, Dash mile LC and Digha Mohana LC fishers are using plastic baskets and plastic nets instead of bamboo baskets for handling fishes.
- ❖ Fishes are transported from landing centres and fishing harbours to auction markets in plastic crates or insulated fish boxes. Poly sheets/ tarpaulin sheets are also being used to cover the open crates to avoid the possible chances of contamination through dust and dirt.
- ❖ Deck of fishing boats, crates and other accessories are cleaned before and after fishing operation.
- ❖ Now Insulated Fish Boxes are being used in landing centres and fish auction markets for preserving exportable catch. Quality of catch is better in IFB fishermen and those materials are getting better price.
- ❖ Vehicles are now being covered with poly sheet while transporting fish from fishing harbour to auction markets to prevent possible chances

of contamination and melting of ice.

- ❖ Boat owners are now registering their boat with MPEDA.
- ❖ One fishing boat made fish hold with MPEDA's financial assistance.
- ❖ Now boat owners are using Insulated Fish Boxes in their boats to preserve exportable catch and are availing MPEDA's subsidy for it. Quality of catch is better in IFB rather than kept in fish hold and subsequently fishermen are getting better price.
- ❖ Closed season is strictly observed throughout the State.
- ❖ Attitude of the fishermen along with boat owners are very positive and they are trying to do their best.

7.2. ODISHA

7.2.1. General Introduction

The State of Orissa is located on the east coast of India and covers an area of 155,707 Sq. Kms, distributed between the coastal plain along the Bay of Bengal and the North Western Plateau of Central India. The State is endowed with a long coast line of 480 Kms. The freshwater resources of the State include ponds/ tanks of 1.16 lakh hectares, reservoirs of 2.56 lakh hectares, Lakes, Swamps and jheels of 1.80 lakh hectares, rivers and canals of 1.55 lakh hectares. The Brackish Water resources include 2.98 lakh hectares estuaries, 32,587 hectares of cultivable Brackish Water, 8,100 hectares of backwater area and above all the Chilka, Indian Brackish Water Lagoon, extending over an area of 79,000 hectares. As per the survey conducted by Fishery Survey of India (FSI), the maximum sustainable fish yield from marine source is about 1.26 lakhs M.T. up to a depth of 200 m off the coast of Orissa. The overall Fisheries potential of the State is 5,13,667 M.T. Culture fisheries contribution of Odisha was 29,914 M.T in 2012-13 and the contribution from capture fisheries during 2012-13 was 1,18,311M.T. The fishermen population of the State is about 10.84 lakhs, of which about 7.51 lakhs in Inland Sector and 3.33 lakhs in Marine Sector that constitutes 2.95% of the total population of the State. The economic status of the fishermen is generally below poverty line (BPL). The Fisheries sector contrib-

utes 2.32% to the State G.D.P. Odisha lacks behind in quality management in case of both capture and culture fisheries and need extensive extension training programmes to meet International standards.

7.2.2. NETFISH activities in Odisha

Paradeep, Balasore and Chika were the selected regions for conducting the programmes. Paradeep Fishing Harbour is the largest fishing harbour in Odisha managed by Paradeep Harbour Management society. Around 550 nos of mechanized fishing vessels are operated in this fishing harbour. The Balaramgadi Fish Landing Centre is a Natural beach landing Centre and the second largest landing centre in Odisha state. In Balaramgadi around 572 numbers of mechanized fishing vessels are operating. Bahabalapur Fish Landing Centre is comparatively a small landing Centre but is having most of the facilities. More than 450 vessels are operating from the centre. Chilka Lake is a brackish water lagoon, spread over the Puri, Khurda and Ganjam districts of Odisha state on the east coast of India, at the mouth of the Daya River, flowing into the Bay of Bengal, covering an area of over 1,100 km². It is the largest coastal lagoon in India and the second largest lagoon in the World. The lake sustains more than 150,000 fisher-folk living in 132 villages on the shore and islands.

During the year 2013-14 NETFISH in Odisha, conducted a total of 229 extension training programmes. The NGOs who assisted NETFISH in conducting the programmes in Odisha included SRMSS, RPRDS, NJNS, etc. Chilka Development Authority (CDA) and NETFISH started a joint intensive extension training programmes for fishers in the Chilka lagoon with the support of Orissa State Fisheries Department from the year 2009-10 and the programme continued in 2013-14 also. The total number of regular awareness programmes accounted for about 219, during the year. In addition to this, World Oceans Day celebration and a state level workshop were also organized in the state.

7.2.2.1. Regular Programmes

a) Fish Quality Management Programmes at

landing sites and fishermen villages

Sl.No	Selected Area/Harbour	No. of Programmes
1	Paradeep Fishing Harbour	9
2	Balaramgadi Landing Centre	9
3	Bahabalapur Landing Centre	8
4	Chilka	24
	Total	50

In Fish Quality Management programmes trawler crew members and owners, fishermen, go-down workers, harbour workers and transporters were the main targets. In the programme emphasis was given on personnel hygiene, general hygiene, fish handling, bacterial contamination, proper icing, proper cleaning etc. Stake holders were trained by theory & practical classes. To promote better fish quality management practices in harbours, plastic baskets were provided under fishermen aid programme to completely eradicate the use of bamboo baskets. NETFISH also pasted awareness posters on fish quality management at harbours and go-downs. Because of extensive training programmes conducted by NETFISH, fishermen in Odisha, especially the Chilka fishers are becoming more and more concerned about the fish quality and are paying more attention towards fish quality management practices.

b) Sustainable Fishing/Conservation Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Paradeep Fishing Harbour	9
2	Balaramgadi Landing Centre	6
3	Bahabalapur Landing Centre	4
4	Dhamara	1
5	Chilka	13
	Total	33

In Sustainable fishing and conservation programmes we covered fishermen, trawler crew members and trawler owners. In these programmes NETFISH covered topics on mesh size regulation, juvenile fish catch, fishing ban

period, by-catch reduction, Ban on bottom trawling, Co-management etc. NETFISH posters on sustainable fishing and conservation were pasted on fishing vessels. Posters and NETFISH leaflets on conservation was distributed during each and every programme. Reasons for depletion of fish in Chilka were discussed with Chilka fishermen. Factors to be taken into consideration to regain the fish stock of Chilka for the future years were discussed during the programmes. The discussed factors include prohibition of destructive fishing, restriction on catch of fish seed, catching juveniles and gravid fishes during breeding season, observation of closed season during monsoon months to allow the fishes to breed, regulation of mesh size, prohibiting wild seed collection and controlling water pollution in the lake. Awareness on importance of conserving mangroves along Chilka was also given to Chilka fishers. In all of the programmes fishermen agreed to the fact that reduction in fish resource is due to overfishing and juvenile fishing. They also agreed that trawl ban period is good for enhancing fish stock and are of the opinion that all types of vessels should be banned from fishing during the period.

c) On-Board Programme

Sl.No	Selected Harbour	No. of Programmes
1	Paradeep Fishing Harbour	45
2	Balaramgadi Landing Centre	24
3	Bahabalpur Landing Centre	34
4	Chilka	8
	Total	111

During on-Board extension training programmes, trawler crew members including trawler owners were targeted and the topics covered were on both fish quality management and sustainable fishing. Awareness was given on mesh size regulation, impact of juvenile fishing, fishing ban period, by-catch reduction, ban on bottom trawling, co-management, personnel hygiene, general hygiene, fish handling, bacterial spoilage, importance of icing, proper cleaning etc. Along with theory classes, demonstrations were also ar-

anged. Participants were provided with liquid detergent, hypochlorite, brush and plastic round basket. During programmes NETFISH leaflets were distributed and posters were pasted in fishing vessels. In Chilka the trainings were conducted in country boats. Chilka fishermen were encouraged to use plastic sheets for sorting of fishes onboard and use sufficient quantity of ice and Insulated fish boxes for keeping the fish fresh.

d) Pre-Processing Centre Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Balaramgadi Landing Centre	1
2	Paradeep	2
3	Khurda	2
	Total	5

Hygienic handling of sea food at Pre-processing centre is of outmost importance as it is the pioneer place for sea food processing. In Odisha there are several unauthorized peeling sheds. NETFISH therefore included pre-processing extension training programme in its annual action plan to improve the quality standard at pre-processing centres. During pre-processing extension programme the main topics covered included personal hygiene, hygienic handling, cleaning, icing etc. Liquid soap, hypochlorite and other cleaning materials were distributed among the participants instead of stipend. A common pre-processing centre is being set up at Balaramgadi jointly by SEAI, Govt. of Odisha & MPEDA. The foundation laying ceremony was organized on 23rd May 2013.

e) Processing Centre Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Khurda	10
2	Balaramgadi	2
3	Cuttack	1
4	Paradeep	2
5	Puri	2
	Total	17

The quality issues leading to the consignment rejections occurs in seafood industry mainly because of the lack of awareness among the individuals involved in pre-processing and processing activities. NETFISH conducted awareness programme in sea food processing plants to generate awareness among the workers involved. They workers were made aware of the importance of proper hand washing and sanitizing procedures, wearing of uniforms, head gear, mouth gear, proper use of sanitizing agents, use of ice and its importance, proper waste disposal and personal hygiene. During the programmes workers were trained using verbal and visual medium. NETFISH leaflets and posters were distributed among participants during each programme.

f) Dry Fish Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Balaramgadi Landing Centre	2
2	Bahabalapur Landing Centre	1
	Total	3

In Odisha fish drying is being practiced near almost all landing centres. Majority of these drying centres are located near Balaramgadi. During dry fish extension programme the main emphasis is given to personal hygiene, hygienic handling, cleaning procedure, icing etc. During the programmes fishers were encouraged to use straw/nets for drying fish, avoid chemicals and pesticides and to use sufficient quantity of ice during transportation of raw materials. The fishers were urged to pack the dry fish with polythene lined packet to retain the quality of finished product. The quality of the dry fish can be retained for 9-12 months if it is prepared in good hygienic condition.

7.2.2.2. Special Programmes

An awareness meeting to mark the celebration of World Oceans day and a state level workshop were organized in the state as special programmes during the year.

7.2.2.3. Other Activities

Casuarina Plantation by NETFISH

During the month of July 2013, a Casuarina plantation programme was arranged at Sanapatana village of Chilka area. The programme was arranged jointly by NETFISH & CDA. Casuarina plantation is considered to be a bio shield against cyclones, floods, tsunamis etc. Around 300 Casuarina plants were provided to the villagers who mainly belong to Fishermen community. Casuarinas were planted along the coast to provide protection against the natural calamities. The villagers also requested to arrange such type of programme in the coming years.

Relief by NETFISH for Cyclone (Phailin) affected Villagers

Many relief camps were set up along the Chilka after cyclone Phailin hit the coasts of Odisha. NETFISH visited relief camps at three Fishermen villages namely Baghalinzi, Barakudi and Sanapatana in Chilka area and distributed Biscuits, Candles, Matches and rice grains to the affected villagers.

7.2.3. Specific Outcomes achieved during the year

- ❖ In Paradeep Fishing Harbour 60-70% of Bamboo baskets are now replaced by Plastic baskets. In Balaramgadi and Bahabalapur 90% of Bamboo baskets are now replaced by Plastic baskets.
- ❖ Now Trawler owners at Paradeep, Balaramgadi and Bahabalapur harbour purchase cleaning Materials like Teepol (Liquid Detergent) & Hypochlorite for cleaning their fishing vessel and other utensils.
- ❖ Open transportation of ice in trucks has been stopped at all major harbours and landing centres of Odisha. All trucks now carry ice in fully covered condition.
- ❖ Trawler owners and their associations at major harbours now understand the importance of Conservation of fish resources and have requested to increase the fishing ban period for more days.
- ❖ In Paradeep, Harbour Management Society is now taking more interest on sanitation and hygiene of the auction hall and surrounding

- areas. Now the management society has appointed 6 nos of cleaning workers for the purpose. NETFISH trained these workers on proper cleaning methods and cleaning schedule and also provided them with uniforms.
- ❖ Many fishing vessel owners from harbours across Odisha are now applying to MPEDA for fish hold subsidy mainly due to the awareness created by NETFISH.
 - ❖ All the fishing vessels are being cleaned regularly before and after fishing.
 - ❖ The auction area at Bahabalapur is being maintained hygienically.
 - ❖ Chilka fishermen are now using Insulated Fish Boxes (IFB) for preserving their catch.
 - ❖ Fisherfolk from Chilka now carrying ice while going for fishing.
 - ❖ After NETFISH & CDA joint training programmes at Chilka, fishers are more concerned about maintaining fish quality and are getting more price compared to earlier.
 - ❖ Fisher folk of Chilka now started trading through fishermen co-operative society after NETFISH training.
 - ❖ Because of NETFISH extension training, more number of fisher folk from Chilka are now applying to MPEDA through CDA for IFBs.

7.3. ANDHRA PRADESH

7.3.1. General Introduction

The state of Andhra Pradesh is having bountiful of fishery resources with a coastline of 974 Kms spread across 9 coastal districts and continental shelf area of 33000 SqKms. Andhra Pradesh ranks fifth in marine fish production, first in brackish water shrimp and L vannamei production. The major fishing harbours are Visakhapatnam, Kakinada, Machilipatnam and Nizampatnam and there are 36 major and minor landing centers. About 1260 mechanized, 5565 motorized and 17926 traditional fishing vessels operate in the state out of which 7% are deep sea fishing vessels. The AP coast is with 98 fishing villages with a fisher folk population of 519,312. The annual fish production of the state is 16.5 lakh tones of which 6.39 lakh tonnes of fish and shrimp are exported during 2012-13. Gill netters are dominated by Trawl netters followed by Hook and lines. The inshore

areas of Andhra Pradesh are relatively over-exploited while the off-shore marine fishery wealth remains under exploited.

7.3.2. NETFISH activities in Andhra Pradesh

NETFISH organized its training programmes in all the selected fishing harbours, fish landing centers and fishing villages all along the coast of Andhra with a view to improve the quality of fishery products that are being exported and also to conserve the marine resources. Extension awareness programmes were conducted in and around the selected areas, i.e. Visakhapatnam, Kakinada, Machilipatnam and Nizampatnam fishing harbours and fish landing centers. All the selected areas are the potential fish landing zones in the state. Apart from the fish landing areas, NETFISH concentrated on hygiene to be maintained by the pre-processing workers of approved sea food export establishments situated at Sullurpet, Nellore, Bhimavaram and Kakinada.

A total of 260 programmes were organized along Andhra coast during 2013-14. Out of which 202 were regular programmes and 58 were special programmes. Sign boards depicting do's and don'ts were fixed at Kakinada and Machilipatnam fishing harbours. Activities of all fishing harbours of Andhra were closely monitored and given advice and suggestions to fishermen and officials related to the fishing harbour. Fishing Harbour Management Committees is actively cooperating with NETFISH to maintain hygiene and sanitation at harbours. Overall hygienic standard of the state is improving and fishermen themselves are coming forward for the conservation of fishery resources.

7.3.2.1. Regular Programmes

a) Fish Quality Management Programmes at landing sites and fishermen villages

Sl.No	Selected Area/Harbour	No. of Programmes
1	Visakhapatnam	27
2	Kakinada	34
3	Machilipatnam	4
4	Nizampatnam	6
	Total	71

The fish quality management programmes were organized along the coastal villages harbours and landing centers of Andhra. These programmes included a lecture focusing on improving the hygiene conditions in fish handling which was followed by discussions with the participants regarding their view towards fish quality management and also about various problems related to the industry. NETFISH leaflets and posters were distributed to the participants during the programmes. To encourage the stake holders to follow hygienic practices while handling fish and ice, NETFISH has distributed Stainless steel trays. This helped to avoid crushing ice blocks directly on the floor for loading in to fishing boats and also for packing of fish. During many programmes NETFISH distributed tarpaulins to the beneficiaries instead of stipend, to encourage the practice of placing big fish on sheets and not directly on the floor.

b) Sustainable Fishing/Conservation Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Visakhapatnam	15
2	Kakinada	22
3	Machilipatnam	08
4	Nizampatnam	05
	Total	50

NETFISH conducted 44 awareness programmes on sustainable fishing and conservation at different harbours, landing centers and fishermen villages around the major fishing harbours of Andhra Pradesh. The targeted groups in the programme were trawler owners, fishing vessel crew members, fish traders, harbour workers, etc. Conservation aspects such as ban on destructive fishing, under sized tuna fishing, 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, halt on collection of wild seed of shrimp, prohibition of water pollution, protection of mangrove vegetation in the coastal areas, prohibition of using plastic, protection of marine turtles,

by-catch and its effect on food chain, depletion of stock etc. were discussed during the programmes. Extension tools such as leaflets documentary and animation films were made use in the programmes for effective conveyance of messages.

c) Onboard Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Visakhapatnam	10
2	Kakinada	09
	Total	19

Onboard training programmes were conducted for the boat owners and crew members on fish quality management and conservation of fishery resources. The fish quality management part included awareness programmes on fish spoilage, handling the catch, Bacterial contamination and personal hygiene while conservation part included classes on overfishing, by-catch reduction, Protection of mangroves and coral reefs, marine pollution, juvenile fishing, endangered species, Turtle excluder devise, mesh size regulation and fishing ban. The practical demonstration included hands-on training like cleaning of boat deck, fish hold, utensils, hygienic handling of catch with gloves, catch segregation and preservation of catch by icing etc. Importance of liquid chlorine and detergent on sanitation are also explained during training. Leaflets and posters depicting hygienic practices onboard and measures for conservation are distributed among the participants during onboard programmes.

d) Pre-processing Centre Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Sullurpet	2
2	Nellore	4
3	Kakinada	4
4	Bhimavaram	9
5	Tanuku and Ravulapalem	3
	Total	22

Pre-processing training programmes were conducted for the preprocessing workers of the EU approved processing and exporting units of Andhra Pradesh. Most of the training programmes are conducted with the involvement of MPEDA official, Plant owners, QC in charge and Supervisors of the plant. The participants were trained on hygiene and sanitation procedures to be followed while peeling. Apart from the conventional lecture classes, audio visual tools were also used to communicate the message more effectively. Leaflets developed by NETFISH depicting hygiene and sanitation were distributed to the trainees.

e) Dry fish Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Visakhapatnam	12
2	Kakinada	18
3	Nizampatnam	09
	Total	39

Dry fish training programmes were conducted for fisherwomen and men who are engaged in fish drying near the beach and fish landing centers around Nizampatnam, Visakhapatnam and Kakinada fishing harbours. During the training programme they are briefed on different methods of preservation of catch and preserving its quality for getting better prices. They were explained about the hygienic way of salt curing and drying and segregation of fish to avoid contamination and spoilage. The dry fish workers were introduced to solar drying units, made of pipes and net, and rope drying practices. Apart from the conventional lecture classes audio visual tools were also used for the training to communicate the message more effectively. Leaflets developed by NETFISH depicting hygiene and sanitation were distributed to the trainees.

