

ANNUAL REPORT 2010-11



NETFISH-MPEDA
Kochi



NETFISH

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

(A registered society of MPEDA)

Kochi



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NETFISH NETWORK



1. The NETFISH

Network for Fish Quality Management and Sustainable Fishing (NETFISH) is a society under the Marine Products Export Development Authority (MPEDA), Kochi. The Society is registered under the Travancore–Cochin Literary, Scientific and Charitable Societies Registration Act, 1955. NETFISH was formed with a view to organize grass root level training programmes among fisher folk to change their mindset towards fish quality management and sustainable fishing. NETFISH organizes capacity building programmes in fishing and fish processing sectors in areas such as quality management, post-harvest handling and conservation of fishery resources.

2. President

Ms. Leena Nair IAS continued as the President of NETFISH during 2010-11.

3. Executive committee

The Executive Committee of the society for the year 2010-11 was reconstituted in the Third Annual General Body Meeting held at MPEDA headquarters, Cochin on 01-10-2010. The new Executive Committee members of NETFISH are given in Table 1.

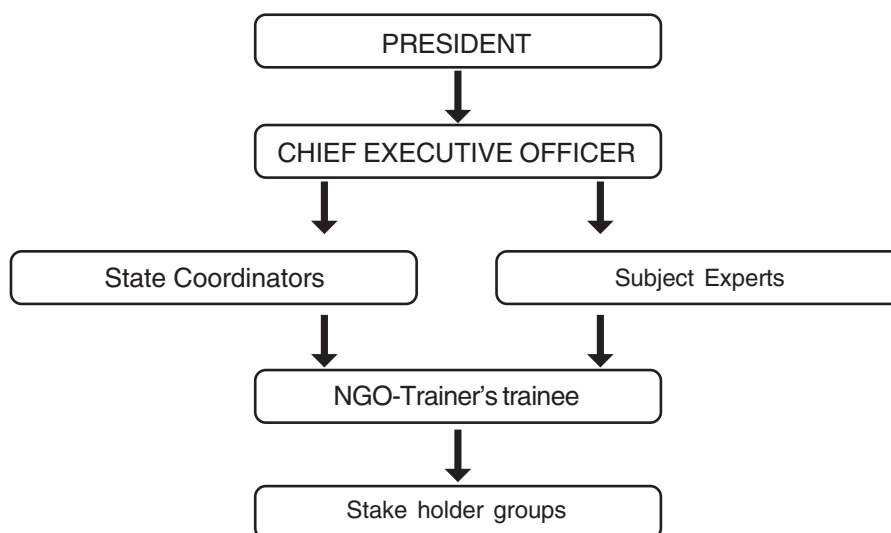
4. Meetings

The Monitoring Committee consisting of Secretary & JD (QC) of MPEDA and CE, NETFISH met 6 times during the year and scrutinized the monthly activities of NETFISH. The Executive Committee met once on 30-08-2010 during the year 2010-11. The Annual General Body meeting of the NETFISH was held at MPEDA headquarters, Cochin on 01-10-2010.

Table 1. Executive Committee members of NETFISH (2010-11)

Sl.No.	Name	Capacity
1	Ms. Leena Nair IAS	Chairman, MPEDA, Cochin
2	Shri. N. Ramesh	Director (M), MPEDA, Cochin
3	Shri. J. Ramesh	Secretary, MPEDA, Cochin
4	Shri. T.M. Shivakumar	Director, MoCI, New Delhi
5	Shri. Joy Ipe Kurian	Jt. Director (Q.C.), MPEDA, Cochin
6	Dr. Sreenivasa Gopal	Director, CIFT, Cochin
7	Shri. R. C. Sinha	Director, CIFNET, Cochin
8	Dr. Joice V. Thomas	Chief Executive, NETFISH, Cochin
9	Shri. Anwar Hashim	President, SEAI
10	Shri. V. Vivekanandan	Chief Advisor SIFFS, Thiruvananthapuram
11	Shri. Gayadhar Jena	Secretary, SRMSS, Orissa
12	Shri. Sreedhar U. Bhat	Project Co-ordinator, Sneha Kunja Trust, Karnataka
13	Shri. Ravindran C	Advisor, Chevaliar Roche Society (CRS), Tamil Nadu
14	Shri. N. Bharani Sankar	President, SEARCH, Andhra Pradesh
15	Shri. Naren Jadhav	Director, Jan Shikshan Sansthan, Raigad, Maharashtra
16	Shri. Bimal Kumar Sen Gupta	Resource Person, The Science Association of Bengal, Kolkata, West Bengal
17	Shri. M.S.H Sheikh	President, Brackish Water Research Centre, Gujarat

5. Office Structure



6. Target set for 2010-11

A target of 2400 programmes was set for NETFISH for the year 2010-11. The Target for each region was 240 programmes. The details of targets set for each region is given in the Table 2.

7. Extension Programmes 2010-11

During the year 2010-11, NETFISH conducted repeated training programmes at the selected areas. These selected areas were identified in each

maritime state mainly the fishing harbours and landing centers based on its importance in terms of fishing and material taken for exporting. Various problems regarding fish quality management and sustainable fishing at these selected areas were thoroughly identified and programmes were organized in and around these selected areas based on the requirements.

NETFISH has conducted 3005 extension programmes along the maritime states of India

Table 2. Target set for 2010-11

Programmes State/Region	Quality	Conservation	Onboard	Pre-Processing	Aquaculture	Dry-fish	Total
West Bengal	84	36	15	20	70	15	240
Orissa	42	66	90	24	12	6	240
Andhra Pradesh	84	72	24	24	24	12	240
Tamilnadu South	100	100	20	20			240
Tamilandu North	120	72	24	24			240
Kollam	72	48	20	100			240
Kochi	108	112	20				240
Karnataka, Goa	90	78	18	12	18	24	240
Maharastra	62	78	16	36	24	24	240
Gujarat	112	69	10	31		18	240
Total	874	747	262	295	120	102	2400

during the fiscal year 2010-11 (Table 3). Besides the regular training programmes on various aspects of fish quality management, conservation and sustainable fishing, NETFISH has conducted special programmes such as Street plays (368 nos.), Medical camps (1no.), Harbour/coastal clean ups (2 nos.), Rallys (2 nos.), School programmes (16 nos.), Door to door programmes (3 nos), Mass communications (24 nos.) and Other special programmes (19 nos.) to spread the messages deep in to the minds of fisher folk. Apart from these programmes a wide campaign on Boat Registration was also organized and around 209 numbers of programmes were conducted to give awareness on boat registration and its importance. NETFISH has also developed new extension tools such as documentary (one), animation film (one), and a training manual during the financial year.

7.1 West Bengal

The state's 158Km long coast line is spread in 3 coastal districts namely North 24 Parganas, South 24 Parganas and Purba Medinipur. There

are 5 fishing harbours viz. Sankarpur, Petuaghat, Sultanpur, Kakdwip and Freserganj and 78 major and minor fish landing centres in the state. About 11,213 mechanized boats and 9,750 non-mechanized boats are operated in West Bengal waters. Gill net is the most dominated gear followed by trawl net, set bag net (*Behundi jal*), shore seine (*Ber jal*), *Chor pata*, Hooks (*Don*) etc. Closed season is strictly followed in West Bengal for 47 days every year from 15th April to 31st May. West Bengal has one of the largest impounded Brackish Water areas (2,10,000 Ha) in the country, which contributes a lion share to the shrimp production of the country.

7.1.1 Digha, Purba Medinipur

Digha is the one of the major fish landing centre in West Bengal. About 1,150 mechanized and 1,065 non mechanized boats are operated in and around this landing centre. Among mechanized fishing boats, trawlers (650 nos.) are dominated followed by gillnetters (480 nos.) and rest are using other gears such as behundi, seine etc. About

Table 3. Total No: of programmes conducted by NETFISH during 2010-11

Sl. No:	State/Region	Regular Programmes							Special Programmes							Financial Year Total	
		Landing Centre - Quality	Conservation	On board	Pre-processing	Aqua farm	Dry fish	Street-plays	Medical Camps	Harbour/coastal clean-ups	Procession / Rally	School programme	Door to door programme	Mass communications	Other s		Boat Registration Campaign
1	Kerala -South	59	43	10	103			45		1			4	5	52	322	
2	Kerala -North	101	96	7				95					11		20	330	
3	Karnataka/Goa	94	89	8	12	16	27	27				3	2	1		279	
4	Maharashtra	73	92	11	27	9	28	45		1	1	5		2	7	301	
5	Gujarat	117	64	6	36		22	5					1	2	29	282	
6	TN-South	100	103	22	20	11		48				5				309	
7	TN-North	113	85	10	8						2					218	
8	Andhra Pradesh	96	67	8	22	10	12	55					3		18	291	
9	Orissa	43	85	104	24	12	6		1					9	58	342	
10	West Bengal	84	39	18	21	73	15	48		1	4		3		25	331	
	Break-up	880	763	204	273	131	110	368	1	2	2	16	3	24	19	209	3005

16,000 fishers are actively engaged in fishing at Bay of Bengal and 50,000 people are involved in various allied activities. Sankarpur fishing harbour is located near Digha. Fishermen are filling water, ice and fuel from this harbour but, due to insufficient tidal effects boats are not able to enter inside this harbour for berthing during low tide and thereby no fishes are landed in the Sankarpur harbour. Instead most of the fishermen are unloading their catch at Digha mohana for auction.

7.1.1.1 Problems Identified

- ❖ Dearth of drainages for outgoing dirty water from roads, auction shed and packing areas may consequently lead to harborage of flies and creates unsanitary condition at landing centre and its surroundings.
- ❖ Lack of infrastructural facilities such as good auction hall, quality ice, water etc.
- ❖ There are no proper facilities for unloading ice from the fishing vessels operated from Sankarpur fishing harbour, causing contamination of ice.
- ❖ All the boats are not facilitated with insulated fish box.
- ❖ No proper arrangement for daily washing of the harbour.
- ❖ No proper transportation system from landing centre to auction market.
- ❖ Some of the motorized boats are being used for carrying fuel and other commodities, affecting the quality of fishes.
- ❖ Improper handling of catch at auction market and landing centre.
- ❖ Some of the khuties are using harmful chemicals for preserving dry fish.
- ❖ At dry fish khuties, fish could not be washed properly due to lack of tube well/quality water.
- ❖ No proper washing schedule followed onboard by fishers.
- ❖ A few boats are still using bamboo basket onboard.
- ❖ Greater percentage of illiteracy among fishermen is the main constrain to fishers in understanding and adopting new technological advancement of this sector.