7.3.2.2. Special Programmes

a) Street-plays

During 2013-14 NETFISH organized 45 street play shows in and around selected areas. The street plays covered conservation aspects as well as

Sl.No	Selected Area/Harbour	No. of Programmes
1	Visakhapatnam	15
2	Kakinada	25
3	Nizampatnam	05
	Total	45

quality aspects. The street plays were scripted in a simple manner for easy understanding. The programme attracted huge audience in all parts and people readily accepted the messages NETFSH tried to convey.

b) School programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Visakhapatnam	02
2	Kakinada	01
	Total	03

NETFISH organized 2 school children awareness programmes on 22nd and 24th August, 2013 at MVP High School, Visakhapatnam and Uppada UP School, Kakinada respectively. On 28th October 2013 another school children awareness programme was conducted in UP School, Kakinada. Around 140 School children mostly from fishermen community participated in the programmes. During the programme the school children were taught about the hygiene standards and how to keep premises and house clean. The procedure of hand washing was explained to them and urged them to maintain personal hygiene. The impact of unhygienic handling, on the market price of catch and its effect on the income and economic standards of fishermen were also discussed. They were shown NETFISH video documentary to get an insight into the reasons for catch depletion, fishing of protected species, different kind of contaminations and its effect on health of fish. 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 handling of ice were also shown. The school teachers also took active par-

participation and explained about the importance of Hygiene and Sanitation and the need to educate the parents by children.

c) Mass communication

Sl.No	Selected Area/Harbour	No. of Programmes
1	Visakhapatnam	04
2	Kakinada	05
	Total	09

NETFISH organized mass communication programmes in Visakhapatnam and Kakinada fishing harbours and nearby fish landing centers as an awareness campaigns on hygiene in fishing handling. Mass communication programmes conducted in Visakhapatnam was to urge the fishers to avoid fishing of undersized tuna. During mass communication programmes NETFISH leaflets and posters were distributed among the participants. Also NETFISH posters endorsing sanitation and conservation were pasted in fishing vessels. Awareness on hygienic handling of fish was also given to the participants. During the campaign boat owners were encouraged to use separate fish hold for different fishes and not to mix them. Owing to the mass communication programmes the NETFISH messages were easily communicated to the fishermen and they also responded positively to it.

d) Other special programmes

World Oceans Day and World fisheries day were observed by arranging different types of special awareness programmes. A state level workshop on "Towards Sustainable Fishing" was also conducted successfully during the year.

7.3.2.3. Other Activities

Distribution of Fiber Shovel and Stainless Steel Trays

On 7th November 2013, NETFISH handed over 3 numbers of stainless steel trays to the Kakinada Fishing Harbour Management Committee (HMC) for handling crushed ice. The trays will be under the control of HMC as their property and will be given to the users on need base with proper documentation. Ice factory owners are planning to

make the same kind of trays so that it can be made available to all fishing harbours in sufficient numbers.

On 19th December 2013, rust free fiber shovels were donated to the Visakhapatnam fishing harbour. Everybody appreciated distribution of rust free plastic shovels. NETFISH is planning to replace all shovels presently being used at fishing harbours of Andhra Pradesh with rust free fibre shovels in the near future. In order to prevent contamination from floor, fishermen were encouraged to avoid direct contact of crushed ice to floor. In addition to fibre shovels NETFISH also arranged 4 sets of plastic sheets for the harbour so that ice can be unloaded on plastic sheets.

7.3.3. Specific Outcomes achieved during the year

- ❖ The replacement of bamboo baskets with plastic baskets for handling catch and during auction by the boat owners, crew members, auctioneers and traders have been noticed in all the major fishing harbours and nearby landing centers.
- ❖ The use of Fiber shovels have been initiated at Visakhapatnam fishing harbour for handling of crushed ice and fish.
- ❖ Stainless steel trays are being used by the boat owners of Kakinada fishing harbours. Some of the Ice manufacturers are ready to keep automatic ice loading conveyors for crushed ice, if the Government provides subsidy for the same.
- ❖ Due to the NETFISH awareness programmes, at Kakinada fishing harbour and nearby landing center stakeholders are using plastic sheets for keeping tuna fish.
- ❖ In trawling boats Cod end mesh size was increased at all the fishing harbours to allow the escape of juveniles. Some of the boats in Visakhapatnam fishing harbour have started using Square shaped cod end.
- ❖ The local fish traders associations of Visakhapatnam fishing harbour are now using dust bins for the collection of wastes and are even thinking of appointing a person for regular disposal of wastes from the harbour.
- ❖ The ice handling practices have improved in Visakhapatnam fishing harbour as they are

- using sheet to prevent direct contact of ice with floor.
- ❖ In most of the fishing vessels wooden deck is coated with fiber for easy cleaning. The boats are also regularly cleaned with detergent and brush.
 - ❖ All the crates and utensils are being cleaned with detergent before and after use.
 - ❖ Regular cleaning of fish holds with detergent has been observed in motorized and mechnized fishing boats in the major fish landing centers and fishing harbours.
 - ❖ Boat owners are registering and/or renewing their registration of fishing vessels with MPEDA and other departments.
 - ❖ Now insulated fish boxes are being used in landing centers and fish auction markets for preserving fish for export and local consumption.
 - ❖ The Machilipatnam and Kakinada fishing harbour are approved by the EIA and Fishing harbour management committees are trying to maintain the standards.
 - ❖ Some of the boat owners are arranging toilet facility in multiday fishing vessels.
 - ❖ With the demand of ice by the motorized craft 2 new ice plants have been set up near Aminabad fish landing center of Kakinada.
 - ❖ At Kakinada fishing harbour, the traders are demanding to the fishing harbour management committee for raised platforms to keep catch during auction.
 - ❖ Fishermen are avoiding catching gravid shrimps.
 - ❖ Fiber boat owners are constructing new boat with fish hold for bringing catch in good condition.
 - ❖ In Kakinada and Visakhapatnm some of the trawling boats are using insulated wire ropes instead of open metal wires for operating trawl nets.
 - ❖ Around 40% and above trawling fishing vessels are converted to gill netters for catching of fish in all the fishing harbours.
 - ❖ Due to the continuous training programmes to the Preprocessing workers on personal hygiene and hand washing procedures now some of the plants have arranged extra hand

washing facility near the entry of workers and now they are washing their hands up to elbow everytime before they enter.

- ❖ Dry fishers of Mulapeta fish landing center, Kakinada are now using sheets for drying fish and are covering the fish by tying nets above during drying. They are constructing their own cement fish drying platforms. They are also covering the salt curing cement tanks with fiber cap for proper covering to avoid fly infestation. The regular covering with dry toddy leaves has been replaced with fiber caps.
- ❖ The dry fishers of Odarevu fish landing center they are using rope drying system and are using nets to cover the system..
- ❖ Due to the efforts of NETFISH at Machilipatnam, Fishing harbour management committee has decided to collect revenue to meet expenditures for smooth maintenance and regular cleaning activity of fishing harbour. They fixed the rate boards in different places for regular collection from June, 2014.

7.4. TAMIL NADU

7.4.1. General Introduction

Tamil Nadu, with its 1076 km of coastline comprising of 0.19 million sq.km of EEZ and continental shelf of about 41412 sq.km is one of the foremost fish producing state of the country. Of the East Coast states, Tamil Nadu leads the chart in terms of fish production. The state has 591 marine fishing villages spread across 13 districts. The state has 3 major fishing harbours and 5 medium fishing harbours while 4 major fishing harbours are under construction. There are a total of 363 fish landing centres in the state. The State has marine fisher folk population of 1.05 million of which 0.2 million are fishermen who are actively engaged in fishing. There are 608 marine fishing villages scattered along the 13 coastal districts. The marine fish production during the year 2012-13 was 4.28 lakh ton. The marine resource of Tamil Nadu is exploited by 10,436 traditional, 24,942 motorized and 10,436 mechanized crafts.

7.4.2. NETFISH activities in Tamil Nadu

The areas/harbours selected for conducting training/awareness programmes during the year

included Kasimedu, Cuddalore, Pazhaiyar, Mudasalodai, Karaikkal and Nagapattinam from the northern region and Chinnamuttom, Tuticorin, Mandapam and Mallipattinam from the southern region. Kasimedu Fishing harbour is one of the major fishing harbours in the East Coast and situated in the capital city of Tamil nadu. Cuddalore FH has been selected to improve the hygienic handling of fishes and purse seining is a sensitive issue here. In Pazhaiyar, Mudasalodai and Karaikkal adequate infrastructure facilities are available and still the handling of fishes has to be improved. Nagapattinam FH is also one of the important harbours in the East Coast and more than 1000 boats are being operated from here. Chinnamuttom and Tuticorin fishing harbour are considered as major fishing Harbour in terms of facilities and infrastructure in southern Tamil nadu. Fishermen in these two harbours need to be trained to make use of available infrastructure and should be encouraged for sustainable fishing. Fishermen's from Mandapam and Mallipattinam fishing harbour target on shrimps for their main catch associated with seasonal fish catches also. Since the fishermen exploit resources in huge quantity in term of export oriented seafood items it is very much important to provide awareness/out-reach information on hygienic handling of marine resources, conservation of marine biodiversity and sustainable fishing practices.

During the year around 398 regular and special programmes of NETFISH were conducted along both Northern and Southern region of Tamil Nadu. The 210 programmes conducted along Northern region included 179 regular and 31 special programmes whereas in the southern region 173 regular and 15 special programmes were organized which accounted for a total of 188 programmes.

7.4.2.1. Regular Programmes

a) Fish Quality Management Programmes at landing sites and fishermen villages

Targeted beneficiaries of the programme included fishermen, workers involved in loading and unloading of fishes from boats and boat owners, auctioneers, boat owners and crew members. During the extension program handling of Ice in

Sl.No	Selected Area/Harbour	No. of Programmes
1	Kasimedu	13
2	Cuddalore	16
3	Pazhaiyar	12
4	Nagapattinam	10
5	Mudasalodai	16
6	Karaikkal	10
7	Chinnamuttom	25
8	Tuticorin	20
9	Mandapam	13
10	Mallipattinam	18
	Total	153

the landing centre, importance of carrying good quantity of quality crushed ice, hygienic practices in landing centers, keeping the landing centers beach and auction hall clean, etc were discussed with the fishermen and representatives from fishermen unions and cooperatives. Structural oral presentations with specific information were provided to the participants during the programmes. Documentary film related to fish quality management produced by NETFISH was shown during the programmes. NETFISH leaflets, posters and stickers were distributed during each programme.

b) Sustainable fishing/Conservation Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Kasimedu FH	12
2	Cuddalore FH	10
3	Pazhaiyar FH	9
4	Nagapattinam FH	14
5	Mudasalodai FLC	12
6	Karaikkal FH	10
7	Chinnamuttom	16
8	Tuticorin	18
9	Mandapam	16
10	Mallipattinam	18
	Total	135

Targeted beneficiaries for the programme were boat owners, vessel crew members, stake holders of the fishing harbours concerned, active fishermen etc. Major topics covered during the programme included the impact of juvenile fishing, bottom trawling, purse seining, shore fishing, pair trawling, mesh size regulation, benefits of square mesh cod ends, importance and role of mangroves etc. Respected individuals representing fishing community is inducted in the extension program to provide the necessary information to the community as for making the extension program more effective. For creating awareness on conservation and sustainable fishing lectures on conservation was delivered to the participants and they were shown NETFISH documentary film on conservation. Leaflets and posters advertising conservation and sustainable fishing were distributed among the participants.

c) Onboard Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Cuddalore	4
2	Chinnamuttom	3
3	Tuticorin	3
4	Mandapam	3
5	Mallipattinam	5
	Total	18

Fishing vessel crew members and owners were the main targets of the programme. Lectures were given on Hygienic handling of fishes onboard, importance and proper method of icing, use of bleaching/detergent powder for sanitizing the deck floor, first aid and safety aspects. They were also encouraged to discard endangered species (seaturtle, seahorse, sea -cucumber, molluscs, etc), caught accidentally. Cleaning of deck floor, use of gloves and Gum boots, proper icing method etc. were explained while demonstration. Oral presentations were made and hands-on trainings to fishermen were provided. Boots, hand gloves, Plastic bucket, wipers, detergents etc were provided to the participants during some of the onboard programmes. NETFISH leaflets and posters on

hygienic handling and conservation were distributed among the participants.

d) Pre-processing Centre Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Chennai	3
2	Chinnamuttom	2
3	Tuticorin	1
4	Mandapam	3
5	Mallipattinam	6
	Total	15

Workers of pre-processing centres were the main targets of the programme. Personal hygiene, handling of raw materials, packing and sanitation protocol to be followed in the Pre- processing hall and within the premises were discussed during the programme. Oral presentations were delivered to the participants. Documentary film produced by NETFISH was shown to pre-processing workers. Resource Persons were also engaged to deliver lectures on hygienic practices to be followed in a pre- processing unit. NETFISH leaflets and posters were distributed during the programmes.

e) Dryfish Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Mandapam	3
2	Pazhaiyar FH	7
3	Nagapattinam FH	7
4	Mudasalodai FLC	6
5	Karaikkal FH	8
	Total	31

Targeted beneficiaries of the programme were fisherwomen who directly engaged in fish drying activities, traders and dry fish association members. Mainly self help groups were selected for the training programme. Major Topics covered during the programmes include importance of maintaining quality of raw material for production of quality dry fish, hygienic production of dry fish,

different type of drying methods, sand contamination, packaging, retail packing and selling, establishing marketing links etc. Lecture, power point presentations and demonstrations were used as tools to communicate NETFISH messages. Coconut coir mats and calcium propionate were provided to the participants during some of the programmes to improve the shelf life of finished product. NETFISH leaflets, brochures and posters were distributed among the participants during each programme.

7.4.2.2. Special Programmes

a) Street-plays

Sl.No	Selected Area/Harbour	No. of Programmes
1	Kasimedu	15
2	Chinnamuttom	08
3	Tuticorin	04
	Total	27

Targeted beneficiaries of the programme included all sections of people engaged in fishery related activities in and around harbours and landing centres. General public also gathered in huge numbers to watch NETFISH street plays. Street play program was initiated as a tool to deliver important messages, like stop juvenile fishing, proper icing of fish, sustainable fishing, not to use illegal fishing nets, hygienic handling of fish resources, keep the beaches clean, conserve critical ecosystem etc., through the folk media which the fishing communities likes the most. The messages were disseminated through skits, dance and songs. The dialogues and presentations were made as per the language style of the fishermen community on area specific manner. Street plays attracted huge gatherings and there was very good response from the audience.

b) School Children Programme

Date	Selected Area/Harbour
18-02-2014	Tuticorin

School programmes provided awareness to the younger generation on conservation of ma-

rine biodiversity and hygienic handling of fish resources. These type of programmes are very much important with regard to implementing of conservation initiatives at ground level and disseminating the core information. Since most of the students participating in the programme are from fishermen family they can educate their parents and relatives on what they have learnt. Fifty students from 5 coastal schools participated in the programme. Four type of competitions (Elocution, drawing, poetry and essay writing) on fish conservation and hygienic handling of fish was conducted during the programme. At the end of the programme a special lecture on the Ecological Importance of Marine Flora and Fauna was delivered by CMFRI, Scientist from Tuticorin. There was healthy interaction from the student's side. NETFISH got very good response towards the programme.

c) Harbour Cleanup Programme

Date	Selected Area/Harbour
23.06.13	Mudasalodai FLC
26.11.13	Pazhaiyar FH
27.02.14	Kasimedu FH

The auction hall of Mudasalodai Fish Landing Centre has been used for two wheeler parking, storage of nets etc. and no cleaning activity in the recent past has been carried out. NETFISH conducted a cleaning program at Mudasalodai Fish Landing Centre with the cooperation from boat owners association, village panchayath and fishermen from the village. Around 50 participants took part in the clean-up programme. All the nets, boxes stacked inside the auction hall were removed and all debris were removed from the floor and cleaned the drainage canal. NETFISH supplied cleaning materials like brooms, brushes, soap, oil, paint, hose pipe, waste bins, and bleaching powder. Mechanized boat owners association replaced an old pump at the auction hall with a new one. The participants were asked not to park vehicles near auction hall and to continue cleaning activities on a routine basis.

In order to create awareness on importance of Hygienic handling of fishes and maintaining the auction hall in hygienic state, a cleanup program

was conducted at Pazhaiyar Fishing Harbour with the cooperation of Mechanized Boat owners Association and Panchayath leaders from Pazhaiyar Fishing Village. There were around 120 fishermen, boat owners, traders and fish workers who participated in the clean-up program. NETFISH provided the cleaning material such as broom, brushes, wipers, detergents, bleaching powder, plastic sheets and rubber hose. The program started at 9.00 AM and auction hall was cleaned properly with soap and bleaching powder and the debris were removed from drainage canal inside the auction hall and drainage grill was taken out for cleaning. With the help of Mechanized Boat Owners Association, Pazhaiyar, the boxes stacked inside the auction hall were removed and cleaning was done. The participants were encouraged to carry our cleaning activity on daily basis.

A Harbour Clean Up program was organized and conducted by NETFISH-MPEDA at Kasimedu Fishing Harbour on 27.02.14 in association with Exnora International, Chennai and Fishing Harbour Management Committee, Chennai Fishing Harbour. Around 60 students from Sir Theagaraya College, Tondiyarpet, Chennai and 17 Post graduate students from Madras Christian College, Tambaram also participated as volunteers. More than 10 fishermen associations in Kasimedu FH were also represented. Chennai Port Trust provided engaged a Truck for disposing the Garbage. NETISH provided T-shirt, Gloves and refreshments to all the participants. NETFISH also engaged 19 workers to assist students in cleaning activities. Overall, the harbour clean-up program impressed all the stake holders and Fishermen from Kasimedu FH and they appreciated NETFISH for taking initiative for improving the Hygienic condition of Kasimedu FH.

d) Other Special Programmes

District Level Stakeholders meeting

A District Level Stakeholders meeting was organized at Mandapam on 28-06-2013 to document the perception of fishermen community with regard to sustainable fishing. Representatives from artisanal and mechanized sectors, members from fishermen association and State Fisheries Department Officials attended the meeting. Around 25

participants attended the meeting including representatives from 12 fishing villages. Open discussions were made on each issues which were suggested by the artisanal and mechanized sectors. A similar type of district level meeting was held at Tuticorin on 10-06-2013. Representatives from artisanal and mechanized sectors, members from fishermen association and State Fisheries Department Officials attended the meeting. Around 20 participants participated in the meeting including representatives from 6 fishing villages. Open discussions were made on sustainable fishing and issues were prioritized.

Important suggestions emerged from the meeting were 1. ban period should be between October to January 2. Roller Madi need to be stopped 3. HP restriction in Palk bay -that only 68HP boat should be allowed to fish 4. Sea ranching of shrimp need to be done 5. Pair trawling and purse seine operation need to be totally stopped 6. Deep sea fishing need to be promoted 7. Study tour to fisherman to different fishing states is needed 8. Fisheries co-management need to be initiated through discussion with different stakeholders 9. New technology in drift net fishing and long line need to be provided to fisherman 10. no expansion of Tuticorin fishing harbour, restrict industries from discharging pollutants into the marine system and Monofilament net should be banned.

Joint Programmes with State Fisheries Department

Four programmes on the topic "Hygienic handling of fishes and preservation' were organized jointly with Pondicherry State Fisheries Department at Karaikkal during the month of July 2013.

Apart from these, special activities in connection with World Oceans Day and Workshops on "Towards Sustainable Fishing" were conducted in Tamil Nadu during the year.