7.1.1.2 Programmes conducted

Table 4. Programmes conducted in and around Digha

Sl.No	Type of programme	Number
1	Fish Quality Management	21
2	Sustainable Fishing/Conservation	20
3	Onboard	7
4	Dry fish training	12
5	Street-plays	32
6	Procession/Rally	1
7	School programmes	4
	Total	97

Procession/Rally

On 25th April'10 a Motor Cycle Rally was arranged from Digha to Bajkul displaying NETFISH banners and posters. The rally was organized to create awareness on importance of water resources and its conservation, pollution of sea and coast line etc. The programme was organized by Sarboday Sangha in collaboration with "Water for People" and "West Bengal Gandhi Peace Foundation". The Savadhipathi, Purba Medinipur Zilla Parishad inaugurated the rally and he highlighted the importance of drinking water and impact of marine pollution on our environment.

School programme

To create awareness among students of fisher folk family on conservation of marine resources, sustainable fishing, ecology and fish quality management, NETFISH arranged School Programmes along coastal blocks of the State. Animation and documentary films were shown using LCD projectors and leaflets and posters were distributed to the students and teaching staff.

Table 5. Details of School Programmes

No:	Date	Programme Venue
1	30.04.2010	Digha D.J. High School
2	17.06.2010	Chhatri Vivekananda Bidyaniketan
3	14.02.2011	Murushi High School
4	15.02.2011	Koroldha High School

NETFISH conducted 4 School programmes during the year and about 400 students of 9th & 10th standard participated in the programmes. Most of the student's family members are engaged in fishing and allied activities. All maritime schools in Purba Medinipur extended their wholehearted support for the NETFISH programme.

Street plays

NETFISH arranged 32 Street plays at different fishing villages, harbours & landing centres of maritime area of Purba Medinipur to create awareness among fishers as well as general public regarding fish quality, conservation of marine resources, environment and different upcoming issues on Govt. rules and regulations. More than 6000 peoples had visualized the shows. This programme helps to spread the message of NETFISH quickly to fishermen community and others.

Table 6. Details of Street Play Programmes

No:	Date	Area
1	25.04.10	Digha, Devidas pur, Kalapunja, Khadalgobra,
2	12.05.10	Paharpur, Balighai, Bharda, Dubdha
3	15.06.10	Digha, Kalapunja, Shyamdasapur, Kanpariahut
4	26.11.10	New Jaldha, Datanpatrabarh, Chawsuli
5	07.12.10	Junput, Haripur, Digha & Sankarpur harbour
6	12.01.11	Soula, Junput, Jaldha, Digha
7	21.03.11	Bharda, Shyamharibar, Khagdha, Beta.
8	22.03.11	Nilpur, Raghunandapur, Bhajachowali, Dhandalibar

7.1.1.3 Outcomes

- ❖ After intervention of NETFISH, fishermen are well concerned about quality of fish and its handling onboard and at landing centre. Immediately after catch they are segregating the catch and washing the shrimp in water and preserving in fish hold with proper icing after chill killing. This procedure helps them to enhance the quality of fish as well as to fetch better price for

the commodity.

- ❖ About 70% of trawlers are now using either plastic baskets or perforated crates instead of bamboo baskets for washing and handling. After various training programmes boat owners are now aware about MPEDA's subsidy schemes and have started using insulated fish box purchased at subsidized rate.
- ❖ After continuous preaching by NETFISH, fishers of dry fish khuties at Purba Medinipur are well aware about the bad impact of using harmful chemicals and pesticides on dry fish. About 60% of dry fish khuties have stopped using any harmful chemicals and pesticides.
- ❖ Closed season were followed properly as per Govt. rules in Purba Medinipur and fishermen got better catch in the year 2010-11.
- ❖ Juvenile fish catch is reduced to some extent.

7.1.2 Freserganj, South 24 Parganas

Freserganj is a potential fishing area in South 24 Parganas District. Freserganj and its surroundings have landing centres (Kailaghata, Dash mile, Jetty ghat & Haripur), a fishing harbour and fishing villages. Two major fish drying khuties namely Uttar Bakkhali (Kalisthan) and Paschim Amarabati (Baliyara) are located at Freserganj. About 5,000 and 3,500 fishermen are engaged in dry fish and allied activities respectively. 265 mechanized boats and 20 non-mechanized boats are plying from Freserganj Fishing harbour and Jetty ghat landing centre. There are 62 and 90 mechanized boats operated from Kailaghata and Dash mile landing centre respectively. Most of boats are using gill net and others use set bag net (*Behundi*) for fishing. About 1,500 fishers are actively participating in fishing at this region of Bay of Bengal.

7.1.2.1 Problems Identified

- ❖ Boats, nets and other accessories are not properly cleaned in some boats.
- ❖ Local fishermen are still to be educated on proper handling of catch onboard and at landing centre to minimize unnecessary spoilage. Use of bamboo basket for washing and handling of catch onboard and at landing centre. Lack of infrastructural facilities in the fishing harbour and landing centres.

- ❖ Poor sanitary conditions in most of the ice plants lead to inadequacy of good quality ice.
- ❖ Improper handling of ice at fishing harbour. Usage of small mesh sized nets cause destruction of juvenile fishes.
- ❖ In the jetty, fishes are segregated on floor without using any poly sheet which affects quality of fish.

7.1.2.2 Programmes Conducted

Table 7. Programmes conducted in and around Fraserganj

Sl.No	Type of programme	Number
1	Fish Quality Management	21
2	Sustainable Fishing/Conservation	5
3	Onboard	9
4	Dry fish training	3
5	Street-plays	7
	Total	45

Street plays

NETFISH arranged 7 Street plays at different fishing villages, harbour & landing centres in Freserganj.

Table 8. Details of Street Play Programmes

No:	Date	Area
1.	22.12.2010	Lakhipur: Pachim Amarabati; Freserganj Fishing Harbour, Jettyghat
2	23.12.201	Dash mile, Bijoybati, Jettyghat

7.1.2.3 Outcomes

- ❖ Ice is transported from ice plant to harbour by covering with poly sheet to prevent possible chances of contamination and melting of ice. Ice are not dragged on the mud/soiled jetty.
- ❖ Fishermen are now carrying adequate ice while going for fishing.
- ❖ About 35% boats are using plastic basket for handling of fish.
- ❖ Fishes are segregated on plastic sheets at Dash mile landing centre.

- ❖ After intervention of NETFISH, insulated fish boxes are being used in some of the boats as well as in auction market at Freserganj harbour.
- ❖ Closed season are observed properly at Freserganj fishing harbour and its surrounding landing centres.

7.1.3 Kakdwip

Kakdwip, one of the major marine fisheries hubs in West Bengal, has a fishing harbour and 3 major fish landing centres namely Namkhana, Akshaynagar, Bhutbhutighat. Due to tidal amplitude variations, fishing boats are hardly entered to the fishing harbour and most of the fishing boats are unloading their catches at the nearby landing centres as well as upload ice, water and other necessary commodities from either landing centres or from fishing harbour. 200 mechanized boats and 100 non mechanized boats are plying from Namkhana fish landing centre and about 3,500 fishers are engaged in fishing and allied activities. 1,632 mechanized fishing boats are operated from Kakdwip fishing harbour and nearby landing centres. Gill netters are predominated over trawl net and other fishing gears. Now a days most of the gill netters of Kakdwip are facilitated with winches to operate trawl net for catching shrimps and other demersal fishes. 25-30% of total catches are contributing to exports and good quantities of low valued fishes are processed as dry fish.

7.1.3.1 Problems Identified

- ❖ Boats, nets and other accessories are not properly cleaned in some of the boats.
- ❖ Use of bamboo basket for washing and handling of catch onboard and at landing centre. Lack of infrastructural facilities in the fishing harbour and landing centres.
- ❖ Poor sanitary conditions in some ice plants lead to inadequacy of good quality ice.
- ❖ Small meshed gill nets are being used by fishermen causing destruction of juvenile fishes. Gill netters are not sorting their catch and store separately in crates. Instead, they make heap in the fish hold that may enhance the spoilage of fish.

7.1.3.2 Programmes Conducted

Table 9. Programmes conducted in and around Kakdwip

Sl.No	Type of programme	Number
1	Fish Quality Management	27
2	Sustainable Fishing/Conservation	11
3	Onboard	1
4	Street-plays	9
	Total	48

Street plays

NETFISH arranged 9 Street plays at different fishing villages, harbour and landing centres of Kakdwip. More than 2500 peoples had visualized the shows.

Table 10. Details of Street Play Programmes

No:	Date	Area
1.	23.12.2010	Namkhana Landing Centre; Basanti Market; Kakdwip Fishing Harbour, Maitirchak,
2	23.03.201	Namkhana Landing Centre
3.	24.03.2011	Narayanpur, Kakdwip Fishing Harbour, Kailashnagar, Maitirchak

7.1.3.3 Outcomes

- ❖ Fishes are sorted on polythene sheet at the fishing harbour.
- ❖ Ice is transported by covering with polythene sheets.
- ❖ About 40% of boats are using plastic basket for handling of fish at Kakdwip Fishing harbour. After continuous training programmes boat owners are aware about MPEDA's subsidy schemes and they are now using insulated fish box procured at subsidized rate.
- ❖ At Namkhana landing centre ice are kept on poly sheet to avoid contamination from soil, mud and also prevent possible melting of ice. Closed season are observed properly at Kakdwip harbour and its surrounding landing centres.