7.4.3. Specific Outcomes achieved during the year

❖ In Mudasalodai, because of clean-up programme conducted by NETFISH, the mechanized boat owners association has placed a new motor for pumping water and removed the fishing nets kept in the auction

- hall. Now hygiene and sanitation of the auction hall is being well maintained.
- ❖ A system of regular cleaning of auction hall is being practiced at Karaikkal and Pazhaiyar fishing harbours.
 - ❖ Due to continuous awareness programmes and stake holders meeting on conservation and sustainable fishing in Nagapattinam district, stakeholders of Nagapattinam fishing harbour has imposed a ban on pair trawling in Nagapattinam district. Fishermen from Pazhaiyar and Mudasalodai are also agreed with the ban and stopped pair trawl operation in Nagapattinam district.
 - ❖ Only plastic baskets are being used for handling of fish particularly in Karaikkal, Nagapattinam, Mudasalodai and Kasimedu fishing harbours.
 - ❖ Bamboo Basket has been completely removed in the selected Fishing Harbours where NETFISH trainings were conducted. In traditional and motorized sections also bamboo baskets are not in use.
 - ❖ Fishermen are using gloves to handle fish onboard fishing vessels in Chinnamuttom and Tuticorin.
 - ❖ Non-rust fibre shovels form 50% of the shovels being used in southern Tamil Nadu harbours and landing centres.
 - ❖ Fishermen are now taking care not to crush or drag ice directly on floor.
 - ❖ Trolley is being used for carrying Ice in Mallipattinam and Sethubavachatiram fishing harbour.

7.5. KERALA

7.5.1. General Introduction

The state of Kerala, situated on the south-west coast of peninsular India, is blessed with a coastline of 590 km having a continental shelf area of 40000 sq. km. In addition, the state also has wide-spread interconnected brackish water lakes and estuaries. Marine fishery sector plays an important role in the economy of Kerala. The sector provides livelihood to about 8 lakh fishermen inhabiting 222 fishermen villages spread along nine coastal villages. Fishing fleet in the state comprises of about 23129 motorised crafts, 2986 mechanised

and 1673 non-motorised crafts. Kerala has an estimated maximum sustainable yield of about 7.5 lakh metric tonnes and the net production from the state has touched 5.30 lakh metric tonnes (2012-13). The state has 9 major harbours and 17 major landing centres. Kerala contributes to about 20% of the marine fish production in the country. Annually, Kerala earns approximately Rupees 1,200 crores from export of marine fish products and approximately Rupees 600 crores from domestic sales.

7.5.2. NETFISH activities in Kerala

NETFISH organized extensive training and extension programmes in selected harbours, landing centres and fishermen villages across the state of Kerala from Kasargode to Trivandrum. Along Northern Kerala the regions selected to conduct programmes were Munambam, Munakkakadavu, Chetuva, Ponnani, Beypore, Puthiappa, Chombala, Mappila Bay and Valapattanam. Munambam harbour is one of the major harbours in the country and is regarded as a model harbour maintained by harbour management society. Puthiappa and Beypore harbours in Kozhikode district are harbours with major fishing activities along Northern Kerala. Along the Southern region of Kerala programmes were conducted at Thoppumpady, Aroor, Ambalappuzha, Kayamkulam, Thottappally, Sakthikulangara and Vizhinjam. Cochin Fisheries Harbour and Harbours of Neendakkara and Sakthikulangara are the major fishing harbours in Southern Kerala. Huge number of peeling sheds is located in Aroor and Ambalappuzha regions in Alappuzha district.

A total of 492 programmes were conducted along Kerala coast during 2013-14, out of which 268 were organised in Northern Kerala and 224 in Southern Kerala. Other than regular programmes special programmes such as street plays, medical camps, harbour clean-up programmes etc were also organised. NETFISH posters endorsing sustainable fishing and hygiene practices in fish handling were fixed at bus stops, clubs etc in fishermen villages. The activities of harbours were continuously monitored and suggestions on improvement were given to fishermen and officials at harbours. NETFISH programmes

are popular among fishermen in Kerala and marked improvement has been noticed in hygiene standards. Fishermen are becoming more and more aware of conservation of fishery resources and many fishermen groups are coming forward to play their part in conservation.

7.5.2.1. Regular Programmes

a) Fish Quality Management Programmes at landing sites and fishermenvillages

Sl.No	Selected Area/Harbour	No. of Programmes
1	Munakkakadavu	11
2	Chettuva	10
3	Ponnani	24
4	Bey pore	15
5	Puthiappa	20
6	Valapattanam	12
7	Mappila Bay	11
8	Thoppumpady	28
9	Fort Kochi	2
10	Chellanam	2
11	Ambalappuzha	2
12	Punnappra	2
13	Thottappally	6
14	Kayamkulam	6
15	Sakthikulangara	7
	Total	158

Fish quality management programmes were organized for Fishermen, Stake holders, Boat owners and Fish handling workers in coastal villages, harbours and landing centres of Kerala. The main aim of fish quality management programmes is to generate awareness among fishermen and to encourage them to follow post harvest hygienic practices. In each program the number of participants was restricted to 30. The Importance of post harvest hygienic handling of fish including the use of good quality ice, good quality water and significance of cleaning was emphasized during the programmes. During the programmes, healthy interaction is maintained between the fishermen and NETFISH State Coordinator. NETFISH posters on importance of maintaining hygiene standards were

fixed at bus stops, clubs etc. in fishermen villages. Leaflets and notices with messages on fish quality management were distributed among fishermen in harbours. NETFISH provided plastic baskets to replace bamboo baskets at Chettuva, Munakkakadavu and Vellayil fishing harbours. Twelve stainless steel shovels were donated to Vellayil harbour in Calicut to stop the usage of rusted shovels. One stainless steel channel towards the conveyor crusher was provided in Thoppumpady Fisheries Harbour to avoid dragging of ice blocks on floor. Five numbers of stainless steel collection trays for crushed ice was also donated to the harbour by NETFISH. For improving the hygienic quality of fish NETFISH-MPEDA also supplied stainless steel shovels, trolleys, gumboot, gloves and one 500 kg Weighing Balance to Thoppumpady harbour. Regular meetings and discussion with Thoppumpady port authorities prompted them to provide five new taps for washing hands with bore well water and bird proofing net for two auction halls. In major harbours regular meetings with Harbour Engineering Department (HED) were carried out to ensure their cooperation to the stake holders for providing sufficient infrastructure facilities. Continuous meeting with the Neendakara Fisheries Harbour Stake holders prompted them to remove empty crates from inside the auction hall and to strictly ban fish vending inside the auction hall. Harbour Engineering Division, Kollam agreed to construct a building for the women fish vendor's rehabilitation at Neendakara Fisheries Harbour.

b) Sustainable Fishing/Conservation Programmes

Conservation programmes were conducted for fishermen groups, net-mending workers and boat owners in harbours, landing centres and fishermen villages. A decline in catch was observed in most parts of Kerala and hence the conservation programmes during the year were intended against juvenile fishing, double net fishing, night fishing, use of China engines, mesh size regulation etc. Fishermen also agreed to the fact that reduction in catch is mainly due to wrong method of fishing. Coast guard officers joined NETFISH during a few programmes and they took class for fishermen on

Sl.No	Selected Area/Harbour	No. of Programmes
1	Munakkakadavu	5
2	Chettuva	5
3	Ponnani	15
4	Bey pore	6
5	Puthiappa	11
6	Valapattanam	6
7	Mappila Bay	5
8	Thoppumpady	22
9	Fort Kochi	4
10	Ambalappuzha	4
11	Thottappally	2
12	Sakthikulangara	2
	Total	87

the use of safety kits provided to them. Demonstration was given to participants on how to use various gadgets in safety kits. Fishermen were advised to keep a Xerox copy of their identity card with them while they are out at sea for fishing. Now Govt. of India has given full authority to Coast guard for arresting any person found under suspicious circumstances at sea. Identity card will help them in such condition. NETFISH leaflets and notices emphasizing the need for conservation of fishery resources and the long run impact of juvenile fishing were distributed among fishermen in harbours.

c) Pre-processing Centre Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Aroor	15
2	Thrikkunnappuzha	18
3	Ambalappuzha	29
4	Sakthikulangara	1
	TOTAL	63

In a stretch of area from Aroor to Kollam many processing plants and more than thousands of unauthorized peeling sheds are operating. In 2013-14, NETFISH conducted 63 PPC training programmes. The main emphasis during the programmes was given to sanitation & hygienic practices in the pre processing centre, hygienic

handling of fishery products, freshness of fish, contamination by improper handling, fish spoilage and microbes, importance of the use of ice, personnel hygiene, importance of export etc. Apart from the lecture classes, audio visual tools were also used during the training to convey the message more effectively. NETFISH leaflets and posters were distributed during the programmes. In the area from Aroor to Kollam, seven peeling sheds were selected and to them NETFISH supplied aprons, mouthpiece and hair net instead of stipend. In three peeling sheds, stipend money along with the contribution of peeling shed owners were utilized to construct peeling trays for peeling workers thereby could stop floor peeling in these sheds.

7.5.2.2. Special Programmes

a) Street-Plays

Sl.No	Selected Area/Harbour	No. of Programmes
1	Munambam	6
2	Ponnani	15
3	Bey pore	23
4	Puthiappa	12
5	Thoppumpady	15
6	Thottappally	5
7	Kayamkulam	5
8	Kollam	15
9	Vizhinjam	5
10	Munambam	5
	Total	106

During the year NETFISH organized 106 numbers of street plays in Kerala. Street plays based on the theme of fish quality management by practicing cleanliness in harbours, landing centres and boats and street plays highlighting the impact of juvenile fishing, pair trawling, use of high horse power engines in fishing vessels etc were organized at various harbours and fishermen villages. The street plays got good response from fishermen villages, landing centres and harbours.

b) Medical Camps

Two medical camps were conducted on 29/11/2013 and 31/03/2013 at Thoppumpady Fish-

eries harbour. The program was conducted to provide medical aid to fishermen, stake holders and the allied workers of the harbour and to preach tobacco free workplace. Check-up were done for Non Communicable Diseases (NCD), Blood sugar checking, Blood pressure, Skin Diseases, Pulmonary function, Vision and General health. Deputy Medical officer and Doctors of Thaluk Hospital and General hospital, Ernakulam carried out medical check-up at the harbour. A total of 540 beneficiaries attended the two medical camps.

c) Harbour Clean-up Programme

A harbour clean-up programme was conducted at Thoppumpady Fisheries Harbour. Members of all associations at Thoppumpady Fisheries Harbour co-operated with the programme. Fourteen cleaning workers were also engaged for the program. Cleaning aids were procured on rent, and the workers of the harbour contributed the cleaning materials. Fishermen, association members and other stakeholders of the harbour participated in the programme and expressed their desire to conduct this type of programme every month for maintaining the hygiene standard of the harbour.

d) Mass Communication Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Munambam	38
2	Puthiyappa	1
3	Thoppumpady	18
	Total	57

Mass communication through mike announcement is helpful when number of fishermen is more in a harbour. Such type of programme is conducted at peak activity hours when fishermen are busy at harbours. Fishermen can listen to the announcement while being engaged in their activity. The campaign include announcement on different aspects of conservation and hygienic handling of fish and some special messages which need to be conveyed to fishermen. Mass communication programmes were mainly conducted at Munambam and Thoppumpady harbours as large

number of fishermen are working from early morning to evening in these harbours.

e) Special Exhibition & Street-play

Sakthikulangara is one of the major Fishing harbours in Southern Kerala. Majority of the people living around the harbour belong to fishermen community and are depended on the harbour for their livelihood. Seven seafood exporting companies and 13 PPCs are operating from Sakthikulangara area alone. St. John De Britto Church is the main church in the area and around 5000 fishermen families are centred around the church. As part of X'mas and New Year celebrations the church conducts X' mas Sangamam, a get together for all families. The church authorities requested NETFISH to organise a programme on 'X'mas sangamam during this year. NETFISH conducted 5 street-plays based on the impact of juvenile fishing and pair trawling. NETFISH also participated in exhibition programme conducted by church in which NETFISH posters were exhibited and NETFISH leaflets and notices endorsing MPEDA subsidy schemes were distributed. MPEDA Ornamental fish exhibition was also incorporated along with NETFISH exhibition. The occasion provided an opportunity to convey NETFISH messages not only to fishermen but to their families also.

7.5.2.3. Other Activities

Special meetings

- Conducted Stake holders meeting at Thoppumpady and Munambam Fisheries harbour
- Trawl net boat owners meeting at Thoppumpady Fisheries harbour
- Discussed with administrator, ATM, Electrical Engineer and AE about the arrangements of FVO visit at Thoppumpady and Munambam harbours
- Meeting with Gillnet Boat owners Association was held at Thoppumpady Fisheries harbour
- Meeting with all the section conveners at Thoppumpady and Munambam Fisheries harbour
- Meeting with stake holders and officials of Sakthikulangara & Neendakara Fisheries Harbour.

- Continuous meetings with stake holders and fishery officials were carried out for about a month at Munambam fisheries harbour.

7.5.3. Outcomes achieved during the year

- ❖ In Munambam harbour smoking, spitting and drinking tea in auction halls has stopped.
- ❖ In Munakkakadavu and Chettuva cleaning programmes are being organised on regular basis
- ❖ At Bepore harbour use of bamboo baskets has been completely abandoned
- ❖ At Puthiyappa sale of cigarettes and beedies at harbour has been stopped. Crates are being regularly washed and are stored away from auction hall. Harbour premises are cleaned in a proper way. Auction hall's floor is being regularly washed by stake holders.
- ❖ NETFISH supplied plastic baskets, shovels etc. during the year to Chetuva, Munakkakadavu and Vellayil harbours (Calicut). Hygiene condition of harbours has improved a lot by continuous monitoring and training programmes conducted by NETFISH.
- ❖ Thoppumpady and Munumbam Fisheries harbour got EIA approval
- ❖ Ten numbers of electric ice crushers were installed at Thoppumpady Fisheries Harbour utilizing the funds allotted by Ministry of Agriculture
- ❖ Thoppumpady Fisheries Harbour started using raised steel platforms for auctioning of fish. Stainless steel raised platforms and stainless steel trays are used by fishermen for fish auction.
- ❖ Fishermen have started using gloves, shovels & trolleys while handling fish at Thoppumpady Fisheries Harbour.
- ❖ Sign boards in Malayalam and Tamil Languages were fixed at Auction hall of Thoppumpady Fisheries Harbour.
- ❖ Thoppumpady Fisheries Harbour boat owners agreed to start punching system for boat.
- ❖ Secretary, Agricultural Ministry visited Thoppumpady Fisheries Harbour and was satisfied with the available facilities and agreed to extend more support for harbour development from the ministry.

- ❖ Engineering Division, Kollam agreed to construct a separate building for rehabilitation of the women fish vendors in Neendakara Fishing Harbour.

7.6. KARNATAKA & GOA

7.6.1. General Introduction

Karnataka and Goa together have a coast line of 405 km with a continental shelf area of 47,000 sq.km and 10000 ha. of potential brackish water resources for aquaculture. In the state of Karnataka there are 6 major harbours and 24 fish landing centres and jetties. Karnataka has 3.12 lakh fisher population and 475 active primary fishermen cooperative societies. Karnataka's fishing fleet comprises of 3454 mechanized fishing vessels, 5697 motorized boats and 5686 traditional boats. The total marine fish production in Karnataka is estimated to be around 3.78 lakh tonnes. The fish production from the state contributes to about 5 to 6% of India's total fish production. Fish exported from the state during last year is about 0.95 lakh tonnes valued at Rs. 1080 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 occurrence of solar prawns in tonnes for a short period from July-August is an important feature of the Goa coast. The fish production from Goa is around 0.7 to 0.9 lakh tonnes. Goa has 71 fishing villages. 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 centres and 14 fish landing ramps. Total fish exported from the state is about 0.55 lakh tonnes valued at Rs. 600 crores.

7.6.2. NETFISH activities in the Karnataka and Goa

The areas selected for conducting NETFISH extension activities included Mangalore, Malpe, Honnavar, Tadri and Karwar in Karnataka and Malim and Cutbund landing centres 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 etc are available in this harbour. Malpe fishing harbour is situated in Udupi district, and popularly known as "all-seasons harbour". Harbour is managed by the Department of fisheries. There are 3 auction halls, good wharf and protected berthing place. Malpe is known for its deep sea trawlers in the state. Honnavar harbour is situated on the bank of Sharavathi river in Uttara Kannada District. This harbour is being developed by NFDB fund and construction work is in progress. Tadri harbour is in Uttara Kannada district located on the bank of river Aghanashini and is known for day trawling and purse seining. Karwar fishing harbour is monitored by the state fisheries department. This fishing harbour is a natural harbour located near Karwar port. Malim fish landing centre is monitored by Mandovi fishermen association located on the bank of Mandovi river in North Goa district. Cutbund landing centre is managed by Cutbund fishers association and is located in South Goa district.

During the financial year 2013-14, NETFISH conducted 258 extension programmes comprising of 210 regular awareness classes and 48 special programmes including 14 Street plays, one harbour clean-up programme, two Rallies, Two Mass communications and ten other special programmes. The number of beneficiaries from regular programmes was about 8000 whereas the special programmes have benefitted more than 5000 people. Special attention was given to popularize MPEDA's subsidy schemes during the training programmes. Apart from these programmes, a series of consultative meetings and discussions of stake holders (10 nos.) were held and a state level workshop on the topic "Towards sustainable fishing" was successfully organized. New linkages were established with National Centre for Sustain-

able Coastal Management (NCSCM, an autonomous centre of the Ministry of Environment and Forests, Government of India) by co-coordinating a workshop on "Mapping of Fishing space for fishing Communities in Karnataka". Also, set up an association with Coastal Development Authority (Karavali Abivridhi Pradhikara) of Mangalore for organizing trainings in newly constructed fish markets of Karnataka.