7.1.4 Raidighi

Raidighi is situated 110 kms away from Kolkata, and known as the gateway of South Sundarban which is well known for its rich biodiversity and covered with rivers, creeks and mangrove vegetation. Raidighi is connected with various islands and fishing villages. 116 gill netters, 117 trawlers and 253 non mechanized fishing boats are operated from Raidighi fish landing centre. Moreover, boats from other landing centres of Sundarban are unloading their catch at Raidighi landing centre. Raidighi has a fish auction market near to the landing centre. 3208 active fishermen are engaged in fishing from this landing centre and about 20-30% of catch is taken for export. Gillnet, trawl net, Behundi, Seine, encircle net (*Ber ja*) are major gears used for fishing at Raidighi.

7.1.4.1 Problems Identified

- ❖ Some of the boats are not following a regular cleaning schedule.
- ❖ Use of bamboo basket for washing and handling of catch onboard and at landing centre. Lack of infrastructural facilities in the landing centres and auction markets.
- ❖ House peeling is done at landing centre and its surroundings.
- ❖ Poor sanitation conditions in some ice plants are creating shortage in good quality ice during peak seasons.
- ❖ Small meshed gill nets are being used by fishermen that leads to destruction of juvenile fishes. Gill netters stack their catch in fish hold instead of sorting and storing separately in crates.
- ❖ Juvenile and gravid mud crab and marine crabs are being destroyed.

7.1.4.2 Programmes Conducted

Table 11. Programmes conducted in and around Fraserganj

Sl.No	Type of programme	Number
1	Fish Quality Management	15
2	Sustainable Fishing/Conservation	3
3	Onboard	1
	Total	19

7.1.4.3 Outcomes

- ❖ Ice are handled properly; Dragging on floor has been stopped.
- ❖ Fishermen are now carrying adequate good quality ice while going for fishing.
- ❖ A few boats are using plastic basket for handling of fish.
- ❖ After intervention of NETFISH some of the boats are now using insulated fish boxes.
- ❖ Closed season are observed properly at Raidighi and its surroundings.

7.1.5 Aqua Farms programme

NETFISH conducted awareness programmes at aqua farms in collaboration with Directorate of Fisheries, West Bengal and MPEDA SRC (Aqua), Kolkata. While conducting the programmes at aqua farms NETFISH campaigned mainly on PHT and registration of farm/bheries with the Coastal Aquaculture Authority of India. Besides conducting awareness programme for the farmers, 5 minutes talk for mass awareness on aquaculture problems such as “Muddy-moldy smell problems in farm raised shrimp” and “Abuse of Antibiotics and Pre Harvest Test for Farm Raised Shrimp” were recorded which were broadcasted everyday at 6.30 am on All India Radio, Kolkata - A. Following outcomes were observed as a result of the awareness programmes.

- ❖ No consignment of black tiger shrimp has been rejected last year due to presence of residual antibiotics in West Bengal.
- ❖ All the farms at Purba Medinipur are carrying adequate ice for harvesting of shrimp.
Chill killing and proper washing of shrimp in chill water after harvest are being followed in 70% of aqua farms at Purba Medinipur.
- ❖ At Purba Medinipur during harvest and segregation of shrimp, proper arrangement (make sheds by poly sheet) had been done at the harvest point to avoid direct sunlight over the catch to prevent deterioration.
- ❖ Aqua farmers are removing the black soil before pond preparation which is essential to minimize the chances of muddy-moldy smell as well as to avoid various disease problems.
- ❖ Aqua farmers are now aware about abuse of

Slaughter house wastage at bheries of North and South 24 Parganas. Instead of that some of the farmers are now willing to use pelleted feeds.

Table 12. Details of Aqua farm programmes

Sl.No	District	Number
1	Purba Medinipur	38
2	South 24 Parganas	14
3	North 24 Parganas	21
	Total	73

7.1.6 Training programmes to Preprocessing workers

NETFISH arranged training programmes on hygiene and sanitation practices in Preprocessing centres to the workers at various PPCs in Kolkata, North 24 Parganas & Purba Medinipur. The details of the programmes are given below.

Table 13. Details of Pre-processing programmes

Sl.No	District	Number
1	Purba Medinipur	1
2	Kolkata	13
3	North 24 Parganas	7
	Total	21

7.1.7 Mass Awareness Programme

Mass awareness programmes were organized through All India Radio, Kolkata for which the State Coordinator, NETFISH and Mr. B. K. Sengupta of The Science Association of Bengal recorded a 30 minutes talk on “Conservation of Marine Resources and Sustainable Fishing” on 6th September 2010. This programme was broadcasted by AIR on 13th September 2010 at “Kolkata - A at 7.00 pm. Two short talks on “Muddy-moldy smell problems in farm raised shrimp” and “Abuse of Antibiotics and Pre Harvest Test for Farm Raised Shrimp”, 5 minutes each, were also recorded which are broadcasted everyday at 6.30 am at AIR, Kolkata - A.

7.1.8 Participation in Farmer's Meet

On 9th Nov'10 MPEDA, SRC (Aqua), Kolkata organized a Farmers' meet on "Eco-friendly and Sustainable Aquaculture" at Nandakumar. The programme was attended by 94 aqua farmers from various regions. NETFISH State Coordinator presented a class on "Muddy-moldy smell in Black Tiger" to the participants.

7.2 Odisha

State of Odisha has a coast line of 480 Km spread over 6 coastal districts- Balasore, Bhadrak, Kendrapada, Jajatsinghpur, Puri and Ganjam. Being a maritime state, Odisha offers a vast scope of livelihood both in the inland and marine fisheries sectors. The fishermen population of the state is about 12 lakhs, of which about 8 lakhs are in inland and 4 lakhs are in marine sector. The economic status of the fishermen is generally below poverty line. Paradeep and Dhamra are the two major fishing harbours and there are about 28 major as well as minor landing centres in the state.

The overall activities of NETFISH in the state during the fiscal year consisted of 274 regular programmes, 10 special programmes and 58 boat registration campaigns.

7.2.1 Paradeep Fishing Harbour

Paradeep Fishing Harbour is the largest fishing harbour in Odisha with around 550 nos. of mechanized fishing vessels. This fishing harbour comes under the control of Paradeep Port Trust and the state fisheries has appointed an Asst. Director and a Junior Fishing Officer for looking after the fishing and administrative activities of the harbour.

7.2.1.1 Problems Identified

- ❖ Floors, walls, roofs and drains of auction hall are in damaged condition.
- ❖ Raised platform is not used for keeping fish at the time of auction. Instead fishes are kept on floor.
- ❖ Chewing pan and smoking cigarettes are done inside the auction hall.
- ❖ Lack of water and electricity supply in the auction hall.

- ❖ Fish is washed with harbour water.
- ❖ No proper maintenance of the harbour by the authorities concerned.
- ❖ Lack of proper co-ordination for the smooth functioning of the harbour.

7.2.1.2 Programmes Conducted

Table 14. Programmes conducted in and around Paradeep

Sl.No	Type of programme	Number
1	Fish Quality Management	11
2	Sustainable fishing/Conservation	13
3	Onboard	51
4	Preprocessing	12
5	Dry fish training	2
6	Medical camps	1
7	Other Special programme	3
	Total	93

Free Medical Camp

A medical camp was organized for fisher folks at Paradeep Fishing Harbour on 24th December, 2010. Trawler owners, crew members of fishing boats and fishermen made use of the camp and had free medical check-up and blood group testing.

Exposure Visit

On 20th February 2011, a team of 7 members from Paradeep Fishing harbour were taken for an exposure visit to Bahabalpur landing centre to interact with Bahabalpur trawler association members to understand the various systems in place with regard to hygienic handling of fish. The visit was organized by NETFISH involving the Trawler Association members of Paradeep Fishing harbour, NGO member and Bahabalpur Trawler Association members. The main objective of the meeting was to upgrade the fish handling practices at Paradeep fishing harbour.

Workshop

NETFISH arranged a work shop at Bhubaneswar regarding the poor sanitary and hygienic condition of the Paradeep fishing harbour

involving Paradeep Port Trust, top official of state fisheries including Fishery Secretary, Export Inspection Agency and Trawler owner association of Paradeep fishing Harbour on January 11th 2011. Chief Executive of NETFISH and MPEDA officials also attended the programme.

7.2.1.3 Outcomes

- ❖ Trawlers are carrying sufficient ice while going for fishing.
- ❖ Complete Fishing ban was observed during ban period.
- ❖ All fishing vessels are cleaned regularly.
- ❖ Paradeep harbour management society was formed and in its first general body meeting a proposal was passed for the up-gradation of auction hall as well as the entire harbour area.

7.2.2 Bahabalapur fishing jetty

Bahabalapur Fishing jetty, Balasore is the largest fishing jetty of Odisha. This fishing jetty is operated under state fisheries department. Around 250 nos of mechanized fishing vessels are operated in this fishing jetty.

7.2.2.1 Problems Identified

- ❖ A part of the wharf is broken
- ❖ Auction area is not used by trawler members Boundary wall is absent in one side of the fishing jetty
- ❖ Main gate is in a damaged condition
- ❖ Vehicle Parking space is not yet identified

7.2.2.2 Programmes Conducted

Table 15. Programmes conducted in and around Bahabalapur

Sl.No	Type of programme	Number
1	Fish Quality Management	9
2	Sustainable Fishing/Conservation	9
3	Onboard	20
4	Aqua farm training	4
5	Dry fish training	2
6	Other Special programmes	3
	Total	47

7.2.2.3 Outcomes in Bahabalapur

- ❖ Carrying sufficient ice while going for fishing by trawlers and gill netters.
- ❖ Crushed ice is collected directly in to plastic crates from the crusher instead of crushing on floor.
- ❖ Ninety percent of trawlers and gill netters are equipped with crates for storage of their catch inside the fish hold.
- ❖ The quality of raw material has improved.
- ❖ Complete fishing ban was observed during ban period.
- ❖ Bahabalapur trawler association members constructed new concreted auction area by their own.
- ❖ Trawlers have started using plastic basket instead of Bamboo basket.
- ❖ A Member of Bahabalapur Trawler Association started keeping plastic baskets in his shop along with other fishing materials. Till date 150 nos of plastic baskets were already sold.