7.6.2.1. Regular Programmes

a) Fish Quality Management Programmes at landing sites and fishermen villages

Sl.No	Selected Area/Harbour	No. of Programmes
1	Mangalore	29
2	Malpe	27
3	Gangolli	7
4	Honnavar	10
5	Tadri	9
6	Karwar	22
7	South Goa (Talpona, Cutbund)	10
8	North Goa (Malim)	10
	Total	124

During 2013-14, in fishing harbours, landing centres and villages, a total of 124 programmes were conducted for educating fisher folks on fish quality management. Targeted Beneficiaries of the programme included fishers, grass root level fish workers, crew member of fishing vessels, workers engaged in loading and unloading of ice, merchants & agents in fishing harbours, packing persons etc. These programmes included lectures on spoilage of fish, role of ice in fish preservation, handling of fish and usage of ice, personal hygiene, hygiene at 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 displaying NETFISH posters. Documentary & Animation Films were also shown to the participants. MPEDA Subsidy Schemes were popularized among trainees in the programmes. For bringing

about improvements, Fishermen Aid was given which included hand gloves, hygiene kits (consisting of nail remover, tooth brush, ear buds, tooth paste & soap), plastic sheets for dumping ice etc. Feedback from trainees was also collected as a part of the programme.

b) Sustainable Fishing/Conservation Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Mangalore	10
2	Malpe	10
3	Gangolli	4
4	Honnavar	4
5	Tadri	5
6	Karwar	14
7	South Goa(Talpona, Cutbund)	5
8	North Goa(Malim)	5
	Total	57

During 2013-14, a total of 57 sustainable fishing programmes were conducted. Each programme was organized for a group consisting of 30 targeted beneficiaries from Boat owners, fishers, crews of fishing vessels and members and staffs of fishery co-operative societies. Lecture on juvenile fishing, by-catch reduction, turtle conservation, importance of ban period, mangrove plantation, responsible fishing and mesh size regulation were given to 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.

c) Onboard Programmes

A total of 12 training programmes were conducted onboard fishing vessels during the year. Each programme was attended by a group of 15 fishers including crew members of fishing vessel, skippers and workers of fishing vessels. Awareness classes on spoilage of fish, role of ice in fish preservation, handling of fish and usage of ice,

Sl.No	Selected Area/Harbour	No. of Programmes
1	Mangalore	2
2	Malpe	1
3	Gangolli	1
4	Honnavar	3
5	Tadri	3
6	Karwar	2
	Total	12

personal hygiene, and hygiene of fishing vessels, responsible fishing and importance of mesh size regulation were given to the participants. Practical demonstration on hygienic handling of fishes onboard was also conducted. 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. Fishermen Aid given for bringing improvements included distribution of Hand gloves and hygiene kits.

d) Pre-processing & Processing Centre Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Mangalore	9
2	Malpe	5
3	Tadri	1
4	Goa	1
5	Cochin (Torry Harris)	1
	Total	17

In Karnataka, most of the PPCs and processing plants are located around Malpe and Mangalore. During the year, 17 training programmes were conducted in the Pre-processing and processing centres where the targeted Beneficiaries included drivers, cleaners, workers, QC personnel, supervisors and production managers. Each programme was organized for a group of 30 beneficiaries. Spoilage of fish, role of ice in fish preservation, handling of fish and usage of ice, personal hygiene etc were the different topics discussed in these programmes. Demonstration of icing of fish, cleaning of PPCs & PPs and hand

West Bengal



Rally on Hilsa Conservation



Medical camp at Khejuri



World Fisheries Day Celebration



Cycle rally conducted on World Oceans Day



Mass boat clean-up programme



Distribution of trolleys in Digha



Hands-on training on Value added products



Awareness programme on Alternative livelihood

Odisha



Awareness Wall Painting at Dhamra Harbour



World Oceans Day celebration



Workshop on Towards Sustainable Fishing at Bhubaneswar



Relief camp for Cyclone affected people



Pre-processing Centre Training Programme



Planting Casuarina during Mangrove Plantation Campaign at Chilka



Dress code provided to cleaning workers at Paradeep harbour



Demonstration of Mesh Size during Onboard Programme

Andhra Pradesh



Pasting of NETFISH stickers on fishing boats



Onboard training programme



Demonstration programme on rack drying at Pudimadaka



Introduction of PVC shovels in Visakhapatnam



Awareness programme for pre-processing workers



Conservation training programme



World Oceans day celebration at Vizag



School children awareness programme at Kakinada

Tamil Nadu North



Awareness programme for dryfish workers



World Oceans Day Rally at Chennai



Street Play



Statelevel Workshop



Pre-processing Centre Programme



Onboard Programme



NETFISH in News



Harbour clean-up programme at Pazhayiar

Tamil Nadu South



World Oceans Day Celebration



Street Play in Annainagar



Statelevel workshop on Towards Sustainable fishing



School Children awareness programme



Pre-processing centre programme



Onboard Training programme at Chinnamuttom



Fishermen Programme at Mandapam



Dry fish training Programme

Kerala North



Pasting of Stickers against Juvenile fishing



Fishermen Awareness programme



Distribution of Stainless steel shovels



Distribution of plastic basket



Celebration of World Oceans Day



Awareness class in collaboration with Coast Guard



Statelevel Consultative Workshop



Stakeholder's meeting

Kerala South



Street Play



PPC workers with Aprons, mouth piece & head net supplied by NETFISH



Free Medical Camp at Thoppumpady



Fishermen awareness programme



Exhibition stall installed at Kollam



Distribution of trolleys at Thoppumpady



Distribution of Ice trays at Thoppumpady



Distributing NETFISH stickers against juvenile fishing

Karnataka & Goa



Training for fishers working in fish markets



Street play at fishing villages



Processing Center Programme



Square mesh demonstration during onboard programme



Medical camp at Honnavar



Harbour clean-up on World Fisheries Day



World Oceans Day Celebrations



Workshop on Towards Sustainable Fishing

Maharashtra



Awareness on Oyster farming



World Oceans day



Workshop on crab fishery



State level workshop



Processing Center Programme



Plastic Basket Distribution



Mangrove Plantation Programme



Dry fish awareness

Gujarat



Rally at Veraval



Processing Center programme



Meeting with Fishery Stakeholders



Onboard Programme



Awareness Programme for dryfish workers



Harbour Clean-up at Mangrol



Street Play



School Children programme

washing procedure was also done for the participants. The programmes emphasized on sanitation & hygienic practices in the pre-processing centre, hygienic handling of shrimps, uses of ice, fish spoilage and the role of microbes, freshness of fish, personal hygiene, uses of change room, time and temperature abuse, GMP's, SSOP's etc. NETFISH leaflets on hygienic handling of fish in pre-processing centres were distributed to the trainees. Feedback of the trainees was collected after each training programme.

7.6.2.2. Special Programmes

a) Street-plays

Sl.No	Selected Area/Harbour	No. of Programmes
1	Malpe	2
2	Honnavar	4
3	Tadri	4
4	Karwar	4
	Total	14

Street Play is a powerful extension tool to generate awareness among fishermen, farmers and general public. In Karnataka, Bantadeva Yuvaka Sangha performed 14 street plays of NETFISH on Fish quality management, conservation of marine resources & marine pollution. Topics covered include cleaning of beaches, landing centres and fishing harbours, handling of fishes and ice in landing centres and harbour, proper icing of catch, avoiding rusty and unclean shovel, personal hygiene of fisher folks, conservation of mangroves, avoiding juvenile fishing, 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.

Audience participation and response towards the programme was encouraging. Many local fisher leaders were asked to inaugurate the play. Fishers, local panchayat members and local youth organizations were called upon for organizing the street plays. On an average 200 spectators were there for a single street play. Conservation message was the most popular one among the lot and

many organizations requested NETFISH to organize this type of programme in their locality.

Street plays were organized at Belekeri and Belambar fish landing centres, Ankola. Fishers of Belekeri and Belambar fish landing centres were the main audiences. Street plays were performed by Bantadeva youth association. Entire programme was co-ordinated by Ureka Trust, Sirsi in association with Belambar and Belekeri fishers associations. Street plays were centred around the topics of Juvenile fish catch and its impact, Conservation of Turtles and Mangrove plantation, Mesh size regulation and Eco friendly fishing methods. Street plays attracted more than 300 people. Fishers felt that conservation is need of the hour. Government should impose ban period uniformly throughout the west coast. Big vessels and high speed engines should be banned throughout the country.

b) Medical camps

Sl.No	Date	Selected Area/Harbour
1	18.10.13	Honnavar
2	31.10.13	Honnavar

The main objectives of Medical camps were (a) to generate awareness on health and fitness among fishers; (b) to help poor fisher community to understand and follow guidelines for proper health; (c) to check for any possible health problems like B.P, sugar etc.; and (d) to provide simple medicine, follow instructions and maintain good health in the family. Two medical camps were organized in association with Snehakunja Trust, Honnavar. On 18/10/2013, Assistant Director attended NETFISH free medical camp organized at Honnavar fishing harbour. He suggested the NGO members to concentrate more on the programmes for male fishers. Shree Ravindra Shetty briefed the gathering about plastic pollution. Dr. Veena, urged the gathering to maintain personal hygiene for better health. Medicines were given free of cost. About 120 beneficiaries attended the programme. Fishers requested NETFISH to conduct more camps. Targeted Beneficiaries of the programme were fish workers and crew members of fishing vessels.

c) Procession/Rally

Sl. No.	Date	Programme	Selected Area/ Harbour
1	08-06-2013	Procession	Belekeri
2	19-02-2014	Mike announcement	Mangalore
3	20-02-2014	Mike announcement	Malpe
4	26-02-2014	Mike announcement	Mangalore
5	27-02-2014	Mike announcement	Malpe

Procession/Rallies along with mike announcement were carried out at Belekeri, Mangalore and Malpe. These programs generate tremendous interest among the fishers and motivate them towards better fishing practices. Mike announcements are beneficial even to fishers who are engaged at work.

d) Door to door programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Mangalore	6
2	Malpe	4
3	Belekeri	1
	Total	11

To educate the fishers on fish quality management, NETFISH conducted door to door programmes in Mangalore and Malpe, so that each one can pass on the message to their friends and relatives engaged in fishing and allied activities. The programmes were conducted as a preparation to FVO mission visit to India. Handbills on fish quality management and personal hygiene were distributed during the programme.

A door to door programme was conducted at Belekeri Fish Landing Centre, Belekeri, Ankola. SCO, NETFISH, Smt. Nidhi Naik, Field co-ordinator, SCODWES, Shree Uday R Nayak, NGO, Shree Rajiv Naik, Ureka Trust, Sirsi and local fishers participated in the programme. : Handbills on juvenile fishing were distributed among fishers of Belekeri and Belambar fish landing centres. Stickers with the slogan "stop juvenile fishing" were pasted on more than 200 fishing vessels.

e) Mass communication

Sl.No	Date	Selected Area/Harbour
1	8-6-2013	Belekeri
2	4-3-2014	Malpe

On June 8th 2013, a mass communication programme was organized on the eve of world ocean day celebrations held at Belekeri fish landing centre, Ankola. On 4th March 2014, another mass programme organized in association with state fisheries department and fishermen association, Malpe anticipating FVO mission visit to Malpe fishing harbour.

f) Other special programmes

Stakeholder's Meetings

During the month of June-July, 10 numbers of consultative meetings with stakeholders were organized at Malim, Vasco, Talpona, Shapora, Honnavar, Tadri, Gangolli, Karwar, Mangalore and Malpe. The major point of discussion was decline in marine capture fisheries. The possible reasons of decline of marine catch and solutions were scrutinized during the meetings and the recommendations from fishers of various regions were taken up for discussion in the state level workshop.

Workshop on "Mapping of Fishing space for fishing Communities in Karnataka"

On 17th March 2014, a workshop was organized at Surathkal in association with NCSCM, Chennai. The objective of the workshop was to map the coastal space traditionally used by the fishing communities and include them in developing an ICZM Plan for the region. Officials from state and central organizations, scientists, members of fisher associations and NGOs attended the workshop in which coastal fisheries including fish conservation topics and traditional fisher's problems were discussed.

Display of eco friendly fishing nets

Display of eco friendly bigger mesh size nets was organized at Dattaguru Kalyana Mantap, Belekeri, Ankola. Fishers of Belekeri and Belambar fish landing centres, local fishermen leaders, officials and NGOs participated in the programme.

The main objective of the show was to generate awareness among the fishers about the importance of mesh size. Few old and presently used fishing nets which were having a mesh size of more than 35 mm were displayed in the programme. Name of the fishing nets, its targeted catch and respective mesh size were properly labelled and displayed in the hall. Local fishermen leaders explained each of the nets and raised concern over the fact that majority of these nets are not seen now a days. Nets included gill nets, shore seine and trawl cod ends. SCO, NETFISH briefed the gathering about the importance of bigger mesh size fishing nets.

Essay competition on "Juvenile fish conservation" and Skit performance

These events were arranged at Dattaguru Kalyana Mantap, Belekeri, Ankola. High school children around 250 no, fishers of belekeri fish landing centre, NGOs associated with NETFISH, School development board members, and local body members participated in the programme. The main objective behind the event was to educate and the fisher children about the impact of juvenile fishing on environment. The topic was given to the students through the school administration a week before World Ocean Day celebration. About 30 students participated in the event. Top 3 essays were allowed to be read by the student participants. Complimentary prizes distributed by SCO, NETFISH and other dignitaries to all the participants. Students performed skits on "how we can save juvenile fishes" and "Fishermen having larger mesh size earning more money compared to the fishermen having smaller mesh size nets". The skit was an eye opener to the whole gathering. Concept of skit was planned by NGOs and managed by the school teachers.

Training Program on Quality management and hygiene in Fish Market

On 24/6/2013 a training programme was jointly organized by NETFISH and Coastal Development Authority. The training programme is organized in Bindoor fish Market which was newly constructed by CDA with the financial assistance from NFDB. Shree Ganapathi, Secretary, CDA inaugurated the

training programme. SCO gave a lecture on fish quality management and hygiene in fish markets. Shree Uday Nayak gave a special lecture on personal hygiene. Smt Radha Poojari, President of Bindoor village panchayath presided over the function. Smt. Gulabi, Vice President of the village panchayath, Shree Raju Poojari, member of Taluk panchayath and members of village panchayath attended the event. Shree Prabha Shankar Puranik delivered vote of thanks. More than 40 fisherwomen attended the training programme.

7.6.2.3. Other Activities

- ❖ On 16/11/2013, SCO attended a meeting on "Development of Malpe Fishing harbour" organized by the Department of Fisheries, Harbour division; Honorable MLA Shri Pramod Madhwaraj presided over the meeting. Other dignitaries Director of Fisheries, MD KFDC, JD fishing harbours, DD fisheries, AD EIA, local fisheries officials, fisher union leaders were also present. SCO stressed the authorities to remove the petty shops near auction centre, jetties and near loading and unloading area as per the EIA guidelines. Many decisions were taken to improve the harbour condition.
- ❖ During the month of January 2014 action plan was prepared for the preparation of EU visit after the consultations with JD, DD and AD Fisheries, Department of Fisheries. On 12th of February officers meeting was conducted including MPEDA, EIA, state fisheries, Mangalore City Corporation etc. All the officers present agreed to actively participate in the event and each officer agreed to do his part. A list of deficiencies discussed and shortlisted few in view of urgency. On 18/2/2014 Stake holders meeting organized with Malpe fishers, EIA officials, JD, DD and AD Fisheries, fishing harbour, Malpe, for preparation of FVO mission. On 20/2/2014 Stake holders meeting organized with Malpe fishers, EIA officials, JD, DD and AD Fisheries, fishing harbour, Malpe, for preparation of EU mission. On 4th of March 2014 stake holders meeting was conducted in Malpe fishing harbour in view of FVO mission. JD fisheries, ADs from Dept of Fisheries, State Coordinator,

NGOs and Malpe Fishers Association members were present.

7.6.3. Specific Outcomes achieved during the year

- ❖ Dumping of by catch on the wharf has been stopped in Mangalore.
- ❖ 75% decrease in dumping of fish on the floor was noticed in Malim harbour as a result of the continuous awareness programmes conducted by NETFISH.
- ❖ 90 % of fish drying practice near the wharf in Honnavar harbour has been stopped.
- ❖ In Malim harbour, 90% bamboo baskets are replaced by plastic baskets.
- ❖ In Mangalore fish workers, no longer, keep ice on floor.
- ❖ In Mangalore and Malim fishers started using trolleys.
- ❖ In Malpe fishing harbour, merchants started avoiding dumping of plastic crates in all the 3 auction halls and wharfs.
- ❖ Daily washing in Mangalore and Malpe fishing harbours and Malim fish landing centre is being strictly practiced.
- ❖ Fishers started using gloves while handling fish in Karwar fishing harbour where gloves were distributed instead of stipend by NETFISH.

7.7. MAHARASHTRA

7.7.1. General Introduction

Maharashtra is bestowed with 720 kms of coast line with a continental shelf area of 1,12,000 Sq Km. Contribution from fisheries sector to Maharashtra's GDP is 2.18 %. The narrow strip of coastal land between Sahyadri and the Arabian Sea in Maharashtra, called as Konkan region, is 50-70 km wide and it comprises of six coastal districts namely; Thane, Greater Mumbai, Mumbai Suburbs, Raigad, Ratnagiri and Sindhudurg. Maharashtra has total mangrove area 29,981 hectare includes 7,062 ha in Thane district, 5,459 ha in Mumbai Suburb district, 13,124 ha in Raigad district, 3,381 ha in Ratnagiri and 955 ha in Sindhudurg district. Fishing is one of the major foreign exchange earning activity in coastal regions of Maharashtra. Total number of fish landing centers and fishing villages in Maharashtra is

152 and 456 respectively. Total fisher population of the state is 386,259. Total fishing vessels in Maharashtra are 14,854 which includes 12,489 Mechanised and 2,365 non-mechanised, which is categorised based on fishing methods as 2,211 trawlers, 4,950 bag netters, 5,341 gillnetters, 415 purse seiners, 30 longliners, 43 rampanis and 1,864 others. Total fish production of the state during 2012-13 was 578,790.00 tonnes out of which 1,45,110 tonnes is from inland fishery and 4,33,680 tonnes is from marine fishery. Fish Export from the State during 2012-13 was 1,48,887 metric tonnes valued at Rs. 2,724 crores (US \$ 508.93 Million). Shrimps contributed to 37.94 % of foreign exchange earnings from seafood export from Maharashtra.

Maharashtra is on course to develop and upgrade fishing harbours in the state through various state and central fisheries agencies. Maharashtra Government has decided to upgrade its fishing harbours under the following three schemes:

- ❖ Centrally Sponsored Scheme: It is decided to develop 09 fishing harbours namely Karanja, Mirkarwada Phase II, Deogad (Anandwadi), Arnala, Harne, Sakharinate, Jeewana, Versova and Agardanda in Maharashtra under Centrally sponsored Scheme with a total estimate of Rs. 809.24 crores.
- ❖ Development of fish landing centres with the assistance of NABARD: State govt. has given administrative approval to the 20 sites with a total estimate of Rs. 102.37 crores. In this scheme NABARD's loan share is 95% and State share is 5%.
- ❖ Development of fish landing centres under Rashtriya Krishi Vikas Yojana: It is decided to develop 19 fish landing centres with a total estimate of Rs. 70 crores. Work completed at two sites in Worli and Mahul. Other 17 sites work in progress.

7.7.2. NETFISH activities in Maharashtra

During 2013-14 NETFISH selected Sassoon dock harbour and surrounding area, Navi Mumbai area, Ratnagiri area, Harne area and Sindhudurg area as the selected area to conduct extension training programmes. Sassoon dock is one of the

major fishing harbours from Maharashtra. Fishing vessels mainly from Raigad districts operate from this harbour. Sun drying of *Acetes* species is one of the major dry fish activities in Raigad district. It is important to generate awareness about conservation and hygienic handling of fish among fisher folks of Sassoon dock. Navi Mumbai area is characterized by lush growth of mangroves. Fishers from this area traditionally carry out aquaculture in about 800 acres of ponds. Mirkarwada in Ratnagiri area is another major fishing harbour in Maharashtra. Harne port is a major landing centre in Ratnagiri district. Sindhudurg area is the least polluted coastal district in Maharashtra. NETFISH has conducted survey of coastal area of the district to see the possibility to increase fish production through Mangrove mud crab project, Oyster farming, Mussel farming, etc at the same time to involve the fishers in conservation of environment in coastal area.