7.2.3 Balaramgadi fish landing centre

Balaramgadi Fish landing centre in Balasore is one of the largest fish landing centres of the state. It is a natural fish landing centre having beach landing option and around 600 nos of mechanized fishing vessels are operated from this landing centre. The landing centre is under the control of state fisheries department.

7.2.3.1 Problems Identified

- ❖ All fishing boats are landing their catch in open beach.
- ❖ The small jetty like structure in the landing centre is not useful for fishing boats to berth.
- ❖ Fishing vessels cannot enter directly to the landing centre as there is no sufficient depth.
- ❖ Small country boats carry raw material from trawlers and gill-netters to the shore and land the catch in bare beach. From the beach trolley rickshaws carry the catch to landing centre.
- ❖ Lack of auction hall and raised platforms in the landing centre.
- ❖ No proper roads to landing centre.
- ❖ Use of landing centre beach for toilet purpose.

Trawler owners auction the catch in their own sheds.

- ❖ Around 13 nos. of unauthorized peeling sheds are running in this landing centre.

7.2.3.2 Programmes Conducted

Table 16. Programmes conducted in and around Balaramgadi

Sl.No	Type of programme	Number
1	Fish Quality Management	12
2	Sustainable Fishing/Conservation	14
3	Onboard	25
4	Preprocessing	12
5	Aqua farm training	8
6	Dry fish training	2
7	Other Special Programmes	2
	Total	75

7.2.3.3 Outcomes

- ❖ Trawlers and gill netters are now carrying sufficient ice while going for fishing
- ❖ Crushed ice is collected directly from the crusher to avoid ice to fall on the floor.
- ❖ Almost all trawlers and gill netters are equipped with plastic crates for keeping their catch inside the fishing vessel.
- ❖ The quality of raw material is highly satisfactory.
- ❖ Complete fishing ban was observed during ban period.
- ❖ Trawlers have started using plastic baskets instead of Bamboo baskets.

7.2.4 Chilka

Chilka, the largest brackish water lagoon in Asia, is one of the main sources of capture fisheries of Odisha and the fisheries output shares more than 70% of Chilka's economic value. Chilka provides livelihood to about 2,00,000 fishermen living in 127 villages located in and around Chilka. In order to promote awareness for conservation and sustainable use of natural resources in Chilka lagoon, Chilka Development Authority and NETFISH started a joint intensive extension training programmes for fishers in the lagoon with the

support of Odisha State Fisheries Department from the year 2009-10 onwards.

7.2.4.1 Problems Identified

- ❖ Poor Infrastructure facilities in landing centres of Chilka area.
- ❖ Lack of proper knowledge regarding fish quality management & conservation among the fishermen.
- ❖ Fishermen are not using sufficient quantity of ice for preserving the catch.
- ❖ Ice plants are not available in and around the fishermen villages of Chilka area.
- ❖ All fishermen are not using the insulated ice box to preserve their catch. Instead they are using plastic bags/open trays/thermocool boxes etc. Fishermen are still using the traditional method during post harvest handling of fishery products.

7.2.4.2 Programmes Conducted

Table 17. Programmes conducted in and around Chilka

Sl.No	Type of programme	Number
1	Fish Quality Management	11
2	Sustainable Fishing/Conservation	49
3	Onboard	8
4	Trainer's Training programme	1
	Total	69

7.2.4.3 Outcomes

- ❖ 4-5% of chilka fishers started using insulated fish boxes supplied by MPEDA through CDA. 1545 nos. of insulated fish boxes are supplied through MPEDA scheme till date.
- ❖ Fishery products from Chilka are earning much better price after the use of insulated fish boxes. Some private ice factory owners in Chilka region has come forward to set up ice plant due to increase demand of ice by Chilka fishermen.
- ❖ Due to NETFISH awareness programme, a few of the Primary fishermen co-operative societies started their own fish trading activities in Chilka area.

7.2.5 Awareness Camp

During the year 2010-11, NETFISH, ODISHA participated in 2 awareness camps, one at Balasore and another at Bhubaneswar. The camp conducted at Balasore from 21st to 24 January 2011 was organized by Industry Department, Govt. of Odisha. In Bhubaneswar, the awareness camp was organized by State Fisheries department from 14th to 17th February 2011. NETFISH activities as well as the importance of fish quality management, conservation and sustainable fishing were explained to the participants in the awareness camps.

7.2.6 Trainer’s Training Programme

NETFISH & C.D.A jointly organized a 2 days Trainer’s training programme on 30th & 31st July 2010 at Fishery Training Institute (FTI) Balugaon, Chilka. A total of 20 trainees from different NGOs attended the programme. The Chief Executive of C.D.A. inaugurated the programme which covered topics such as: aim and objective of trainer’s training programme, NGOs facilitation for promoting sustainable fisheries in Chilka with active participation of PFCSS, role of MPEDA, fish quality management and its importance, role of NGOs in guiding PFCSS for better management of society, implementation of OMFRA Act, role and responsibilities of PFCSS in promoting responsible fisheries in Chilka and impact of NETFISH training programme on Chilka fishermen.

7.3 Andhra Pradesh

The State of Andhra Pradesh is having a coast line of 974 Km spread in 9 coastal districts. The state have 4 major fishing harbours viz. Visakhapatnam, Kakinada, Machilipatnam and Nizampatnam and 36 major and minor fish landing centres. There are about 2028 Mechanized boats, 5056 Motorized boats & 17762 traditional boats in AP coast. About 93% of fishing crafts are artisanal/motorized/mechanized and 7% are deep sea fishing vessels. The selected harbours for NETFISH activities are Visakhapatnam, Kakinada, Machilipatnam & Nizampatnam. Tallarevu & Bhimavaram are the selected areas for Aquaculture programmes. Extension programmes were conducted in and around the selected areas.

7.3.1 Visakhapatnam

Visakhapatnam fishing harbour is located in the premises of Visakhapatnam Port Trust and around 600 mechanized fishing vessels are operated from this harbour. Visakhapatnam also have fish landing centres at Pudimadaka and Mangamaripet, which are beach landing centres where the major fish items are landed by fiber boats.

7.3.1.1 Problems Identified

- ❖ Use of bamboo baskets for handling catch.
- ❖ Unhygienic handling of ice
- ❖ Trash fish landings
- ❖ Landing of under size tuna at Pudimadaka fish landing centre
- ❖ Fiber boat are not carrying ice while going for single day fishing

7.3.1.2 Programmes Conducted

Table 18. Programmes conducted in and around Visakhapatnam

Sl.No	Type of programme	Number
1	Fish Quality Management	46
2	Sustainable Fishing/Conservation	26
3	Onboard	8
4	Preprocessing	6
5	Dry fish training	1
6	Street-plays	20
7	Mass communication	2
8	Trainers training programmes	1
	Total	110

Street Play

In Visakhapatnam region, a total of 20 street play shows were conducted during the financial year. These programmes were arranged mostly for fishermen around Visakhapatnam fishing harbour and Pudimadaka fish landing centre. Around 1400 fishermen attended these programmes which covered all aspects of Fish Quality Management and Sustainable Fishing.

Demonstration of insulated boxes

On 31.01.2011, NETFISH organized 2 mass communication programmes for the demonstration of insulated ice boxes at Visakhapatnam. The demonstration was done by Sintex Industries Limited. As a result of the programme a few of the fiber boat fishermen came forward for availing subsidy for insulated ice boxes.

Introduction of small plastic baskets

NETFISH successfully introduced small type plastic baskets, a replica of the bamboo baskets being used in the harbour, at Vishakhapatnam fishing harbour in a function conducted on 22.01.11. The Scientist in Charge of Central Institute of Fisheries Technology (CIFT) launched the product for NETFISH. DD, MPEDA, RO, Visakhapatnam, AD, State Fisheries Department, Visakhapatnam, CE, NETFISH, SCo, NETFISH, President, Andhra Pradesh Mechanized Boat Owners Association, President, Dolphin Mechanized Boat Operators Welfare Association, President, DFYWA and Visakhapatnam boat owners attended the launching ceremony. Replacement of bamboo baskets with the new plastic baskets in Vishkhapatnam fishing harbour is a good movement with regard to the quality management in fishing vessels. Boat owners association agreed that the entire vessels would be replacing the bamboo baskets with the new plastic baskets as the stocks are available in the market.

7.3.1.3 Outcomes

- ❖ The boat owners of Visakhapatnam fishing harbour have started using plastic baskets for handling ice and washing materials
- ❖ Improvement in sanitation at Visakhapatnam fishing harbour
- ❖ Some of the boat owners are directly loading ice from the trucks to boats to avoid contamination of ice
- ❖ Fishing boats are cleaned with detergent and scrubber after every fishing operation
- ❖ Fish holds and other fish contact surfaces are kept clean
- ❖ Trash fishing has reduced to a certain extent
Trawl net's cod end mesh size has increased from 30 mm to 35 mm

7.3.2 Kakinada

Kakinada is having a fishing harbour and two landing centres. The Kakinada fishing harbour is maintained by the state fisheries department and more than 270 mechanized fishing vessels operate from this harbour. Uppada and Kumbabishkam landing centres in Kakinada are the beach landing centres and the major landings include fish and shrimp.

7.3.2.1 Problems Identified

- ❖ Repacking of auctioned fish is done outside the exporter cubicles
- ❖ Ice crushing is taking place without any order
Unclean fish contact surfaces in fishing vessels
- ❖ Usage of bamboo baskets
- ❖ Unhygienic ice loading practices
- ❖ Poor cold chain operation in fiber boats
- ❖ Unhygienic fish drying practices at Uppada fish landing centre

7.3.2.2 Programmes Conducted

Table 19. Programmes conducted in and around Kakinada

Sl.No	Type of programme	Number
1	Fish Quality Management	23
2	Sustainable Fishing/Conservation	26
3	Dry fish training	11
4	Street-plays	20
	Total	80

Street Play

On 19th and 20th August 2010, 10 street play shows were conducted at Yetimoga and Kakinada Fishing harbour. These programmes are conducted in association with AP state fishermen development and welfare association Kakinada. On 21st and 22nd January 2011, 10 street play shows were conducted at Kakinada fishing harbour and Uppada fish landing centre on Fish Quality Management and Sustainable Fishing.