NETFISH conducted a total of 202 programmes including 186 regular programmes and 16 special programmes during the year 2013-14. NGOs namely Manav Vikas Sevabhavi Sanstha (MVSS), Thane, Nagarik Bahu Uddeshiy Seva Pratishthan (NBUSP), Sindhudurg and Jan Shikshan Sanstha, Raigad have assisted NETFISH for the smooth conduct of activities during the year. Most of the NETFISH activities were concentrated around conservation of marine environment and to find out group of fishers who will participate in projects to earn additional income by increasing fish production without abruption of coastal environment. NETFISH Maharashtra conducted several special programmes in collaboration with organizations like CMFRI, CIFT, UNDP project of Forest department of Government of Maharashtra, etc. Preliminary work for fisher group identification and site survey for Mangrove crab project was done by NETFISH in Sindhudurg district. NETFISH has conducted extension programmes among fishers in Sindhudurg district to generate awareness about conservation of coastal environment. Mangrove mud crab project started in Sindhudurg district in December, 2013. NETFISH has conducted extension programmes and survey in Navi Mumbai area where traditionally fishers are involved in culture of crab, sea bass, etc. in 800 acres of water spread

area. NETFISH has conducted mangrove plantation programmes by involving local fishers in Sindhudurg district and popularized MPEDA subsidy schemes among fisher community.

7.7.2.1. Regular Programmes

a) Fish Quality Management Programmes at landing sites and Fishermen villages

Sl.No	Selected Area/Harbour	No. of Programmes
1	Ratnagiri	19
2	Harne	19
3	Sassoon dock	8
4	Sindhudurg	7
	Total	53

NETFISH has conducted a total of 53 fish quality management training programmes in selected areas. As per the protocol lectures were delivered on fish quality management topic. This topic includes how to maintain personal hygiene during handling of fish, sanitation of fish contact surfaces by using clean water, detergents and sanitizers, to implement the cleaning schedule on fishing harbour and landing centres, use and importance of good quality ice in preservation of fish catch etc. NETFISH extension material like documentaries, animation films, leaflets and posters were used regularly to educate fishers on this topic. During each and every training programme State Coordinator had explained the MPEDA subsidy schemes in detail to avail insulated/ refrigerated fish hold, insulated fish boxes, ice plant, chilled room, cold storage, insulated vehicle, etc. State Coordinator had given a copy of details of MPEDA subsidy schemes to fisher co-operative societies in selected areas. NETFISH had listed out the fishers interested in MPEDA subsidy schemes and submitted the list to MPEDA, RO for further action.

b) Sustainable Fishing/Conservation Programmes

NETFISH has conducted a total of 84 programmes on Sustainable Fishing/Conservation in selected areas. During the programmes lectures were delivered on present situation of capture fish-

Sl.No	Selected Area/Harbour	No. of Programmes
1	Ratnagiri	22
2	Harne	5
3	Sassoon dock	7
4	Navi Mumbai	7
5	Thane	3
6	Sindhudurg	40
	Total	84

eries of the state as well as of the nation, the landings details of commercially important species, present crises in the capture fisheries like over-fishing, juvenile fishing, catching of buried/egg laying females, loss of bio-diversity, etc and the possible solutions to overcome these issues such as following mesh size regulation, extension of fishing ban period, use of by-catch reduction devices, use of square mesh net, mangrove afforestation etc. Fishermen were also given awareness on Maharashtra Marine Fishing Regulation Act (Maharashtra MFRA). NETFISH extension material like documentaries, animation films, leaflets and posters were used to educate fishers on this topic. Feedback was collected from participants after each and every training/awareness programmes.

c) Onboard Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Ratnagiri	8
2	Harne	4
	Total	12

NETFISH conducted a total of 12 onboard training programmes in selected areas. During the programmes lectures were delivered 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 like deck surfaces, fish holds, plastic crates, shovels, insulated fish boxes by using clean water, detergents and sanitizers, implementing a cleaning schedule on fishing vessels like to clean and sanitize the fish contact sur-

faces and the areas before and after fishing with the help of clean sea water, detergent and sanitizers. The use and importance of good quality ice in preservation of fish catch was also explained to them along with how to carry out hygienic handling, sorting and icing of catch. In practical session, the fishers were trained the proper method of cleaning fish contact surfaces using cleaning material, sorting of catch, discarding juveniles and brooders, hygienic handling etc. They were urged to avoid juvenile fishing to minimize the depletion of marine fisheries resources and to take one step ahead towards sustainable fishing. NETFISH extension materials were used for training and feedback was collected after each programme.

d) Pre-processing Centre Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Ratnagiri	8
2	Sassoon dock	8
	Total	16

A total of 16 Pre-processing training programmes were conducted in the selected areas, during which lectures were delivered on personal hygiene and sanitation to be maintained in the pre-processing centres. This included lectures on how to maintain personal hygiene during handling of fish, sanitation of fish contact surfaces in PPCs by using clean water, detergents, sanitizers and requirements of PPCs as per the international standards, etc. Implementation of regular cleaning schedule in PPCs before and after work was also emphasized. Importance of good quality ice in preservation of fish was also explained.

In Sassoon dock harbour area road peeling and floor peeling is a common practice. NETFISH has made special efforts to change these conditions. After continuous training to these workers, positive changes were observed in the personal hygiene of workers. In Ratnagiri area, peeling shed conditions are better than Sassoon dock area. The practice of floor peeling and cutting of fish in Ratnagiri has been stopped in many peeling sheds. NETFISH extension materials like docu-

mentaries, animation films, posters etc were used to educate PPCs workers on this topic.

e) Processing Centre Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Navi Mumbai	01
2	Thane	01
	Total	02

Training Programmes were conducted in Seafood Processing Companies. Power point presentations were made on hygienic handling of seafood in processing centres of Seafood industries. Training programmes were conducted in seafood industries namely Sassoon dock Matsyodyog Ltd., Dighode, Dist. Raigad and Seasaga, Rabale, Dist. Thane. Topics covered include personal hygiene and sanitation standard operating procedures (SSOPs) in Seafood industries. State Coordinator had discussion with Technologists and quality control staff in the Processing companies for conducting need based programmes. In their feedback, they expressed the view that such type of training is required in the industry to update and refresh the knowledge of workers, supervisors as well as technologists.

f) Dry fish Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Ratnagiri	4
2	Harne	2
3	Sassoon dock	8
4	Sindhudurg	5
	Total	19

A total of 19 dry fish training programmes were conducted in selected areas. During the programmes lectures were delivered on how to improve the quality of dry fish. This topic includes lectures on 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 un-

loaded by using clean water, detergents and sanitizers. To implement the cleaning schedule on fishing harbour, landing centres, and on fishing vessels and dry fish cemented platforms i.e. to clean and sanitize the fish contact surfaces and the areas before and after of drying activity. After every programme, fishers are informed about various subsidy schemes of MPEDA which can be availed by fishers. During last four years number of cemented platforms which were used for dry fish activities has been increased in the selected area. State Coordinator, NETFISH-Maharashtra has conducted a series of Meetings and awareness programmes in Raigad district with an intention to set up Solar Tunnel Dryer Units. Fishers were also interested in the venture but due to the lack of sufficient raw materials it was postponed.

7.7.2.2. Special Programmes

a) Mangrove Afforestation Programme

NETFISH has conducted a mangrove afforestation programme during which plantation of 5000 mangrove seedlings were carried out in 07 acres of land near estuaries in Tarkarli, Devbag and Rameshwar fishing villages with the volunteer participation of local fishers. This is the first time that such a programme was conducted by NETFISH in Maharashtra. Forest department, Govt. of Maharashtra provided seedlings of Avacinia officinalis and Avacinia marina for conducting the programme. Seedlings were transported to the site in small boats. The selected sites are like small islands where land is exposed for only three hours a day.

b) Workshop on "Mangrove Mud Crab Fisheries Improvement Programmes"

NETFISH conducted two workshops on improvement of crab fisheries. First Workshop was conducted at Moha, Raigad and another at Dhuriwada, Sindhudurg. The workshop at Moha, Raigad was conducted from 15.00-19.00 hrs on 21.06.2013 and the workshop in Malvan was conducted from 13.30 to 16.30 hrs on 22.06.2013. The Deputy Director, MPEDA, RO, Mumbai, State Coordinator, NETFISH, Dr. Anup Mondal Project Manager, RGCA, Tamil Nadu, Shri. Arul Raj, Hatchery Manager, RGCA, Tamil Nadu and Dr.

Vishnudas Gunga, JTO, Panvel, RC, Aqua participated in both the workshops. Presentations of RGCA and RC Aqua was followed by discussions lead by Deputy Director, RO, Mumbai and a follow up programme was agreed upon by workshop participants. The main discussion was on improving Mud crab fisheries and mud crab aquaculture. As an outcome of the workshop, following steps suggested for improvement of crab fisheries include Mangrove afforestation/ plantation programmes, ranching of crab seeds in Mangrove areas and taking up PEN culture on a pilot scale by SHG. It was decided that a Core Committee comprise the representatives of fishers society and government agencies be formed to take the programmes of mud crab fishery improvement forward in a participatory manner.

c) Other Special Programmes

Campaign against Juvenile Fishing

The landing of juvenile/ small size fish is a pressing issue in Maharashtra fisheries. The MPEDA, RO, Mumbai and NETFISH-Maharashtra conducted a Meeting in this regard with Auctioneers, Suppliers Associations on 19/12/2013. During the meeting NETFISH highlighted the outcomes of juvenile fishing which include rapid decline and collapse of fisheries in future, major buyers refusing to purchase from non sustainable fisheries and possibility of court cases through environmentalists resulting in severe restrictions in future. The auctioneers and suppliers associations were requested to initiate a self regulatory mechanism by deciding not to auction/ supply juvenile fish. However, it was pointed out that the ultimate customer is exporter/ especially Surimi producers and it would be better if they also make the decision not to purchase juvenile fish. Suggestion came that the concerned government agencies should take a decision not to allow the fish meal plants to use juvenile fishes. It is also pointed to demonstrate the juvenile fish excluder and by-catch reduction devices to assess the techno-economic feasibility of these devices.

Work Towards Upgradation Of Sassoon Dock Harbour

NETFISH & MPEDA has taken initiative to

speed up the process of Upgradation of Sassoon dock fishing harbour during 2012-13. We had organized a "Consultative Workshop on Development of Sassoon Dock Fishing Harbour" on 22nd November, 2012 at Conference hall, Vijaydeep, Mumbai Port Trust, Mumbai. The objective of the workshop was to bring all concerned Government departments' key officials and representatives of all stake holders concerned to the harbour on one platform to explain them the 'Sassoon dock fishery harbour improvement plan' prepared by CICEF, to discuss the various issues concerned to the development of Sassoon dock fishing harbour and to consider their views and ideas towards development of the harbour. In this workshop we suggested to form Core Committee. All stake holders expressed their gratitude for organizing this consultative workshop and avail them a platform to express their views for development of the harbour. Many stakeholders have shown interest to set up Management Committee in line with Munambam fishing harbour. State Coordinator, NETFISH-Maharashtra is also a member of the formed Core Committee. Meetings of the core committee were held during current year to discuss on how to utilize the sanctioned funds for effective development of the harbour.

Installing Signboards in Mumbai Harbours

Retro reflective boards (6'x4') displaying Do's and Don'ts in the harbour and small signboards (16"x16") 24 nos. with pictures and message were delivered at Mumbai harbours on 28.03.2014. In meetings conducted with Mumbai port trust officials, it was agreed to install these signboards in the Mumbai fishing harbours.

Preparation for FVO Mission

NETFISH State Coordinator had pre-assessment visit to both the fishing harbours in Mumbai Viz New Ferry Wharf and Sasoon dock on 06/02/2014 and 25/01/2014 respectively. Report on pre-assessment / deficiencies were communicated to the Mumbai port trust officials. Meetings were conducted with stake holders at New Ferry Wharf and Sasoon dock at Mumbai port trust office and Sea Food Suppliers Association Office respectively on 11/02/2014. State Coordinator, NETFISH ex-

plained about visit of FVO Mission and its importance for the industry. The deficiencies were noted for both the harbours and communicated to the Head Office. Mumbai port trust officials and Stake holders ensured their full cooperation in preparations for visit of FVO Mission.

Survey of Crab Culture Fisheries Farms in Navi Mumbai Area

Preliminary survey of Crab culture fisheries was conducted on 06th September, 2013 in the area such as Koparkhiarane, Airoli, Diva, Gavan Kopar, Gavan Aksa, Shivaji nagar, Chinchpada in Navi Mumbai. All these sites are involved in extensive crab culturing. A total of 07 sites lodging about 534 farms were visited. In 523 ponds there is only natural stocking and the harvesting is carried out 5 days in a week and the catch is sold in local markets. Approximate production from these ponds is around 312 tonnes.

Survey to Identify Group of Fisher Women & Suitable Sites for Oyster Farming

NETFISH - Maharashtra conducted programmes to identify group of fisher women who are interested in Oyster farming. NETFISH conducted these programmes along with other regular programmes. SHGs of fisherwomen from Wadatar expressed their interest in Oyster farming. Suitable sites for oyster farming were discussed with Dr. Asokan, Scientist, and CMFRI. An oyster farming unit was set up by CMFRI at Wadatar, Sindhudurg.

7.7.3. Specific Outcomes achieved during the year

- ❖ Fishing vessel owners are now interested in registering their vessels with MPEDA and availing MPEDA's various subsidy schemes.
- ❖ Marked improvement in Hygiene and sanitary conditions has been noticed in fishing vessels in all selected areas. Use of hand gloves during handling of fish has become a routine. Cleaning of deck, fish hold and baskets/crates before and after fishing is being practiced.
- ❖ Improvement in handling of raw material in Pre-processing centres has been noticed. Personal hygiene of workers has also improved.

- ❖ Fishermen are now sorting fish on plastic sheets in Chalmala in Raigad district.
- ❖ In Sassoon dock fishing harbour plastic sheets are now being used to keep the raw material on wharf area for auctioning.
- ❖ Fishers from Ratnagiri area asked NETFISH to distribute plastic baskets instead of stipend.
- ❖ Drying of fish is carried out on coir mesh nets and plastic sheets are being used in handling dried fish in Sindhudurg district.
- ❖ As a part of mangrove afforestation, 5000 seedlings were planted in seven acres of wetland in three fishing villages namely Tarkarli, Devbag and Rameshwar in Sindhudurg district.
- ❖ Mangrove Crab Project: Identification of fisher groups, sites identification and preliminary survey was carried out by NETFISH.
- ❖ NETFISH has identified group for Oyster farming demo unit setup by CMFRI at Wadatar, Sindhudurg district. (Photos).

7.8. GUJARAT

7.8.1. General Introduction

Gujarat has a long coastline of 1640 km covering a wide continental shelf area of 164000 sq km. falling within 0-50 m depth range. The State is presently divided into 25 revenue districts of which 13, viz., Kutchh, Rajkot, Jamnagar, Porbandar Junagadh, Amreli, Bhavnagar, Kheda, Anand, Bharuch, Surat, Navsari and Valsad are coastal districts. The Gujarat coast, including the two Gulfs, is blessed with physical features congenial to the development of fisheries. The major fisheries resources of the state include Elasmobranchs, Bombay ducks, Sciaenids, Shrimps, Seer fishes, Tunas, Threadfin Breams, Pomfrets, Catfishes, Lizard fishes, Bull's eyes, Carangids, Anchovies, Ribbon fishes, Croakers, Prawns, Lobsters and Cephalopods. Along the coastline of Gujarat 851 fishing villages/towns and 286 marine landing centres are located. As per census (2009-2010), the fishing fleet of Gujarat comprises of Trawlers: 7409, Gill Netters: 2053, Bag (Dol) Netters: 2447, FRP Motorised Boats: 10572, Wooden Motorised Boats: 83 and Non-mechanized: 12141 operating along the coastline. The Fishermen population of the state comprises of 3.28 Lakh marine fisher-

men, 2.31 lakh inland fishermen. Active fishermen population in the state is 2.18 Lakh. A total of 16.38 Lakh fishing gears/nets are being operated in the state. The Fish production during 2012-13 of the state was 6924881.79 tonnes and the fish export during 2012-13 was 241969.00 tonnes worth of Rs. 2928.51 Crores.

7.8.2. NETFISH Activities in Gujarat

During the review meeting Veraval, Mangrol, Porbandar, Vanakbara -DIU (UT), Dholai & Jakhau Fishing harbour and Umarsadi & Nargol landing center were selected for conducting extension training programmes. Veraval, Mangrol, Porbandar & Vanakbara-DIU are the major fishing harbours in the state, while Jakhau and Dholai are minor fishing harbours. Umarsadi and Nargol are two important landing centers in Southern Gujarat Coast. Member NGOs selected were (1) Shri. B.A Yadav Education & Rural development Foundation Trust for Veraval, Mangrol, Porbandar & Vanakbara Diu fishing harbour, (2) Setu Information Center for Jakhau and (3) Brackish Water Research Center for Dholai harbour, Umarsadi & Nargol Fish landing center. In addition Shivam Education and Charitable Trust, Keshod and Chamunda Vikas Trust, Veraval were selected as new member NGOs of NETFISH this year. The general fish quality management in almost all landing centers and harbours of the state does not match the expected standards. The unhygienic landing of catch is mainly due to lack of knowledge of sanitation & hygiene practices. Improper maintenance/cleaning of fishing vessel and unhygienic dumping & crushing of ice are also being practiced at harbours. Hence many more extension training programmes are needed in these harbours/landing centres to maintain the quality of caught fish and to earn better returns for the effort put in.

During the year 2013-14 NETFISH conducted 311 programmes in Gujarat which included 86 programmes on Fish Quality Management, 55 programmes on Conservation and sustainable Fishing, 17 Programmes for Processing workers, 20 Programmes for Pre-processing workers, 10 Onboard programmes and 12 programmes for Dry fish workers as regular programmes and 6

programmes for School Children, 2 programmes on Harbour & Boat Clean-up, 4 Door to door programmes, Rally, 2 programmes as World Ocean Day celebration, 1 programme on World Fisheries day, 1 State level Workshop and 80 Street Plays as special programmes. Fourteen State holder meetings were conducted during the year. Apart from these programmes, meetings with Dept. of Fisheries & Boat Associations were conducted for implementation of square mesh in Trawler at selected sites. Attempts were also made to stop line fishing at Vanakbara, Veraval, Mangrol and Porbandar by conducting meetings with Presidents of Fishermen community at various harbours. NETFISH in association with CIFT, Cochin has established a Model Fish drying yards at Umargam and provided training on preparation of good quality hygienic dry fishes. During the year almost all the programmes were directed against dragging/cutting of ice on dirty floor and we got good response at Veraval where association have installed one Ice Crushing station at point of entry of the fishing harbour. During meeting with stakeholders, Department of fisheries officials always accompanied us and were happy to receive suggestions, recommendations and comments on decline of marine catches and potential solutions.