7.3.2.3 Outcomes

- ❖ Fishing harbour management committees and associations have started arrangements to install tube ice machines provided by MPEDA.
- ❖ Improvement in handling of the auctioned material by the exporters.
- ❖ Most of the traders are crushing ice directly in to crates.
- ❖ Boat owners at Uppada fish landing centre started preferring selective fishing gears rather than non-selective ones.
- ❖ Dry fishers at Uppada started using plastic baskets for handling fish and are also using PVC sheets and available cement platforms for keeping fish for drying.
- ❖ Dry fishers at Uppada started changing their cement tanks to the fiber tanks with lid. Earlier they were using cement tank which are too heavy to clean regularly and palm leaves were used to cover it. Fiber tanks are light weight and easy to clean. The top of the tanks are covered with plastic sheets.
- ❖ Fishermen started loading material directly to the trucks for short distance transportation using plastic nets at Uppada fish landing centre. Traditional fishermen at Uppada fish landing centre prefer to take ice in insulated boxes in their fiber boats. They are showing interest to make use of MPEDA subsidy scheme to purchase insulated ice box.

7.3.3 Machelipatnam

The Machelipatnam fishing harbour is operated by the Dept of State Fisheries and about 97 mechanized fishing vessels operate from this harbour. Gilakaladindi and Manginapudi are the associated landing centres of the harbour where the major landings are fishes and shrimps.

7.3.3.1 Problems Identified

- ❖ No proper cleaning system in the Machelipatnam harbour.
- ❖ Trash fish landings.
- ❖ Up-gradation is required for pre-processing centres.

7.3.3.2 Programmes Conducted

Table 20. Programmes conducted in and around Machelipatnam

Sl.No	Type of programme	Number
1	Fish Quality Management	14
2	Sustainable Fishing/Conservation	6
3	Preprocessing	9
	Total	29

7.3.3.3 Outcomes

- ❖ Association people agreed to install the tube ice machines provided by MPEDA and stakeholders agreed to maintain them.
- ❖ Fishermen started unloading the catch at the harbour. Earlier they used to land the material at Gilakaladindi landing centre where there is no proper facilities.
- ❖ Awareness was created among the boat owners of Machelipatnam on MPEDA subsidy schemes for constructing fish holds and new boats. Some of the boat owners have come forward for MPEDA registration for availing these subsidies. Advance approval applications have received by RO, MPEDA, Vizag towards this.
- ❖ Continuous awareness programmes to the stake holders leads to use of NFDB funds for harbour up-gradation.
- ❖ Stake holders are weighing and packing the fish inside the auction halls hygienically by using platform weighing machines and the auction halls are being cleaned every morning and evening.
- ❖ PPC workers are using hand dips to keep their hands free of microbes.
- ❖ Floor peeling at PPCs are replaced by peeling on plastic sheets.
- ❖ PPC owners have come forward for up-gradation using MPEDA subsidy.
- ❖ Machelipatnam fishing harbour boat owners prefer square shaped mesh over diamond shaped mesh at cod end.

7.3.4 Nizampatnam

More than 170 mechanized fishing vessels operate from Nizampatnam fishing harbour. The

harbour is maintained by the State Fisheries department. The major fish landing centre in Nizampatnam is Odarev, which is a beach landing centres and the major landings are fish and shrimp.

7.3.4.1 Problems Identified

- ❖ Infra structure facilities are not properly utilized. Cleaning activities in the fishing harbour need to be improved.
- ❖ Trash fish landings.
- ❖ Weighing and auctioning is done outside the auction hall.
- ❖ Lack of fish hold facility in fishing vessels. Dry fish activity inside fishing harbour.
- ❖ Up-gradation required at pre-processing centres.

7.3.4.2 Programmes Conducted

Table 21. Programmes conducted in and around Nizampatnam

Sl.No	Type of programme	Number
1	Fish Quality Management	13
2	Sustainable Fishing/Conservation	9
3	Preprocessing	7
	Total	29

7.3.4.3 Outcomes

- ❖ Association agreed to use the tube ice machines installed by MPEDA
- ❖ Trash fish landing is reduced.
- ❖ Awareness was created among the boat owners of Nizampatnam and Machelipatnam on MPEDA registration of fishing vessels.
- ❖ Boat owners are taking initiation in registering their boats at MPEDA and receiving advance approval letters for constructing fish holds to maintain quality of fish.
- ❖ Traditional fishermen at Odarev fish landing centre started approaching MPEDA for availing insulated ice box subsidy as they prefer to take ice in insulated boxes in their fiber boats.

7.3.5 Tallarevu and Bhimavaram

Tallarevu in East Godavari district and Bhimavaram in West Godavari District are very potential areas for aquaculture. The major spe-

cies cultured are *Penaeus monodon*, *Machrobrachium rosenbergii*, *Litopenaeus vannamei* and a few fresh water fishes. As the exporters are nearer to these areas aquaculture became a main cultivation in these area. In West Godavari district alone, approximately more than 70,000 acres were brought under aquaculture.

7.3.5.1 Problems Identified

- ❖ No awareness on chill killing practice in harvestings of aquaculture ponds.
- ❖ Poor in cold chain operation.
- ❖ Unhygienic handling of the harvested materials.
- ❖ Poor in record writing and keeping.

7.3.5.2 Programmes Conducted

Table 22. Programmes conducted in and around Tallarevu & Bhimavaram

Sl.No	Type of programme	Number
1	Tallarev Aqua farm training	6
2	Bhimavaram Aqua farm training	4
	Total	10

7.3.5.3 Outcomes

- ❖ Aquafarm workers started practicing chill killing.
- ❖ Aquafarmers started maintaining the cold chain operation.
- ❖ Started registering the culture ponds with authorities concerned.
- ❖ Shades are being provided to avoid direct exposure of the catch to sun.

7.3.6 Other Special Programmes

- ❖ NETFISH associated with Department of Fisheries, Machelipatnam in conducting a training programme for the pre-processing workers and vendors on 29th July 2010. Deputy Director, Assistant Director and Fisheries Development Officer of the Department of Fisheries attended the training conducted at Machelipatnam fishing harbour. Awareness on hygiene and sanitation in pre-processing centres were given to the participants.
- ❖ NETFISH participated in a training programme

organized at State Institute of Fisheries Technology (SIFT) Kakinada on 21.09.10. The programme funded by the National Fishery Development Board was conducted to give state level training to 20 coastal Fishery Development Officers. NETFISH state coordinator gave a lecture on Hygiene in Onboard fishing vessel. Also, NETFISH documentaries and animation films on hygienic handling of fish were showed to the participants.

- ❖ NETFISH took part in the SC/ST Aqua farmers training programme conducted by SRC, MPEDA, Bhimavaram on 23.10.10. Farmers were trained on hygiene and better management practices to be implemented in aqua farms. During the training programme NETFISH showed a documentary on hygienic harvest in aquafarms.
- ❖ A fish market training programme for the fisherwomen of Visakhapatnam fishing harbour and Chepala uppada fish landing centre was conducted on 14.12.10 at the office of State Fisheries Department. Fishery development officers from state fisheries explained to the participants that NETFISH is trying to control usage of bamboo baskets in fishing boats. In the same way usage of bamboo baskets in fish markets is also to be controlled, he added. In the programme, NETFISH supplied plastic baskets to the participants to encourage them in using plastic baskets.
- ❖ The regional trainer's training programme was conducted on 9th and 10th March 2011 at CIFT, Visakhapatnam. Six personals from the 4 member NGOs attended the training classes which were taken by the scientists of CIFT and CMFRI.
- ❖ Telugu Street Plays, 15 nos, were arranged for Aqua Aquaria 2011 at Chennai trade center, Chennai from 6th to 8th February 2011.

7.4 Tamilnadu

Tamilnadu, one of the important coastal states in the East coast, is having a coastline of 1076 kms. It has 13 coastal districts and 591 fishing villages with a total marine fishers population of about 8.61 lakhs, of which 2.60 lakhs fishermen are actively engaged in fishing. The fishing fleet strength

of Tamil Nadu includes 6200 mechanized fishing crafts and 49,904 traditional crafts (18,912 Vallams and 30,992 catamarans).

7.4.1 Kasimedu Fishing Harbour

Kasimedu fishing harbour is one of the major fish landing centres in Tamilnadu. More than 727 mechanized boats are operating from the harbour and around 6000 people including fishermen, boat owners, auctioneers and buyers are involved in the regular activities of the harbour.

7.4.1.1 Problems Identified

- ❖ Non registration of mechanized boats having OAL > 15 m in any of the agencies like State Fisheries, MPEDA and MMDA
- ❖ Poor handling of ice such as dragging and crushing ice on the floor
- ❖ Almost all trawlers operating at Kasimedu fishing harbour use less than 35 mm cod ends in their nets
- ❖ Usage of bamboo baskets is in vogue for fish handling
- ❖ People using beach as a toilet and dumping of wastes in the harbour premises

7.4.1.2 Programmes Conducted

Table 23. Programmes conducted in and around Kasimedu

Sl.No	Type of programme	Number
1	Fish Quality Management	51
2	Sustainable Fishing/Conservation	41
3	Onboard	7
4	Preprocessing	8
	Total	107

7.4.1.3 Outcomes

- ❖ Due to efforts taken by NETFISH and Meenavar Ikkiya Sabhai, the toilet in the harbour premises is reopened after a long time to prevent people using beach as toilet.
- ❖ Due to continuous awareness program, Mechanized boat owners association in Kasimedu has ordered 10,000 plastic baskets in order to eliminate bamboo basket, which will

be distributed to boat owners after the ban period.