7.8.2.1. Regular Programmes

a) Fish Quality Management Programmes at landing sites and fishermen villages

Sl.No	Selected Area/Harbour	No. of Programmes
1	Veraval	30
2	Mangrol	12
3	Porbandar	21
4	Vanakbara-Diu (UT)	13
5	Dholai	4
6	Umarsadi	5
7	Nargol	1
	Total	86

This year 86 Fish Quality Management Programmes were conducted at selected sites. The crew members, vessel owners, workers working in temporary booth, fishers engaged in loading-

unloading of vessels and selling of fish and fish transporters were the main targets for these programmes. During each programme a lecture is delivered on maintaining good personal hygiene while handling of fishes, importance of ice in keeping fish fresh, cleaning each and every fish contact surfaces by detergent & liquid soap, use of sodium hypochlorite as disinfectant, transporting fishes in insulated boxes, cleanliness of auction halls, booths etc before and after fish landings, covered transportation, use of good quality ice etc. A two way communication approach was followed considering that trainees are also part of programme. After the lecture, reading & explaining various leaflets was carried out. Displaying of Posters and Documentary/Animation Films were also an integral part of the programmes. In between every training programme, information on Subsidy Schemes of MPEDA was given to the participants. At the end of programme feedback from trainees was collected. NETFISH leaflets were distributed to the participants after each programme.

b) Sustainable Fishing/Conservation Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Veraval	16
2	Mangrol	8
3	Porbandar	16
4	Vanakbara-Diu (UT)	6
5	Dholai	3
6	Umarsadi	4
7	Nargol	2
	Total	55

In total 55 Conservation & Sustainable fishing training programmes were conducted at selected regions. Fishing vessel owners, captains, crew members, net makers and children of fishermen were the main targets of the programmes. A lecture was delivered first on maintaining the food web of marine ecosystem, mangroves plantation for Fish breeding, controlling fishing fleet to avoid

over exploitation, mesh size regulation as per Gujarat State Fisheries Act 2003, complete trawl ban during monsoon, building artificial reef etc. Almost all programmes had interaction sections. NETFISH leaflets, posters and animation on conservation were displayed and explained to the participants. Fishermen were also explained the benefit of using 40 mm square mesh net and a sample of net (cod end) was shown in each programme. In between each and every training programme the Subsidy Scheme of MPEDA was highlighted. NETFISH leaflets and posters on conservation were distributed during each programme.

c) Onboard Programmes

Sl.No	Selected Area/Harbour	No. of Programmes
1	Veraval	10
	Total	10

Ten onboard training programmes were conducted during the year. Fishing vessels owners, captains and crew members were the targeted groups. Lecture on maintaining good personal hygiene while handling fishes, role of ice in maintaining freshness of fish, cleaning the deck, fish hold and inside of the fishing vessel with detergent &/or liquid soap, 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 and hygienic handling of fish onboard was delivered in the beginning. The use of GPS and Fish finder were also explained to trainees. After theory section, practical section starts in which trainees are trained on washing & cleaning of the entire fishing vessel, crates, gumboot, gloves, shovel, fish hold etc. by providing detergent & liquid soap. After which the use of sodium hypochlorite as disinfectant is explained. As part of practical session a single haul is taken and fishermen are educated to avoid juvenile fishes, properly segregate caught fishes and using sufficient ice in crates. NETFISH leaflets & posters prepared for training were distributed and explained to trainees. At the end of programme feedback is collected from trainees.

d) Pre-processing Centre Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Veraval	12
2	Mangrol	2
3	Porbandar	2
4	Vanakbara-DIU	2
5	Dholai	2
	Total	20

Twenty training programmes on Sanitation and Hygiene Practices in pre-processing unit were conducted at selected areas. Individuals working in pre-processing of sea foods were selected as trainees. Trainees were given lectures on good personal hygiene while peeling activity, role of ice for keeping fish fresh, cleaning each and every fish contact surfaces by detergent & liquid soap, use of sodium hypochlorite as disinfectant, handling fishes in insulated boxes, cleanliness of utensils, tables, crates, drainage, walls, hall etc, importance of change room to prepare themselves before entering inside the plant etc. After lecture leaflet and posters prepared for trainings is explained and distributed to the participants. Documentary & Animation Films are displayed. Practical demonstration also is conducted for the trainees.

e) Processing Centre Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Veraval	10
2	Mangrol	1
3	Porbandar	2
4	Vanakbara-DIU	2
5	Dholai	2
	Total	17

During the year 17 training programmes on sanitation and hygiene practices in processing units were conducted at selected areas. Individuals working in sea food processing centres were selected as trainees. Just like pre-processing centres, a lecture was given in beginning on main-

taining good personal hygiene, cleanliness of utensils and work area, role of ice, disinfectants, sanitization, proper drainage etc. while processing the seafood products. After lecture distributing & explanation of various leaflet and posters prepared for training is carried out. Practical demonstration is also arranged for the trainees.

f) Dry fish Programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	Veraval	1
2	Umarsadi	5
3	Nargol	3
4	Umargam	3
	Total	12

Twelve dry fish training programme were conducted during the year. Fishermen/women engaged in fish drying activity in open sun were selected as trainees. Fishermen/women engaged in fish drying yards/company were also roped in. Umarsadi and Nargol landing center where huge quantity of Bombay duck and small size shrimps are landed and Veraval where several fish drying yards are available were selected for conducting the programmes. During each programme a lecture is delivered on how to maintain good personal hygiene while handling of fishes and washing of fishes, use of insecticides & pesticides, cleanliness of wire rope, grounds etc. Awareness was given on sun drying on rack/rank /wire rope etc, use of solar dryer, covering of fish dry dock yard to avoid entry of animals, packaging and storage of finished products, demerits of traditional methods, demerits of bamboo basket if used for handling fishes, benefits of using plastic baskets etc. Healthy interactions were maintained with the trainees throughout the programme. NETFISH leaflets and posters were distributed and explained to trainees. Apart from regular training programme three days of hands on training programmes were conducted on the use of model bulk fish drying yards established at Umaragam.

7.8.2.2. Special Programmes

a) Street-plays

Sl.No	Selected Area/Harbour	No. of Programmes
1	Veraval	32
2	Mangrol	16
3	Porbandar	16
4	Vanakbara-DIU	16
	Total	80

NETFISH Gujarat conducted 80 Street plays during the year in the selected areas. Shri. B.A Yadav Education & Rural Development Foundation Trust, member NGO of NETFISH was exclusively engaged for conducting street plays at major fishing harbours. Through street play programme NETFISH mainly addresses key issues like catching of juveniles of fishes, increasing strength of fishing fleet, fishing during monsoon period, cutting of mangroves and use of diamond mesh nets. Street plays also convey messages on various issues of fish quality aspects such as open transportation of fish, crushing of ice on unhygienic places, cleaning of fishing vessel before and after each trip, dumping of waste in side harbour water etc. Street plays also highlight the fact that fishing vessels should not be operated without registration or licenses of State fisheries/MPEDA/MMD/Port etc. More than 15000 people were benefitted by street play programmes during the year.

b) Harbour / Coastal clean-up

Sl.No	Date	Selected Area/Harbour
1	28/02/14	Veraval
2	01/03/14	Mangrol

On 28th February, 2014 NETFISH Gujarat conducted Harbour / Boat clean-up programme at Veraval Fishing harbour to generate awareness among fishermen community about the importance of cleaning Fishing harbours/jetties/market halls/temporary booths etc. The programme was graced by the presence of DD, MPEDA, RO Veraval, AD, State Fisheries Dept., Veraval and Vice President, Veraval Kharwa Sanyukt Machhimar Boat Asso-

ciation. Ten students from college of fisheries, Veraval (JAU) were invited and they actively participated in the programme to guide vessel crew member on importance of cleaning and hygienic handling of fishes. NETFISH has provided cleaning kits comprising of detergent powder, liquid soap and brushes to vessel Owner/Captain to clean their vessels, Dept. of fisheries also provided labour, wash pipe and bore well water for cleaning of vessels, market halls, jetties etc. As an outcome of the programme around 60 Fishing vessels, 70 temporary booths, two market halls and surroundings were cleaned. The President, CVT, NETFISH NGO members and team also made necessary arrangements to make the programme a success.

On 1st March, 2014 NETFISH Gujarat conducted another Harbour/Boat clean-up programme at Mangrol Fishing harbour. The programme was inaugurated by the President, Kharwa Samaj Mangrol. The President, Mangrol Fishermen Boat Association, officials of Dept. of fisheries, Mangrol, CVT, NGO Members and student of Social welfare also participated in the programme. NETFISH provided cleaning kits to vessel Owner/Captain to clean their vessels. Dept. of fisheries provided labour, wash pipe and bore well water for cleaning vessels, market halls, jetties etc. During the day around 40 Fishing vessels, 65 temporary booths, peeling sheds, one market hall and surroundings were cleaned. The President, CVT, NETFISH NGO members and team also made necessary arrangement for success of this programme.

c) Rally

On 3rd March 2014 NETFISH Gujarat organised a rally at Veraval Fishing harbour to address the issues of Veraval fishing harbour and attitude of fishermen in handling the valued sea foods, importance of cleanliness of crates, fishing vessels, Market halls, jetties, Fish transport vehicle etc among fishermen community in connection with visit of FVO mission. The campus of CIFT & CMFRI was selected as the starting point for the rally as it is located near to Veraval Fishing harbour. The Scientist In-charge, CIFT and the Scientist in Charge CMFRI welcomed the invited President

and others members of Veraval Kharwa Sayukat Machhimar Boat Association, Veraval, President, Bhidya Koli Boat Association and others members. State Coordinator welcomed officials of CIFT & CMFRI. Around 35 students from College of Fisheries, Veraval were invited to participate in the rally. NETFISH provided hand Posters, Sign boards, Banners etc to be displayed to all stake holders as the rally passes through the harbour. NETFISH distributed NETFISH-MPEDA logo printed head caps to all participants. During the rally students along with all invited participants shouted slogans on various issues of harbour to attract the attention of all the stake holders. The rally concluded at Campus of CIFT & CMFRI, Veraval. Around 80 participants including Scientist, Students, NGO members and Boat Association members took active participation in the rally.

d) School programmes

Sl.No	Date	Selected Area/Harbour
1	06/09/14	Vanakbara-Diu
2	11/09/14	Mangrol
3	17/09/14	Veraval
4	04/10/14	Veraval
5	10/10/14	Porbandar
6	13/12/14	Mangrol

Six programmes were conducted for School children in selected areas as a part of awareness programme on Conservation and Sustainable fishing for children belonging to fishermen community. During the programme a lecture is delivered on conservation of marine resource and sustainable fishing. Various fishing malpractices which result in destruction of marine resources are discussed with the students and they are encouraged to converse with their parents and request them to stop all wrong fishing practices for a better future of their children. The main aim of such kind of awareness programme is that students can communicate the future implications of issues like juvenile fishing, fishing during ban period, fishing with small mesh nets, overexploitation of marine resource and increasing fishing fleet with their parents. When children ask their parents to stop

malpractices in fishing it would have a much greater impact than any Govt. organization asking them to do so.

e) Door to door programme

Sl.No	Selected Area/Harbour	No. of Programmes
1	02/03/14	Veraval
2	03/03/14	Mangrol
3	03/03/14	Veraval
4	05/03/14	Vanakbara

In connection with FVO mission visit to India during March, 2014, NETFISH conducted door to door programme to educate all stake holders of fishing industry about FVO mission, their reason for coming and the preparations needed for facing FVO mission. NETFISH distributed notices addressing the major issues of the fishing harbour and precaution to be taken. Door to door programmes were conducted to inform the people about FVO mission and to prompt them to play their part in maintaining clean fishing harbours, fishing vessels, jetties etc. Door to door programme is also an important tool for building a healthy and trustworthy relationship with fishermen.

f) Statelevel Workshop on "Development of Fishing Harbours"

A workshop on Fishing Harbour Development in Gujarat was held at College of fisheries, Veraval on the afternoon of 14th August 2013. Power point presentations on 'The Present condition of Fishing harbours of Gujarat' and 'basic requirements of a model fishing harbour' were shown to the stakeholders who attended the workshop. This was followed by point by point discussion for the development of fishing harbours in Gujarat. The recommendations for development & basic requirements of fishing harbor in Gujarat were collected from the stakeholders during the workshop.

7.8.2.3. Other activities

Participation in "Krusha Mahotsav 2013"

On invitation from Department of fisheries Porbandar, State Coordinator, NETFISH-Gujarat has attended "Krusha Mahotsav 2013" at

Porbandar on June 10th 2013. In Krushi Mahotsav Department of fisheries organized a "Matsya Udhog Shibir". The main intention of Sibir was to educate fishermen about role of various agencies like MPEDA, NETFISH, CIFT, CMFRI, Coast guard, Customs, Marine Police, Special Operation Group (SOG) and higher officials of State Fisheries, Leader / President of various fishermen community etc. In Matsya Udhog Shibir, NETFISH State Coordinator explained the subsidy scheme of MPEDA to fishermen and also delivered a speech on Conservation of Marine Resources. The State Coordinator also briefed NETFISH activities in Gujarat as well as all other maritime states.

Stake holders meetings

Sl.No	Date	Selected Area/Harbour
1	27/06/13	Veraval
2	27/06/13	Mangrol
3	08/07/13	Veraval
4	11/07/13	Porbandar
5	23/07/13	Vanakbara
6	23/07/13	Navabandar
7	01/08/13	Porbandar
8	02/08/13	Okha
9	06/08/13	Jafarabad
10	08/08/13	Dholai
11	09/08/13	Umargam

Following the instruction of the Chairman, MPEDA, to conduct state level work shop on "Towards sustainable fishing" in all the maritime states, regional stake holders meetings were conducted. Official of MPEDA, NETFISH and State Fisheries jointly conducted the stake holder meetings and collected their suggestions, recommendations and comments on "Decline of Marine Catches". Meetings were also conducted with representatives of Boat Owners, leaders, experienced captains of the vessels and crew members to discuss in detail about reason for decline of marine catches. Deputy Director of Fisheries extended his full cooperation for conducting the meetings.

In connection with FVO mission's visit to India during March, 2014 meetings were held with stake

holders to inform them about FVO visit and to prepare them to face the same. Meetings were held with stake holders in major & minor fishing harbours. The meetings were attended by President and members of Boat Association, Sea food Supplier Association, Exporters Association, Ice Plant owners, and also Officials of State Fisheries & Port. Issues and drawbacks related to harbours/landing centers were discussed. Arrangements for repair work and cleaning of harbour were made.

Sl.No	Date	Selected Area/Harbour
1	10/02/13	Mangrol
2	07/02/13	Porbandar
3	12/02/13	Vanakbara
4	26/02/13	Veraval

7.8.3. Specific Outcomes achieved during the year

- ❖ Established model bulk fish drying yards at Umargam under NETFISH-CIFT dry fish Project for production of hygienic dry fish. Hands on training on drying the fish using dry fish yards were given to fishers.
- ❖ Fishermen adopted a new hygienic method for bunkering good quality ice for fishing at Veraval Harbour.
- ❖ Veraval Kharwa Sanyukt Machhimar Boat Association (managed by Sagarputra foundation) took charge of regular cleaning of fishing harbours and surroundings.
- ❖ It is observed that Mangrol fishing harbour fishermen are using cleaned fish hold/insulated boxes for holding Ice & Fishes.
- ❖ Mangroves planted at Randh landing centre, Kutchh are showing good growth.
- ❖ Pre-processing and processing workers are now becoming more and more concerned about their personal hygiene.
- ❖ It is observed that fishermen at Porbandar are using bigger mesh size net for catching fish.
- ❖ State Fisheries Department invited State Coordinator NETFISH to deliver a speech on conservation of marine resources on the occasion of Matsya Udhog Maha Sibir-Krushi Mahotsav 2013 organised at Porbandar.
- ❖ NETFISH State Coordinator was invited by

State Fisheries Department to make a presentation in a Seminar on "Conservation & Management of Coastal area of Kuchh" held at Rajkot.

- ❖ NETFISH-Gujarat made a valiant attempt to make all the fishing harbour neat & clean anticipating the visit of FVO mission.

7.9. WORKSHOP ON "TOWARDS SUSTAINABLE FISHING"

Depletion of marine fishery resources is one of the major concerns which require great attention, as people are taking far more fish out of the ocean than can be replaced by those remaining. A good share of our fisheries is being fully exploited and the rest is either overexploited or depleted. Poor fisheries management, inadequate fisheries regulations, lack of implementation and enforcement, unscientific fishing practices, all have collectively lead to a situation which if not regulated aptly would result in complete depletion of fishery resources and irreparable impact on marine biodiversity. There is growing evidence that overexploitation of commercially valuable species will also have a ripple effect on other species as they are a part of same ecosystem. For MPEDA, consequences of overfishing have been the focus of much scrutiny in recent years. Realizing that, it is high time to come up with solutions to conquer the situation; MPEDA have come forward to do their part for ensuring the sustainability of Indian Marine Fisheries.

As a step towards accomplishment of the set goals, MPEDA through NETFISH conducted meetings with various stakeholders groups at major harbours/landing centers in all maritime states of the country with a purpose to identify the major issues in fisheries sector at grass root level and to collect the opinions directly from various stakeholder groups. Major issues discussed include decline of marine catches, fishing ban/holidays, fishing by foreign vessels, overexploitation/capacity reduction in fishing fleet, unscientific fishing practices and juvenile fishing. In continuation of this effort, state level brainstorming workshops were organized at 9 regions in the maritime states of India, aimed to bring all the suggestions from stakeholders under a single platform and to jointly recommend solutions for the sustainability of marine

fishery resources (Table 1). The major objectives of the workshop were (i) to scrutinize the present situation of marine capture fisheries (ii) to analyze the major reasons behind decline of fish resources, (iii) to analyze the unscientific fishing practices prevailing in various parts of the state, (iv) to discuss various steps to be taken to avoid crisis in marine capture fisheries and (v) to discuss the need for amendment of MFRAs of the concerned states and strict implementation of rules and regulations, etc. Officials from State Fisheries Departments, MPEDA, NETFISH, Sea Food Association of India, eminent scientists from various fisheries research institutes, NETFISH member NGOs and representatives from various stake holder groups participated in these workshops and shared their ideas and views regarding the objectives of the workshop.

All the stakeholders unanimously agreed to the fact that our marine resources are declining and they attributed it mainly to the invasion of foreign fishing vessels, uncontrolled & unscientific fishing activities as well as lack of proper management by the competent authorities in the central and state arena. Major recommendations put forward during the workshops are:

- ❖ Carry out appropriate scientific studies on present marine resources and the reasons behind resource decline, especially from the area within 12nm.
- ❖ Introduce suitable fishing practices to safe guard the resources, based on scientific studies.
- ❖ Restructure the trawl ban period based on proper scientific study.
- ❖ Introduce ban period for all type of fishing vessels and for the entire east/west coast.
- ❖ Completely ban large foreign fishing vessels from fishing in our waters.
- ❖ Strictly regulate the number, size and engine power of fishing units operating in our waters.
- ❖ Regulate fishing vessel registration to control the proliferation of fishing vessels.
- ❖ Carry out an actual census of fishing vessels operating in our waters.
- ❖ Bring boat yards under the regulations and carry out timely monitoring.
- ❖ Fishing license should be given only for true fishermen.
- ❖ Ban import of high powered boat engines from

foreign countries.