7.4.2 Cuddalore

The Cuddalore district has a coastal length of 57.5 Kms. with encompassing 49 marine fishing villages with a total population of 49,113. The fishing fleet strength of Cuddalore district includes 656 mechanized boats, 1,111 FRP vallams and 5,538 wooden catamarans. The Cuddalore fishing harbour belongs to the Port Trust but it is managed by State Fisheries Department.

7.4.2.1 Problems Identified

- ❖ No infrastructure facilities available for hygienic handling of fishes.
- ❖ Operation of Purse seines.

7.4.2.2 Programmes Conducted

Table 24. Programmes conducted in and around Cuddalore

Sl.No	Type of programme	Number
1	Fish Quality Management	20
2	Sustainable Fishing/Conservation	16
	Total	36

School Programme

A school programme was conducted at Samiyarpetai, Cuddalore district to create awareness on conservation of marine resources among school children. The programme was arranged through the member NGO, MSSRF on 23rd March 2011.

7.4.2.3 Outcomes

- ❖ Fishermen are now more aware of good fish handling practices and conservation techniques
- ❖ As a result of NETFISH classes fishermen came themselves forward not to throw plastic materials to sea

7.4.3 Pazhayar Fishing Harbour

Pazhayar fishing harbour is situated in Sirkali Taluk, Nagapattinam district. Around 220 mechanized boats are operating from the harbour. This

fishing harbour belongs to the State Fisheries department.

7.4.3.1 Problems Identified

- ❖ Poor hygienic handling of fish and lack of regular washing of harbour
- ❖ The length of wharf is not sufficient to harbour all the boats and need to extend the wharf length.
- ❖ The river mouth is often closed by sand bars and fishermen face hardship to venture into sea for fishing.

7.4.3.2 Programmes Conducted

Table 25. Programmes conducted in and around Pazhayar

Sl.No	Type of programme	Number
1	Fish Quality Management	12
2	Sustainable Fishing/Conservation	10
3	Onboard	1
	Total	23

7.4.3.3 Outcomes

- ❖ Due to continuous awareness programs, Boat owner's Association has permanently engaged one person for cleaning the auction hall and harbour premises.
- ❖ Boat owner's association has constructed an elevated platform for loading of materials in vehicle in order to prevent stagnation of water in front of the auction hall.

7.4.4 Nagapattinam Fishing Harbour

Nagapattinam has a coastline of 187.9 Kms and the entire stretch comprising 51 fishing villages. The industry supports around 21,000 families and accounted for fishermen population of about 87,000. This fishing harbour belongs to the Port Trust but it is managed by the State fisheries department.

7.4.4.1 Problems Identified

- ❖ No infrastructure facilities available for hygienic handling of fishes.
- ❖ Operation of Purse seines.

7.4.4.2 Programmes Conducted

Table 26. Programmes conducted in and around Nagapattinam

Sl.No	Type of programme	Number
1	Fish Quality Management	30
2	Sustainable Fishing/Conservation	18
3	Onboard	2
4	School programme	2
	Total	52

School Programmes

Two school programmes were conducted during the year in Nagapattinam. The programme conducted at Govt. High School, Seruthur, Nagapattinam district on 15.02.11 which was attended by 267 students where as in the programme conducted at Govt High School, Vilunthanmavadi, Nagapattinam District on 25.02.11 had a participation of 280 students. The objectives of the programmes were to create awareness on conservation of marine biodiversity and its importance among school children of fisher community and also to sensitize the children on the importance of marine organisms, food chains, food web and the benefits we acquire from the sea. The topics dealt in the programme included: current status of marine resources, wealth of sea and its unique features, details of marine fishing villages and its dependent population, importance of corals, importance of Mangroves, importance of turtles and other endangered animals, reasons for depletion of fish resources and role of children in conservation of marine resources and sustainable fishing.

7.4.4.3 Outcomes

- ❖ Created awareness on Fish Quality management and conservation of marine resources.
- ❖ Fishermen started taking water cans while going for fishing and stopped using water packets at the sea.

7.4.5 Tuticorin

Tuticorin is the main centre for deep sea fishing in the district which has a coast-line of about

140 Km. Fishes caught are sold either locally or taken for export. There are 11 marine fishing villages. The fishing fleet of the district consists of 450 mechnaised boats, 1300 vallams and 900 Kattamarans. About 5,428 fishermen families are directly engaged in fishing in these vessels.

7.4.5.1 Problems Identified

- ❖ Uncontrolled parking of vehicles in the wharf area
- ❖ Improper maintenance of the area allotted for auctioning of discards/by-catch for poultry feed. The cemented platform is damaged
- ❖ Washing of boats is done only once in a week
- ❖ Usage of harbour water for washing the catch landed
- ❖ Mesh size regulation is not followed. The cod-end of the trawl net meshes are of 5mm to 10 mm
- ❖ TEDs (Turtle Excluder Device) are not used in any boats
- ❖ Security arrangements and scavenging systems are not available in the harbour
- ❖ Non availability of wash water and drinking water in the harbour
- ❖ Lack of bathing facilities, toilets and rest rooms inside the harbour

7.4.5.2 Programmes Conducted

Table 27. Programmes conducted in and around Tuticorin

Sl.No	Type of programme	Number
1	Fish Quality Management	20
2	Sustainable Fishing/conservation	25
3	Onboard	5
4	Preprocessing	20
5	Street-plays	12
	Total	82

Street play

Street play programmes on fish quality management and conservation of marine resources were conducted in the fishing villages of Tuticorin district. Altogether 12 programmes were arranged during the month of February and March 2011.

7.4.5.3 Outcomes

- ❖ Use of ice and ice box popularized among traditional Fisher folks
- ❖ Fisher folks started icing the catch in 1:1 ratio
- ❖ Mechanized boats started cleaning their boats daily
- ❖ Bamboo Baskets are replaced by plastic crates
- ❖ Dry fishers started using clean areas for fish drying
- ❖ Reduced trash fishing

7.4.6 Mandapam

The Mandapam fish landing centre is located along the Gulf of Mannar in Ramnad district. About 700 trawlers are operated from this landing centre. Fishing is carried out seasonally from October to March every year, after that all the boats will be shifted to the landing centre on the Palk Bay side. Shrimp trawl-net and fish trawl-net are the gears being operated at this landing centre.

7.4.6.1 Problems Identified

- ❖ The southern side of Mandapam is provided with wharf facilities, by the Indo- Norwegian Project, which is lacking in the northern side.
- ❖ The boats are cleaned only once in a week.
- ❖ Due to scarcity of good quality water, fishes are cleaned using the harbour side water.
- ❖ Most of the fishes are auctioned either in the beach or in the floor of the auction halls in an unhygienic manner. Raised platforms are not available.
- ❖ Ices are broken with clubs, as ice- crushers are not available nearby.
- ❖ Ice are not put in 1:1 ratio, as required and less ice is put for fish packing.
- ❖ Mesh size regulation is not adopted, by which small fishes and eggs are caught. 5 to 10 mm cod end mesh size is used in trawl nets.
- ❖ Pair-trawling and purse seine operations are resorted by the mechanized boats of Mandapam, which is prohibited by the State Fisheries authorities.

7.4.6.2 Programmes Conducted

Table 28. Programmes conducted in and around Mandapam

Sl.No	Type of programme	Number
1	Fish Quality Management	30
2	Sustainable Fishing/Conservation	26
3	Onboard	5
4	School programmes	5
	Total	66

School Programmes

NETFISH in association with MSSRF, Thangachimadam organized 5 school programmes at the selected schools in Rameswaram Island. More than 3000 people including students and teachers of these schools participated in the programmes which were conducted in the month of January, February and March 2011. Various competitions were also arranged for the children to encourage their participation in the programmes. The topics covered in the programmes are as follows:

- ❖ Availability of marine resources in Tamil Nadu especially in Rameswaram coastal areas
- ❖ The livelihood opportunities to fisher folk through fishing
- ❖ Depletion of marine resources through various factors such as unregulated fishing practices, usage of banned nets, lack of awareness on biodiversity and its resources, endangered species etc.
- ❖ Importance of sand dunes on maintenance of water table in coastal areas
- ❖ Global warming and its effects in coastal areas
- ❖ Roles and responsibilities of fisher folk and their children and entire community in conservation of marine resources
- ❖ The Govt. departments involved in marine resources conservation and its research.

7.4.6.3 Outcomes

- ❖ Fisherman started using plastic baskets instead of bamboo baskets.

- ❖ Fisher folks started icing the catch in 1:1 ration. Mechanized boats are cleaned daily.
- ❖ The fishermen started avoiding plastics to carry food, water and other materials while going for fishing.
- ❖ Reduced trash catch
- ❖ The Boat owner associations are showing interest to keep the harbour and its premises clean.

7.4.7 Mallipattinam

Mallipattinam, located at Latitude 10° 16.60' N and Longitude 79° 18.70' E is situated in Pattukkottai Taluk of Thanjavur District. It is one of the biggest fishing area in the Palk Strait.

7.4.7.1 Problems Identified

- ❖ The entire harbour is not clean and requires a management committee
- ❖ Drying of waste fishes for poultry feed is done inside the harbour premises
- ❖ Auctioning is done in the T-jetty wharf area itself. T-jetty is not cleaned properly, after auctioning
- ❖ Pair-trawling is done by the mechanized boats
- ❖ Hygienic practices of handling of fish are poor Icing and packing the fish is not done in 1:1 ratio and ice crushers are not much used
- ❖ The mechanized boats are not washed with detergent before and after going for fishing
- ❖ Drinking water and wash water are not available in the harbour. Drainage system also has to be made.

7.4.7.2 Programmes Conducted

Table 29 Programmes conducted in and around Mallipattinam

Sl.No	Type of programme	Number
1	Fish Quality Management	32
2	Sustainable Fishing/Conservation	31
3	Onboard	6
4	Aqua farm training	11
	Total	80

7.4.7.3 Outcomes

- ❖ Proper layer by layer icing of the catch in the ration 1:1 is being followed by fisherfolks.
- ❖ The fishermen are avoiding plastics to carry food, water and other materials while going for fishing.
- ❖ Slow transition from bamboo baskets to plastic crates is noticed.
- ❖ Dumping of trash fish partially stopped.
- ❖ The boats are cleaned on daily basis
- ❖ Dry fish makers started using mats and nets for drying the fish.
- ❖ Fishermen wanted to establish FADs and ARs in their regions.