- ❖ Regulate engine power to a maximum of 250 HP.
- ❖ Uniform engine power (HP) can be introduced along the entire coast.
- ❖ Implement strict regulatory measures by the Government to stop unscientific fishing practices like pair trawling, night trawling, padal/ kolachel fishing, etc.
- ❖ Ban trawling during night time and regulate fishing time as from 6am to 6pm.
- ❖ Coastal patrolling should be made more efficient.
- ❖ Strong network between coastal police, coast guard and state fisheries department is essential to prevent illegal fishing.
- ❖ It is high time to bring sufficient modifications in rules and regulations in order to save our fisheries sector.
- ❖ The law has to be implemented properly and those who are not following it should be punished hardly.
- ❖ Strictly implement measures like mesh size regulation, minimum catch size etc. to avoid destruction of juvenile fishes.
- ❖ Mesh size could be fixed to 20 mm and above, in all type of nets.
- ❖ Manufacturing and selling of small mesh sized nets should be regulated and net making factories producing small meshed nets should be banned.
- ❖ Juvenile fishing should be banned and minimum catch size can be introduced.
- ❖ Include representatives from fishermen and other stakeholders in the committees formed to study various issues in fisheries sector and consider their indigenous knowledge as well as opinions while decision making.
- ❖ Dept. of Fisheries should have control beyond 12 nm.
- ❖ Pollution in the coastal waters needs to be reduced through proper measures.
- ❖ Restoration activity for coral reef, seagrass and mangrove need to be carried out all along the coast.
- ❖ Set up a separate central ministry solely for fisheries.

The workshop thus provided a platform for discussing various issues pertained to the capture fisheries in the state as well as for identifying the essential steps to be taken for ensuring sustainable fishing. The effort taken by MPEDA & NETFISH

in holding such a kind of workshops for considering the indigenous knowledge and opinions of stakeholders was highly appreciated.

Sl.No.	State/Region	Date of Workshop	Venue of Workshop
1	Kerala	24.07.2013	Kochi
2	Maharashtra	31.07.2013	Navi Mumbai
3	Karnataka	06.08.2013	Udupi
4	Gujarat	14.08.2013	Veraval
5	West Bengal	16.08.2013	Kolkata
6	Andhra Pradesh	20.08.2013	Visakhapatnam
7	TamilNadu North	27.08.2013	Puducherry
8	TamilNadu South	29.08.2013	Tuticorin
9	Odisha	04.12.2013	Bhubaneswar

Date & Venue of the Workshops

7.10. CELEBRATION OF WORLD DAYS

a) 'World Oceans Day' 2013

World Oceans Day is observed every year throughout the world on 8th June, since 2002. World Oceans Day was officially recognized by the United Nations in 2008. Purpose of celebration of World Oceans Day is an opportunity to honour the world's oceans, celebrate the products the ocean provides such as seafood as well as marine life, and also a time to appreciate its own intrinsic value. This year NETFISH celebrated World Oceans Day in all the coastal states of the country in association with its member NGOs. The main theme of the programme was 'Save Oceans and Conserve the Fishery Resources by avoiding Juvenile Fishing'. The celebrations involved awareness meetings, rally, street plays, distribution of leaflets and pasting of World Ocean Day stickers.

West Bengal: NETFISH in Kolkata celebrated the auspicious day by conducting special awareness meetings and a cycle rally. The programme started with an awareness meeting at Dakshin Khejuri Banimancha High School, Khejuri, Purba Medinipur where 300 students participated. Significance of celebrating World Oceans Day, importance of ocean and its ecosystems, impact of juvenile fishing, over exploitation of fishes, abuse of destructive fishing gear, marine pollution etc were highlighted in the speeches delivered during meeting. Later, a cycle rally was conducted,

starting from the School to Shilaberia, Alipore bazaar, Nizkashba, Pachuria and back. About 80 participants including 60 students took part in the rally, wearing NETFISH caps with the slogan "Today's juvenile is tomorrows' wealth". After the rally, two small meetings were also organized at Alipore bazaar and Pachuria primary school to create awareness among students, fishermen & other villagers on marine pollution, mangrove vegetation, juvenile fishing, over exploitation of seas, abuse of destructive fishing gear, marine ecology, global warming etc. As part of the celebration, NETFISH stickers with messages "Do not catch juveniles" and "Today's juvenile is tomorrows' wealth" were also pasted on the fishing boats at Sankarpur Fishing Harbour, Purba Medinipur.

Odisha: In Odisha NETFISH organized a meeting at Balaramgadi, Balasore in which the fisherfolks were given the message to save our oceans. Balaramgadi Trawler Association Secretary, members from exporters association and Trawler association owners took part in the meeting. The importance of celebration of World Ocean Day, the ocean resources and its importance in existence of animal and plant kingdom were explained and discussed in the meeting. Ocean pollution and its impacts were explained and urged the gathered people to avoid marine pollution by any means. Other events of the day included distribution of leaflets like "juvenile fishing", "Pollution on fishing harbour" and "responsible fishing" to the participants and also distribution and pasting of World Oceans Day stickers.

Andhra Pradesh: The celebrations in Andhra Pradesh were organized at Fishing harbour, Visakhapatnam and the main events included pasting of stickers, distribution of handouts, display of NETFISH posters on conservation of marine resources, School children rally and Street plays. Officers of MPEDA, RO, Vizag and President of Mechanized boat owners association, boat owners, fishermen and MVP School Children took active participation in the programme. A rally, starting from Visakhapatnam Fishing harbour and ending at Collectorate, was conducted by involving 30 school children, holding banners & slogans on avoiding juvenile catch and NETFISH posters on

conservation of fishery resources. Handouts prepared in local language on "Our responsibility on saving oceans and fishery resources" were distributed among fishermen and general public. World Ocean's Day stickers of NETFISH were pasted at important offices and in fishing vessels by explaining them the importance of the day. The street play team followed the rally and conducted shows at important centers.

Tamilnadu: The celebration in Chennai started at Kasimedu Fishing Harbour with an awareness meeting on the ill effects of juvenile fishing, significance of World Oceans Day and the need for conservation of marine resources. NETFISH sticker with the slogan 'Today's Juveniles are Tomorrows Wealth' in Tamil Language was released in the function. This was followed by a public awareness rally for sensitizing the general public on marine conservation. The rally involved participation of around 50 volunteers from fishing community, students, research scholars and social activists. All the volunteers wearing blue T- Shirts with a Slogan "Save our Seas" walked from Labor Statue to Kannaki Statue with placards in their hands and shouting the slogans to 'Save Our Oceans'. A two page hand out in Tamil which narrates the importance of ocean and the necessity to avoid marine pollution and juvenile fishing was profusely distributed to general public. A signature campaign in support of making a promise was also held at the end point of the rally. All the volunteers and large number of general public signed on the banner as a promise to prevent marine pollution and keep the beaches clean.

In Tuticorin region the celebration of the World Oceans Day (WOD) was initiated in Tuticorin fishing harbour during the night hours when the fishermen and other stakeholders are present within the fishing harbour premises. The sticker having the message of 'stop juvenile fishing' was released in a meeting and initiated the pasting of stickers in the fishing trawlers. A special talk on juvenile fishing was also arranged in the programme by which the fishermen were informed about catch of undersized fishes which is violation of Tamilnadu Marine Fisheries Regulation Act. Also suggested the fishing community to come forward to implement the square mesh panel in trawl nets and insisted the fishermen to practice selective fishing

methods. The speaker also emphasized that fishing in the breeding spots need to be avoided by the fisherman. Apart from these, street play shows on subjects related to 'Stop Juvenile Fishing' were also conducted. In the middle of each street play show special talks on stop juvenile fishing were also arranged.

Kerala: The World Oceans Day celebration in Kerala was arranged at Munambam Harbour, one of the major harbours of the state. A special meeting was conducted as part of the celebration, in which awareness was given on present situation of marine fisheries in the state, decline of marine resources and juvenile fishing. The gatherings, including fishermen, net menders, harbour worker's union members etc, were urged to work for the sustainability of marine fisheries resources. A street play show depicting messages on fish quality management and conservation was arranged in the harbour which attracted huge crowd. On the day NETFISH released World Oceans Day sticker with messages "Stop Juvenile Fishing" and "Today's Juveniles are Tomorrow's Wealth" printed in local language. These stickers were pasted on all fishing vessels. Leaflet on juvenile fishing was also distributed to the participants.

Karnataka: In Karnataka the World Oceans Day celebration consisted of events such as Rally, Mass communication programme, School Programme, Door to Door programme and Street Plays. The programme started with a meeting at Belekeri Govt. High school, Belekeri, Ankola. Around 250 School children, fishers of Belekeri, School development board members and school teachers attended the programme. The children were explained about the importance of conserving Juvenile fishes. The school head master flagged off the rally which started from the school and moved towards the fish landing centre by covering important streets of Belekeri fish landing centre. During the rally, children shouted slogans such as " Stop killing juvenile fishes", " Conserve the fishery resources for future generation", "Today's juveniles are tomorrow's wealth" etc. Children also carried hoardings related to conservation and sustainable fishing. The rally was followed by a mass communication programme at Belekeri fish

landing centre by which the fishers of Belekeri and Belambar fish landing centres and local fishermen leaders were made aware about the importance of mesh size regulation. Different types of fishing nets with different mesh sizes used for catching specific fishes were displayed in the programme. Then a stage function was arranged which was attended by around 250 school children, fishers of Belekeri, School officials. Fishermen leader and Chairman of Belekeri fisheries co-operatives society urged the fishers to limit the pollution by avoiding throwing unused nets and plastics into the sea and conserve the fishes for future generation. Essay competition on "Juvenile fish conservation" was conducted for the children and prizes were given to all the 28 students who participated in the event. Fisher students performed skits on "how to save juveniles?" which attracted the whole gathering. Special talks on Juvenile fishing, use of BRDs, use of square mesh at trawl cod ends, ocean pollution and biodiversity in sea were also arranged as part of the programme. Handbills regarding juvenile fishing were distributed among fishers of Belekeri and Belambar fish landing centres by door to door programme. Stickers having the slogan "stop juvenile fishing" were also pasted in more than 200 fishing vessels. Street plays were conducted in Belambar and Belekeri fishing harbours and video shows on NETFISH documentaries and animation movies were also conducted as part of the celebration.

Maharashtra: Fishers from Harnei fishing village actively participated in the NETFISH's World Ocean Day celebration arranged at Harnei fishing village and Harnei port. A bike rally was conducted as part of the celebration, which started from Harnei fishing village and preceded to Harnei port jetty area and back to the village. About 57 fishers wearing NETFISH T-Shirt printed with World Ocean Day messages took part actively in the rally. Slogans such as 'keep beaches clean' and 'do not throw plastic waste in to the sea' were also displayed as part of the rally. The rally was accompanied by mike announcements on various topics related to juvenile fishing, marine pollution, marine conservation etc. Banners with messages of "Stop juvenile fishing" and "Today juveniles are tomorrow's wealth" were also fixed at public places during the programme.

Gujarat: NETFISH in Gujarat celebrated World Oceans Day by arranging special awareness meetings at Veraval and Umergaon. At Veraval officials of Dept. Of Fisheries, CIFT, CMFRI, President SEAI, President of Various Boat owners association of Veraval, DD and AD, MPEDA RO Veraval attended the programme. Active crew member as well as boat owners and captain of the vessel also participated in the function. Speeches and presentations were conducted on the themes 'Stop juvenile fishing', 'effect of bottom trawling', 'over fishing', 'species depletion', 'juvenile fishing and it's impacts', 'role of mangroves in Ocean web cycle', 'mesh size regulation' and 'ocean pollution'. Leaflets/Pamphlets were distributed and sticker for fishing vessel cleanliness and sticker for world ocean day celebration were pasted as part of the programme. President and Vice President of Bhidya Koli samaj Boat association made "Sankalp" with all the participant that they will not catch Juveniles while and will implement 40mm square mesh cod end in trawler to escape the juveniles.

Similarly, another programme was arranged at Umargaon where the President and Chief Officer of Umargaon Nagarpalika, President of Boat Owners Association of Umergaon-Nargol, President of Machi Samaj Nargol and Assistant Superintendent of Fisheries of Fisheries Training Centre, Umergaon attended the function. NETFISH documentary on conservation of fishery resources was shown in the programme. The coastal community and fishermen were urged to conserve the fishery and marine resources for the upcoming generation by following responsible fishing practices, conserving mangroves, and by keeping the coast and sea clean from plastic and other debris.

b) World Fisheries Day, 2013

November 21st is celebrated as "The World Fisheries Day" by the fishing communities around the world to highlight the importance of maintaining the world's fisheries. Besides overfishing, mechanization, unethical and unsustainable fishing methods have resulted in depletion of fish stocks. The World Fisheries Day facilitate highlighting these problems in fisheries and recognizing the importance of water and the lives it sustains, both in and out of water. NETFISH recognises the importance of such occasions and had orga-

nized a few special campaigns to mark World Fisheries Day celebrations.

In Gujarat, NETFISH conducted a debate competition at Porbandar on the topic "Catching Juvenile fishes by fishermen - a blessing or curse". The aim of the programme was to create a platform for the members of fishermen community to understand the significance of World Fisheries Day, the impact of juvenile fishing and the need for protecting fishing industry from crisis. The entire fishermen community members from Porbandar, officials from Department of Fisheries and NGOs and members of Fisheries Cooperative Societies took active participation in the programme. The function was inaugurated jointly by Mr. Premjibhai Modi, leader of fishermen community and Mr. Jayesh Toraniya, Superintendent of Fisheries. Around fifteen participants from fishermen community took part in the debate competition on the given subject matter. During the competition the participants passed to the audience messages such as 'increase mesh size for the escape of undersized fishes', 'strictly follow State Fisheries Act', 'do not introduce any new fishing vessel at least for a few years' and 'completely ban fishing during breeding time'. At the end of the competition, there was a live discussion on the above said subjects and all the fishermen and fisherwomen agreed to the fact that Juvenile fishing has to be stopped for their better future. The leaders and members of fishermen community appreciated NETFISH in arranging such a kind of innovative programme and to introduce them to World Fisheries Day. Later prizes were distributed to the winners as well as to all other participants. President of Shivam Education & Charitable Trust, Keshod, President of Chamunda Vikas Trsut, Veraval, President of Samudrik Mahila Credit Society, Porbandar, President of Kharwa Samaj, Porbandar and President of Boat Association, Porbandar extended their wholehearted cooperation to make the programme a grand success.

NETFISH in Karnataka along with member NGO, SCODWES, organized an awareness meeting and clean-up programme at Muduga, Karwar in view of World Fisheries Day. Deputy Director of fisheries, Uttara Kannada District, Karwar inaugurated the day's functions. The programme was presided over by the President of Trawl Boat Union, Muduga, Karwar. AD fisheries, Muduga fishing

harbour, Karwar, Ex. President of Trawl Boat Union, Muduga, Karwar and Fishers of Muduga fishing harbours, local public represents, members of SHGs attended the programme. NETFISH State coordinator gave a brief class on World Fisheries Day and NETFISH activities in Karnataka with respect to quality management and sustainable fisheries. The fishers were urged to conserve the marine resources for their better future. Information regarding benefits to fishers from state fisheries department was also given to the participants. The awareness meeting was followed by a "Shramadan by Fishers" (Mass harbour clean-up programme). The entire Muduga Fishing harbour was cleaned by the fishers of Muduga. Fishers, local SHGs and members of youth organizations also participated in the event.

NETFISH celebrated World Fisheries Day at Odarevu, Nizampatnam in Andhra Pradesh through the member NGO, SEARCH. Banner with greetings and the quote "Save Juvenile Fish" were displayed in the harbour. An awareness meeting was conducted as part of the celebration. Visakhapatnam MLA was the Chief Guest and JD & AD of Fisheries and 200 boat owners and Fisher women traders attended the programme. Trash fish landings and its effect on fishery resources, need for avoiding juvenile fishing etc were given emphasis in the programme. NETFISH leaflets on conservation were distributed and animation film on conservation entitled "An Escape to the Depths" was shown for the participants. Street plays depicting the importance of the day and conservation of fisheries by using selective and target fishing gear such as hook and line were organized, which attracted a good gathering.

In West Bengal, NETFISH celebrated the World Fisheries Day by conducting hands-on training programme on value addition of dry fish as well as low cost fresh fish, at Paschim Amarabati Dry Fish Yard (Baliyara), Freserganj South 24 Parganas. 50 nos. of participants from different dry fish yards of South 24 Parganas including members of SGSY Group attended the training programme. Shri. Tarun Kr. Giri of The Science Association of Bengal welcomes all participants and dignitaries in the programme and briefed the importance of World Fisheries Day. The programme was inaugurated by Dr. Kiran Lal Das, Asst. Director of Fisheries (Marine), Diamond Harbour, South 24

Parganas. He expressed his gratitude to NETFISH-MPEDA to conduct such training programme which will help to develop socio-economic condition of fisher folks as well as development of export in respect of dry fish. He also assured to extend his cooperation in all aspects from State Govt. Dr. Subrata Basu, from CIFE, Mumbai made a demonstration on value added fish products. He advised fishers to follow the scientific methods for dry fish as well as use permitted chemicals that may prevent possible infestation of flies & other insects. Prawn pickle, fish paste and salt curing for dry fish were prepared during the training programme. Dr. Basu has given importance on the continuation of the training programme in small group which may enrich them, also he pointed out that the women group can take these activities as a part of their profession to maintain the livelihood.

World Fisheries Day celebrations serve as an important reminder that we must focus on changing the way the world manages global fisheries to ensure sustainable stocks and healthy oceans ecosystems.

7.11. COLLABORATIVE PROJECTS BY NETFISH

a) UNDP Project on Mangrove Crab in Maharashtra

A Stock enhancement programme on Mangrove Crab in Mangrove Pens and Tide Fed Farms in Sindhudurg District has been initiated in the month of October 2013 with the aid from UNDP-Forest Department, Government of Maharashtra. The project is entitled as "Mangrove crab stock enhancement by ranching and eco-friendly rearing in pen/ tide fed impoundments in the mangrove ecosystem of Sindhudurg district, Maharashtra through empowerment of traditional fishers". The Marine Products Export Development Authority (MPEDA), Rajiv Gandhi Centre for Aquaculture (RGCA) and Network for Fish Quality Management and Sustainable Fishing (NETFISH) are jointly involved in this 1.53 crore project. The major objectives of the project are to improve the livelihood of traditional fishers and to conserve mangrove fauna and flora. The two year project will be carried out in two phases in the three talukas of Sindhudurg namely Deogad, Malvan and Vengurla. By this project, an eco-friendly 'mangrove crab rearing

technology' will be established among fishers in Sindhudurg area by imparting them proper knowledge and training.

NETFISH has conducted 25 awareness programmes to identify groups of fishers interested in mud crab culture. Total 508 fishers participated in these programmes. 32 fisher groups have shown interest in mud crab project. Seven groups were identified on the basis of site selection. NETFISH has conducted preliminary survey at coastal area of Sindhudurg district to identify suitable sites for Mangrove Mud Crab culture during August to November, 2013. NETFISH & RGCA had visited these sites. RGCA has confirmed these sites to be suitable for crab culture. Final selection of sites was done based on interest of fisher groups. The suitable ponds/sites for mud crab culture were identified at Tarkarli, Devbag, Rameshwar, Hadi, Wadatar and Veeerwadi. Pen construction was carried out after selecting the sites. Rearing pens were also constructed inside the pens for the nursery rearing of the crablets. Each pen has an area of about one acre. Crablets were stocked in ponds from mid January to mid February, 2014. Three technical officers were appointed for smooth conduct of the project. Training was provided to selected fisher groups.

b) DRYFISH Project in Gujarat

The traditional method of sun drying is considered to be the cheapest and simplest way of fish preservation. Dried fish is not only economically important but also is an important source of animal protein, vitamins and minerals. Dried and drying fishes are often susceptible to spoilage and insect infestation which can greatly affect the quality and shelf life of dried fish. Open drying under the sun is more vulnerable to spoilage due to exposure to insects, birds and dust. To address these issues related to open drying of fish under the sun, Network for Fish Quality Management and Sustainable Fishing (NETFISH) and Central Institute of Fisheries Technology (CIFT) has implemented a joint project for the establishment of Bulk Fish Drying Yards at Umargam, Margol and Umarsadi in Valsad district of Gujarat. NETFISH constructs dry fish yards and arrange training programmes for the stakeholder groups, whereas CIFT gives the technology, packing machine as well as net

materials to set up the drying yards besides the technical guidance.

Umargam, one of the prominent landing centers for Bombay duck in Gujarat, is a region where the traditional method of drying of Bombay duck in sun is vastly practiced. The first unit comprising of Bulk Fish Drying Yard and a Solar Dryer Yard was established at the premises of Umargam Fishermen Sarvoday Society Ltd. (U.F.S.S.L), Umargam. Bulk fish drying yard named "NET Yard" of size 24 meter x 9 meter x 8 feet and having bamboo poles as framing was established. The yard has PVC pipes to hang fishes for drying. The entire yard is covered with PVC nets to avoid entry of dust and flies. Fishes can be dried inside this yard directly under sunlight. Solar Dryer yard of size 12 meter x 3 meter x 2 meters was prepared by using bamboo poles & PVC pipe as framing. The yard has racks prepared of PVC nets to keep 40% dried laminated fishes on it. The yard is covered with high density white colour plastic sheets to maintain more heat within the yard, to dry fishes in a quick time.

On 24th March, 2014 a programme was organized for the inauguration of both the dry fish yards. Dr. K.V Lalitha, Principal Scientist & Project leader, CIFT, Cochin, Dr. V. Geethalakshmi Scientist & Project coordinator, CIFT Cochin, Dr. Martin, Scientist CIFE, Mumbai, President & all the members of Umargam Fishermen Sarvoday Cooperative Society Ltd, State Coordinators of NETFISH in Gujarat & Maharashtra were present during the inaugural function of the established model bulk fish drying yards in the premises of UFSSL. Dr. Martin delivered a talk on the effective use of Calcium Propionate & salt to avoid fungal contamination of Bombay ducks during drying. Around 50 kgs of Bombay duck fishes was made available for hands-on training program. State coordinators of Gujarat and Maharashtra explained to the participants about the importance of cleanliness of crates, hands, clean water and PVC pipe nets.

The training program covered how the fishes were washed in clean water and treated with Calcium Propionate solution and there after hanged on PVC pipes. After 40% drying fishes were put into lamination machines to flatten the fishes. Further drying of fishes was carried out in solar dryer yard. Trainees in their feedback informed that the

quality of dry Bombay duck prepared in these model yards is far better than the ones dried in open sun. The model fish drying yards are attracting local fishermen and around 70 trainees participated in the training program on the first day itself. President of Umargam Fishermen Sarvoday Cooperative Society Ltd declared the yards to be open to all. Model dry fish yards were handed over to the Society so that fishermen can utilize it to the maximum and reap better benefits.

The inaugural function concluded with vote of thanks delivered by Mr. Jignesh Visavadia, NETFISH State Coordinator in Gujarat. The Secretary of the Society expressed whole hearted thanks to NETFISH-MPEDA, CIFT, Cochin and BWRC, Surat for providing them model fish drying yards and he was confident that the yards will help fishermen in earning better returns for their efforts. Establishment of dryfish yards is a revolutionary step towards production of quality dry fish in South Gujarat. It is estimated that around two tonnes of dry fish can be produced per day in NET yard and around 500kgs per day can be dried in Solar Drier Yard/Chamber. On 25th and 26th March, 2014 training programmes of similar nature in dry fish yards were conducted and around 43 trainees participated in the program. It is also decided to send samples of Bombay duck fishes dried in yards to various markets to fetch good price. To make available a technology like this to fishermen community for their better future is a great achievement for NETFISH and is a significant step towards providing hygienic dry fish to consumers.

8. MEMBER NGOS OF NETFISH FOR THE YEAR 2013-14

1. The Science Association of Bengal (SAB), Diamond Harbour Road, Barisha P.O, Kolkata, West Bengal.
2. Sarvoday 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. Village Resource Centre of MSSRF, Salai Road, Kurusady, Nagercoil, Kanyakumari District, Tamil Nadu.
8. Village Resource Centre of MSSRF, Iraiয়ারasu Valagam, Thangachimadam, Ramanathapuram District, Tamil Nadu.
9. Chevaliar Roshe Society (CRS), Derose Centre, Polpettai, Thoothukudi, Tamil Nadu.
10. Scuba Social Service Organization (SCUBA), Singapore Plaza, Sethu Road, Adiramapattinam, Thajavur District, Tamil Nadu.
11. GAIA International Organization (GIO), First Main Road, Kamaraj Nager, Thiruvanniyur, Chennai, Tamil Nadu.
12. S.O.H.E.S., Pillayar Kovil Street, Kanchipuram District, Tamil Nadu.
13. Fisheries Professionals Organization (FPO), Chennai, Tamil Nadu.
14. South Indian Fisherman Federation Society (SIFFS), Karamana, Trivandrum, Kerala.
15. Shri.Mustafa.K, Thalakkalakam, Parambu, West Hill, Kozhikode, Kerala.
16. Shri. Joseph Francis, Fort Kochi, Kerala.
17. Sahyadri Community Development & Women Empowerment Society (SCODWES), Savinilaya Building, Maratikoppa Main Road, Sirsi, Karnataka.
18. Snehakunja Trust, Honnavara, Post Kasarkod, Uttara Kannada District, Karnataka.
19. ManavVikas Sevabhavi (MVS), Chandranagar, Thane District, Maharashtra.
20. Nagrik Bhahu Udeshiya Seva Pratistan (NBUSP), Sindhudurg, Maharashtra.
21. Brackish Water Research Centre (BWRC), Kasba Mohalla, Mougul Street, Surat District, Gujarat.
22. Shri.B.A.Yadav Education & Rural Development Foundation Trust (BAYERDFT), Maliya, Hatina District, Junagadh, Veraval, Gujarat.
23. Chamunda Vikas Trust (CVT), Bhalpara Main Raod, Veraval-362268, Gujarat
24. Shivam Education & Charitable Trust (SECT), Pipaliya Nagar, Madhi Raod, Junagadh, Gujarat.

9. AUDIT REPORTS FOR THE YEAR 2013-14

INDEPENDENT AUDITOR'S REPORT

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

We have audited the attached Balance Sheet of Network for Fish Quality Management & Sustainable Fishing (NETFISH) as at March 31, 2014 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

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Standards on auditing issued by the Institute of Chartered Accountants of India. Those Standards require that we 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.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion and to the best of our information and according to the explanation given to us, 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 2014
- (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 : 12-09-2014

For Roshan Thomas & Co
Chartered Accountants

Audited Balance Sheet as at 31-03-2014

(In Rs. Ps.)

LIABILITIES	Sch	As on 31.03.14	As on 31.03.13
CAPITAL FUND			
Opening Balance		59,42,780.73	55,89,506.00
Add: Fund received from MPEDA during the year		2,00,00,000.00	1,80,00,000.00
Less: Excess of Expenditure over income for the year		-1,98,49,611.00	-1,76,46,725.27
		60,93,169.73	59,42,780.73
UNDP PROJECT FUND			
Add: UNDP Fund received from MPEDA during the year		60,00,000.00	-
Less: Project Advance		-81,178.00	-
Add: Project Expense Payable		3,058.00	-
Less: Amount utilised towards Mangrove Crab Project, Mumbai		-23,58,358.00	-
		35,63,522.00	-
TOTAL		96,56,691.73	59,42,780.73
ASSETS			
FIXED ASSETS	1		
Furniture		1,02,146.07	1,10,751.07
Computer		2,79,170.66	5,73,175.66
Camera		31,124.00	27,922.00
		4,12,440.73	7,11,848.73
CURRENT ASSETS, LOANS AND ADVANCES			
CASH & BANK BALANCE			
Cash in hand		-	-
Balance with banks	2	97,56,485.00	57,05,650.00
LOANS & ADVANCES			
Advance to Staff		35,000.00	-
Salary & TA Claim Receivable from MPEDA		2,53,950.00	2,43,348.00
		1,00,45,435.00	59,48,998.00
CURRENT LIABILITIES AND PROVISIONS			
OTHER LIABILITIES & PROVISIONS			
Salary Payable	3	7,26,974.00	5,98,905.00
Expenses Payable	4	64,210.00	1,09,161.00
Audit Fee Payable		10,000.00	10,000.00
		8,01,184.00	7,18,066.00
NET CURRENT ASSETS		92,44,251.00	52,30,932.00
TOTAL		96,56,691.73	59,42,780.73

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

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

Place: Kochi

Date : 12-09-2014

Audited Income and Expenditure Account for the year ended 31-03-2014

(In Rs. Ps.)

INCOME	Sch	For the year ended 31.03.14	For the year ended 31.03.13
MISCELLANEOUS INCOME			
Application Fee		9,750.00	1,750.00
Membership Fee		1,000.00	500.00
Renewal Fee		300.00	600.00
		11,050.00	2,850.00
Profit on sale of assets		00	12,459.73
TOTAL		11,050.00	15,309.73
EXPENDITURE			
Extension Activities	5	1,26,51,753.00	1,05,24,093.00
Employee Cost	6		
Salary - Chief Executive		6,39,828.00	6,89,250.00
Salary - State Co-ordinators		40,91,689.00	42,86,662.00
Salary - Research Assistant		5,02,766.00	6,68,700.00
Salary - Staff		3,13,587.00	2,96,303.00
		55,47,870.00	59,40,915.00
Administrative Expenses	7	12,54,040.00	6,87,310.00
Depreciation	1	4,06,998.00	5,09,716.00
TOTAL		1,98,60,661.00	1,76,62,034.00
Excess of Expenditure over Income		-1,98,49,611.00	-1,76,46,725.27

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 : 12-09-2014

Receipts & Payment Account For The Year ended 31.03.2014

Receipts	(Rs.)	Payments	(Rs.)
Opening balance - 01.04.2013	-	Payments for Extension Activities	
Cash		Training Programmes	1,03,95,985.00
Bank	57,05,650.00	Publicity & Literature	2,48,050.00
Funds received from MPEDA	2,00,00,000.00	Fishermen Aid Programme	10,28,945.00
Funds received from UNDP	60,00,000.00	Travelling For Extension Training Staff	5,54,588.00
Other Income	11,050.00	Documentation	2,13,485.00
Salary, TA to Technical and Field Staff paid (MPEDA a/c)	27,01,379.00	Dry Fish Project Veraval	2,10,700.00
		UNDP Project	24,36,478.00
		Salary -CEO, SCO's etc.	54,72,676.00
		Salary, TA to Technical and Field Staff paid (MPEDA a/c)	26,59,106.00
		Establishment & Other Items	13,33,991.00
		Fixed Assets Purchased	1,07,590.00
		Closing balance	-
		Cash in hand	
		Balance with banks	97,56,485.00
	3,44,18,079.00		3,44,18,079.00

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 : 12-09-2014

FIXED ASSET SCHEDULE AS AT 31.03.2014

Schedule 1

Particulars	Written down Value 01.04.2013	Addition to Fixed Assets		Sale/Adjustment of Fixed Asset	Total	Depreciation		Written down Value 31.03.2014
		Before 30.09.13	After 30.09.13			Rate	Amount	
Computer & Peripherals								
Computer	19,627.98		30,500.00	00	50,127.98	60%	20,927.00	29,200.98
Laptop	2,07,669.00				2,07,669.00	60%	1,24,601.00	83,068.00
Printer	30,435.74	6,000.00		00	42,935.74	60%	23,811.00	19,124.74
UPS	89.39			00	89.39	60%	54.00	35.39
Camera	4,025.05			00	4,025.05	60%	2,415.00	1,610.05
LCD Projector	3,11,328.50	54,000.00			3,65,328.50	60%	2,19,197.00	1,46,131.50
	5,73,175.66	60,000.00	37,000.00	00	6,70,175.66	60%	3,91,005.00	2,79,170.66
Furniture & Fittings								
Furniture	1,10,751.07		2,600.00	00	1,13,351.07	10%	11,205.00	1,02,146.07
Plant & Machinery								
Camera	27,922.00		7,990.00	00	35,912.00	15%	4,788.00	31,124.00
Total	7,11,848.73	60,000.00	47,590.00	00	8,19,438.73		4,06,998.00	4,12,440.73

SCHEDULES FORMING PART OF BALANCE SHEET

Schedule 2

BALANCE WITH BANKS

	31.03.14	31.03.13
SBI Bhubaneswari A/c No. 30285133442	1,32,556.00	
SBI Chennai A/c No. 30258546407	3,29,844.00	
SBI Ernakulam A/c No. 30081767129	53,82,312.00	
SBI Kolkata A/c No. 30261234755	41,413.00	
SBI Mangalore A/c No. 30263801270	2,18,382.00	
SBI Mumbai A/c No. 30287603203	31,33,852.00	
SBI Tuticorin A/c No. 30260293857	1,58,493.00	
SBI Veraval A/c No. 30261726145	2,16,169.00	
SBI Vizag A/c No. 30213408200	1,43,464.00	
	97,56,485.00	57,05,650.00

Schedule 3

EXPENSE PAYABLE

	31.03.14	31.03.13
Contingencies Payable	1,000.00	
Expenses Payable	51,960.00	
Internet Charges Payable	5,250.00	
Mobile Charges Payable	6,000.00	
	64,210.00	1,09,161.00

Schedule 4

SALARY PAYABLE

	31.03.14	31.03.13
Salary Payable	4,27,537.00	
Salary & TA to MPEDA Payable	2,49,080.00	
Salary Research Assistant Payable	50,357.00	
	7,26,974.00	5,98,905.00

SCHEDULES FORMING PART OF INCOME AND EXPENDITURE ACCOUNT (HO & REGIONS)

Schedule 5	Kochi	Kollam	Chennai	Tuticorin	Veraval	Visag	BBNSR	Kolkata	Mumbai	MNG	HO	Total 31.03.2014	Total 31.03.2013
Extension Activities													
Training Programmes													
1) Trg. Fishermen	517871	440147	291113	410888	365384	242016	155340	346336	258043	346742		3373882	2864314
2) Trg. Pre Processing	0	351592	10020	64845	97454	71100	16625	8200	68938	62150		750924	609709
3) Trg. Onboard	0	0	56205	229683	115116	137630	294484	432377	60479	153100		1479054	1684844
4) Trg. Tuna/Dry Fish/On Shore/Others	0	0	107529	0	34105	116200	4675	101852	63218	0		427579	410287
5) Trg. Conservation & Sustainability	469622	33160	261956	366170	258262	137466	90777	166054	305762	151060		2240289	1215431
6) Trg. Processing	0	0	0	0	66614	0	13175	101151	0	5150		186090	267130
7) Street Play	169600	165840	80500	62875	186648	91326	0	27701	0	44250		828740	1141379
8) Other Extension Programme	152563	55488	102623	129549	93142	26032	7900	141231	91418	43352		843298	315398
9) Fishermen Aid Programme	176113	275190	0	0	0	88082	100000	100000	74070	115485	100005	1028945	783155
10) Publicity & Literature	0	0	25633	13950	0	8465	10000	10000	37732	0	142270	248050	542669
11) Workshop	0	0	48498	42371	30410	16160	43255	31185	0	54250		266129	
Dry Fish Project					210700							210700	
Travelling for Extension Training Staff	40913	2360	80351	56725	69050	53584	12445	98189	132134	8837		554588	453237
Training											0	0	11820
Animation											213485	213485	123596
Documentary											0	0	101124
Total	1526682	1323777	1064428	1377056	1526885	988063	748656	1564276	1091794	984376	455760	12651753	10524093
Schedule 6													
Employee Cost													
Salary	428175	310271	421193	363000	428175	428175	428175	428175	428175	428175	1456181	5547870	4767170
Salary Arrears											0	0	1173745
Total	428175	310271	421193	363000	428175	428175	428175	428175	428175	428175	1456181	5547870	5940915

SCHEDULES FORMING PART OF INCOME AND EXPENDITURE ACCOUNT (HO & REGIONS)

Schedule 7	Kochi	Kollam	Chennai	Tuticorin	Veraval	Visag	BBNSR	Kolkata	Mumbai	MNG	HO	Total		
												31.03.2014	31.03.2013	
Administrative Expense														
Advertisement for Recruitment	0	0	0	0	4500	0	0	0	11810	0	115570	131880	57610	
Audit Fee											10000	10000	10124	
Bank Charges	0	0	650	550	550	860	550	550	555	854	965	5884	7183	
Internet & Website	0	4500	6000	5500	6000	6000	6000	6000	6000	6000	30176	82176	74676	
Insurance & AMC											0	0	1620	
Meetings	0	0	9411	10763	40146	54565	81317	62880	35366	9708	34913	339069	152395	
Miscellaneous & Contingent Expenses	700	1200	465	1110	1134	0	2098	200	1105	0	48974	56986	41874	
Mobile & Telephone Charges	6000	4750	6000	5500	6000	6000	6000	6000	6000	6000	12774	76024	69874	
Postage & Telegrams	0	0	1533	1364	1417	2093	2500	3230	4067	0	12113	28317	29020	
Printing & Stationery	0	0	5591	2805	1962	2871	3000	2937	1828	3000	51666	75660	64263	
Repairs & Maintenance	0	0	0	0	0	0	0	2100	0	0	9914	12014	20297	
Taxation/Other Consultancy											3000	3000	3371	
Travelling Expenditure											281133	281133	155003	
Mediclaime & Personal Accident											85035	85035		
Earn Leave Reimbursement											66862	66862		
Total	6700	10450	29650	27592	57209	72189	101465	83897	54921	25562	768095	1254040	687310	
Depreciation											406998	406998	509716	

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 2013-14, an amount of Rs.2,00,00,000 has been received from MPEDA (author/founder of the Society) and the same has been credited to Capital fund.
- c. During the year 2013-14, an amount of Rs.60,00,000 was received for executing projects on behalf of UNDP, this has been shown as a separate Fund in Balance Sheet.
- d. Travelling Expenses incurred by State Co-coordinators and Field Staff in connection with extension activities are also classified under "Extension Activities" (Schedule 5).
- e. Previous year figures have been regrouped wherever necessary.

OFFICE BEARERS 2013 -14



Ms. Leena Nair, I A S
President



Dr. Joice V. Thomas
Chief Executive



Asha C. Parameswaran
Treasurer



Atanu Ray
SCo, West Bengal



S. Mohapatra
SCo, Odisha



P. Hanumantha Rao
SCo, Andhra Pradesh



K. Anandan
SCo, Tamil Nadu North



Dr. A. Murugan
SCo, Tamil Nadu South



Sangeetha N.R.
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



Naveen Sathyan
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