7.4.8 Chinnamuttam

Chinnamuttam is the only harbour located on the eastern side of the district Kanyakumari and was built in 1984 to accommodate about 200 mechanised craft of 32 feet length and 8 feet breadth. About 1500 mechanised fishing vessels are involved in fishing operation and the number of traditional fishing craft operating in the district is estimated to be around 12,000.

7.4.8.1 Problems Identified

- ❖ Washing of fish caught, before selling/auctioning in the harbour sea water
- ❖ Selling of food materials, snacks and tea by the vendors in the busy wharf area
- ❖ Packing and loading of fish in the wharf itself Before packing, the fish are spread on the wharf ground
- ❖ Ice is crushed on the floor
- ❖ No specified parking area for vehicles
- ❖ Overall hygiene is poor in the fishing harbour complex
- ❖ Boat cleaning and washing are done once in a week
- ❖ No cleaning is done at the harbour and torned nets, plastic cups and bags are found scattered everywhere.

West Bengal



Motor Cycle Rally from Dhiga to Bajkul



Mike announcement for boat registration campaign



Use of Plastic baskets in Freserganj and Kakdwip



Cleaning of the catch using fresh water



Cleaning of boat and other equipments



Usage of insulated ice box onboard



Chill killing at aquafarm in Purba Medinipur

Odisha



Distribution of insulated ice box and its usage at Chilka



Trawlers at Bahabalapur carrying enough ice



Use of plastic basket at Bahabalapur



Onboard Training



Landing Centre programme



Fishermen maintaining cleanliness onboard



Workshop at Paradeep

Andhra Pradesh



Hygienic handling of ice at Kakinada



Launching of plastic basket at Vizag



Unloading ice directly to fishing vessels



Dry fish awareness programme



Demonstration of insulated ice box at Nizampatnam



Code end with square meshes



Mass communication programme



Street play

Tamilnadu North



Onboard training programme



Landing centre training programme



Awareness class for fisherwomen



Pre-processing centre training



School programme



Trainer's training programme



Reopened toilet in Kasimedu harbour



Improved practice of fish drying

Tamilnadu South



Landing centre programme



Pre-processing centre training



Cleaning of boats



Use of enough quantity of ice



Improved handling of dry fish



Programme in collaboration with Coast guard



School programme



NETFISH programme in newspaper

Kerala South



Improved condition of Thopumpady fisheries harbour



Meeting with EIC director



Practical demonstration of onboard cleanliness



Plastic baskets in use at Sakhikulangara harbour



Floor peeling changed to table peeling



Movable raised platform designed by NETFISH

NETFISH street-play in news

Kerala North



Trolley distribution at Baypore harbour



Rennovation works going on at Valappattanam harbour



Beach cleanup programme at Mugadhar beach



Fishermen training programme



Demonstration of onboard cleanliness



Karnataka



Before NETFISH training programme at Hannovar



After NETFISH training programmes



Harbour cleanup programme in Tadri harbour



Before training



After training

Improvements due to NETFISH training programmes



Demonstration of onboard cleanliness



Field day for shrimp farmers

Maharashtra



Popularisation of MPEDA ice box subsidy scheme



Street play at Ratnagiri area



School children programme at Mora fishing village



Beach cleaning programme at White sea beach



BRD demonstration at Ratnagiri



Demonstrating the use of BRD in trawl net



Onboard training programme



Conservation class for boat crews

Gujarat



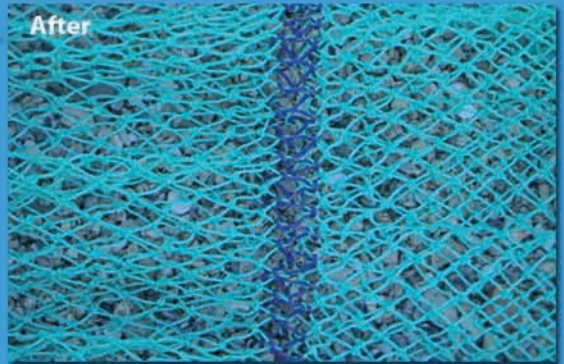
Carry ice for single day fishing, Mangrol fishing harbour



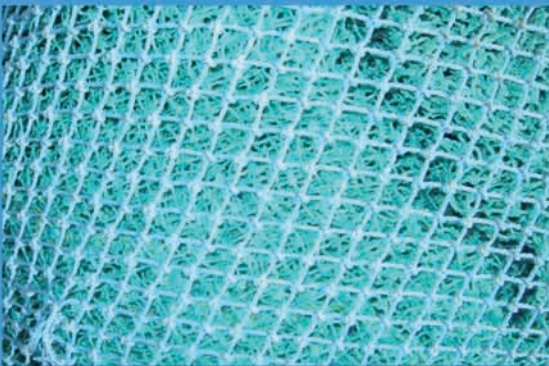
Fishermen maintaining cleanliness of utensils, Veraval



Improved condition of Porbandar fish landing centre



Fishermen started using nets with bigger mesh sizes as a result of NETFISH trainings



Nets in use at Vanakbara landing centre



Clean Vanakbara landing centre

7.4.8.2 Programmes Conducted

Table 30 Programmes conducted in and around Chinnamuttam

Sl.No	Type of programme	Number
1	Fish Quality Management	18
2	Sustainable Fishing/Conservation	21
3	Onboard	6
4	Street-plays	32
	Total	77

Street Play

NETFISH street play programmes were arranged at various fishing villages around the Chinnamuttam harbour during the month of February and March 2011. Altogether 32 shows were performed for which a good response was received from fishermen.

7.4.8.3 Outcomes

- ❖ Proper layer by layer icing of the catch in the ration 1:1 is being followed by fisherfolks
- ❖ The fishermen are avoiding plastics to carry food, water and other materials while going for fishing
- ❖ The boats are cleaned on daily basis using soaps & detergents
- ❖ Hygienic preparation of dry fish is started
- ❖ Dumping of by-catch/ trash fish in jetties is completely stopped
- ❖ Usage of bamboo baskets are completely stopped
- ❖ Increased cod end mesh size(32mm to 38mm) are used in trawl nets

7.5 Kerala

Kerala is bordered on the west by the Arabian Sea, which is rich in marine flora and fauna. The coastline of the state runs to a length of about 590km. The potential of the state in terms of marine fisheries is believed to be about 5.17 lakh tones.

7.5.1 Munambam Harbour

Munambam is a major fishing harbour of Kerala. Nearly 300 boats and 50 big vallams are

operating from this harbour. Daily 2000 to 3000 fishermen are engaged in various activities related to fisheries industry at this harbour. A society comprising representatives of Harbour Engineering Department, Marine Export Development Authority, State Fisheries Department and stake holders is looking after the day to day activities of the harbour. The harbour management Society appointed a hygienic inspector in the harbour to supervise the activities of the harbour. Now Munambam is one of the best fishing harbours of India.

7.5.1.1 Problems Identified

- ❖ Workers were not using hand gloves
- ❖ Handling the fish with leg
- ❖ Catching large quantities of juveniles especially threadfin bream

7.5.1.2 Programmes Conducted

Table 31. Programmes conducted in Munambam harbour

Sl.No	Type of programme	Number
1	Mass communication	11
	Total	11

7.5.1.3 Outcomes

- ❖ The practice of handling the fish with leg is reduced to a considerable extent by continuous awareness programmes to the stake holders.
- ❖ Workers started using hand gloves

7.5.2 Munakkakadavu Fisheries Harbour

Munakkakadavu fisheries harbour is located in Trichur district of Kerala.

7.5.2.1 Problems Identified

- ❖ Broken auction hall and wharf
- ❖ Unclean environment
- ❖ No proper drainage facility
- ❖ No toilet facility
- ❖ No drinking water facility
- ❖ Unhygienic fish handling practices

7.5.2.2 Programmes Conducted

Table 32. Programmes conducted in and around Munakkakadavu landing centre

Sl.No	Type of programme	Number
1	Quality	18
2	Conservation	17
	Total	35

7.5.2.3 Outcomes

- ❖ By the continuous effort of NETFISH, auction hall was renovated with raised platforms by Harbour Engineering Department (HED); New toilets were also constructed.
- ❖ Drinking water facility was made available in the harbour by HED
- ❖ Panchayat arranged ladies from “Thozhil Urappu” schemes for cleaning harbour and premises
- ❖ Continuous awareness classes were given to stakeholders and as a result the hygienic condition of the harbour improved considerably

7.5.3 Ponnani Harbour

Ponnani harbour is located in Malappuram district and 200 boats and 150 vallams are operating from here. More than 1000 fishermen from nearby villages are working at this harbour. The hygienic condition of the harbour was very poor. Now a new harbour is being constructed here with all necessary infrastructure facilities.

7.5.3.1 Problem Identified

- ❖ No proper facilities for berthing of boats and auctioning the catch
- ❖ Poor hygienic condition of the harbour

7.5.3.2 Programmes Conducted

Table 33. Programmes conducted in and around Ponnani harbour

Sl.No	Type of programme	Number
1	Quality	13
2	Conservation	13
3	On board	2
4	Street plays	20
	Total	48

7.5.3.3 Outcomes

- ❖ With the recommendation of NETFISH, Harbour Engineering Department started constructing a new harbour with all necessary infrastructure facilities

7.5.4 Baypore Harbour

Baypore harbour is one of the important harbours of Calicut. More than 2000 fishermen are working at this harbour. Nearly 500 boats and more than 150 vallams are bringing catch to this harbour. Now the length of the wharf has extended and a second auction hall has been constructed. Parking space for the vehicles is also extended and the entire hygienic condition of the harbour is improved.

7.5.4.1 Problems Identified

- ❖ Bringing waste from hotel and corporation to dump in the harbour premises
- ❖ No proper infrastructure facilities
- ❖ Unorganized parking of vehicles
- ❖ Use of bamboo baskets especially for weighing fish
- ❖ Carrying fish over head

7.5.4.2 Programmes Conducted

Table 34. Programmes conducted in and around Baypore harbour

Sl.No	Type of programme	Number
1	Quality	28
2	Conservation	26
3	Onboard	2
4	Landing centre cleanup	1
5	Street play	35
	Total	92

Trolley Distribution

In order to ensure hygienic handling of seafood as well as to maintain international standard in fish handling NETFISH provided ten big trollies for the workers of Baypore harbour. These trollies can carry 12 to 14 crates at a time and will be highly useful to carry fish from boats to auction hall, ice from vehicles to boats, auctioned fish to

vehicles, etc These trollies can eliminate the earlier practice of carrying fish and ice over head in bamboo baskets, and while doing so the dress of workers became dirty with the dripping water from the bamboo baskets. This will also lead to the complete replacement of bamboo baskets from Baypore harbour.

7.5.4.3 Outcomes

- ❖ Waste disposal at harbour premises was stopped by after due discussion with corporation officials
- ❖ Renovation of harbour is almost completed
- ❖ Practice of carrying fish over head has stopped

7.5.5 Puthiappa Harbour

Puthiappa harbour is one of the big harbours in Calicut. 300 boats and 200 vallams are operating from this harbour. The hygienic condition is poor because of the lack of essential infrastructure facilities. NFDB allotted the fund for the renovation work of the harbour and the work has already started. NETFISH associated with Matsyafed to conduct training programmes at this harbour.

7.5.5.1 Problems Identified

- ❖ No proper road facility to the harbour
- ❖ No proper drainage facility in the harbour
- ❖ Floor of the auction hall is damaged.
- ❖ No proper infrastructure facilities
- ❖ Poor hygienic condition due to lack of infrastructure facilities
- ❖ Extensive use of bamboo baskets in the harbours
- ❖ Carrying material over head

7.5.5.2 Programmes Conducted

Table 35. Programmes conducted in and around Puthiappa harbour

Sl.No	Type of programme	Number
1	Quality	25
2	Conservation	25
3	Onboard	1
4	Street Play	20
	Total	71

Landing Centre Cleanup

NETFISH organized a landing centre cleanup programme at Mughadar near Baypore harbour where vallams bring their catch for export. The fisherwomen also joined for the cleaning programme and cleaned the entire area in one day. This area is maintained clean even after the training programme. NETFISH do regular monitoring of this harbour.

7.5.5.3 Outcomes

- ❖ Due to repeated pursuance from the side of NETFISH, HED has sent a proposal to NFDB and thus has sanctioned the financial aid for the harbour development.
- ❖ Renovation work of harbour is already started with the fund from NFDB
- ❖ Road to the harbour is constructed.
- ❖ Other works are continuing
- ❖ Completely stopped the practice of carrying fish overhead and fish and ice are now carried on trolleys
- ❖ Completely stopped the use of bamboo baskets in the harbour

7.5.6 Valapattanam Harbour

Valapattanam harbour is located in Kannur district. More than 500 boats and 300 vallams are operating from this harbour and 2500 fishermen are working there. NETFISH has initiated the steps to improve the condition of the harbour and due to the pursuance, a new harbour with lengthy wharf is constructed. Renovation work is going on at this harbour by the Harbour Engineering Department.

7.5.6.1 Problems Identified

- ❖ No proper infrastructure facilities
- ❖ Unhygienic fish handling practices

7.5.6.2 Programmes Conducted

Table 36. Programmes conducted in and around Valapattanam harbour

Sl.No	Type of programme	Number
1	Quality	16
2	Conservation	15
3	Onboard	2
4	Street play	20
	Total	53

7.5.6.3 Outcomes

- ❖ Renovation of harbour is going on
- ❖ Workers of the harbour started to adopt good fish handling practices

7.5.7 Thoppumpady

Cochin fisheries harbour is one of the major fisheries harbours located in Ernakulam district. The existing harbour has got necessary infrastructure for berthing, landing and auctioning of catch. The total area of the harbour is 27.863 acres including reclaimed land of 4.25 acres. There are 750 mechanized and motorized boats operating from this harbour. Trawling, gillnetting, purse seining and ring seining are the major fishing methods in this harbour.

7.5.7.1 Problems Identified

- ❖ Irregular cleaning system
- ❖ Fish cutting in the auction hall
- ❖ Stacking crates on the raised platform
- ❖ Improper icing of the material
- ❖ Poor infrastructure facility

7.5.7.2 Programmes Conducted

Table 37 Programmes conducted in and around Thoppumpady harbour

Sl.No	Type of programme	Number
1	Fish Quality Management	15
2	Sustainable fishing/Conservation	14
3	Street-plays	5
4	Harbour or coastal cleanup	1
5	Mass communication	4
6	Other Special programmes	5
	Total	44

In order to address the issues, different types of programmes such as harbour clean-up, mass communication, awareness meetings, street plays besides regular extension training programmes were organized at the harbour to convey NETFISH messages to fishermen.

As a result of continuous meetings and discussions with Harbour Engineering Department of Thoppumpady, HED deployed a team of four

outsourced workers for daily cleaning of the harbour. Daily monitoring system was implemented in Thoppumpady through Field Officers. State Coordinator, NETFISH visits the harbour once in a week to assess the hygienic condition of the harbour and reports to the harbour authority. Hygienic condition and over all cleanliness of Thoppumpady harbour has considerably improved.

7.5.7.3 Outcomes

- ❖ Started the up-gradation work of the harbour by HED
- ❖ Regular cleaning system implemented at the harbour with out-sourced workers.
- ❖ Implemented daily monitoring system at harbour through Field Officers Fish cutting in the Cochin Fisheries Harbour was controlled
- ❖ Stacking crates on the raised platform was also controlled

7.5.8 Aroor

There are 32 Pre-processing centres located in the Aroor region. All of them availed financial subsidy from MPEDA for construction of PPCs with modern facility.

7.5.8.1 Problems Identified

- ❖ Floor peeling in all preprocessing centres
- ❖ Unhygienic condition in the Preprocessing centres

7.5.8.2 Programmes Conducted

Table 38. Programmes conducted in and around Aroor

Sl.No	Type of programme	Number
1	Preprocessing	34

7.5.8.3 Outcomes

- ❖ Started table peeling in selected PPCs
- ❖ Hygienic conditions improved in the selected PPCs

7.5.9 Ambalapuzha

The Ambalapuzha region of Alapuzha district has several peeling sheds and people mainly

women are engaged in peeling works for their livelihood.

7.5.9.1 Problems Identified

- ❖ Hut peeling
- ❖ Floor peeling
- ❖ Unhygienic condition of the peeling sheds
- ❖ Poor personal hygiene of peeling workers

7.5.9.2 Programmes Conducted

Table 39. Programmes conducted in and around Ambalapuzha

Sl.No	Type of programme	Number
1	Preprocessing	69

Special Programme

A survey was conducted at Ambalapuzha region to assess the willingness of existing peeling shed operators to rehabilitate them to newly constructed CPC at Ambalapuzha. A proforma was prepared for collecting the information from peeling shed operators. There are 28 peeling sheds located and out of which 24 peeling sheds were visited and collected the information.

7.5.9.3 Outcomes

- ❖ Floor peeling practice in MPEDA subsidy availed sheds is changed to table peeling
In selected peeling sheds, workers started using plastic basins to keep materials while peeling
- ❖ Hygienic condition is improved in many sheds
- ❖ Newly constructed CPC Ambalapuzha inaugurated for rehabilitating unhygienic hut peeling centres
- ❖ Floor peeling in MPEDA subsidy availed sheds changed to table peeling
- ❖ In selected peeling sheds hygienic condition is improved

7.5.10 Sakthikulangara

Sakthikulangara is the biggest fishing harbour in Kollam district. The existing harbour has got necessary infrastructure for berthing, landing and auctioning of the fish catch. More than 2000

mechanised boats and 150 motorized boats are operating from this harbour.

7.5.10.1 Problems Identified

- ❖ Unhygienic condition of the harbour and irregular cleaning system
- ❖ Poor infrastructure facility
- ❖ Use of bamboo baskets for fish handling
- ❖ Unscientific and unorganized peeling in and around Sakthikulangara harbour
- ❖ Inshore trawling
- ❖ Night trawling
- ❖ Juvenile fishing

7.5.10.2 Programmes Conducted

Table 40. Programmes conducted in and around Sakthikulangara harbour

Sl.No	Type of programme	Number
1	Fish quality management	12
2	Sustainable fishing/Conservation	16
3	Onboard	7
4	Street-plays	15
	Total	50

7.5.10.3 Outcomes

- ❖ Hygienic condition is improved by continuous awareness programmes
- ❖ Implemented regular cleaning system at the harbour
- ❖ Infrastructure upgraded
- ❖ 100% bamboo baskets are now replaced by plastic baskets
- ❖ Community peeling centre constructed and inaugurated

7.5.11 Thottapally-Arattupuzha

Thottapally & Arattupuzha are the two major fishing villages in Alappuzha District of Southern Kerala. Thottapally is a good fishing region of Kerala due to the presence of mud bank formation during southwest monsoon.

7.5.11.1 Problems Identified

- ❖ Prevalent mini trawling in the area
- ❖ Unhygienic condition of the fishing boats

7.5.11.2 Programmes Conducted

Table 41. Programmes conducted in and around Thottappally and Arattupuzha area

Sl.No	Type of programme	Number
1	Fish Quality Management	11
2	Sustainable fishing/Conservation	13
3	Onboard	3
4	Street-plays	25
	Total	52

7.5.11.3 Outcomes

- ❖ 70% of mini trawlers in Purakkad, Thottapally, Thrikkunnapuzha and Arattupuzha were converted to gill netters
- ❖ Hygienic condition considerably improved
- ❖ Degilling on plastic sheets is continuing at Purakkad, Thottapally, Arattupuzha & Thrikkunnapuzha

7.5.12 Pulluvila-Vizhinjam

Pulluvilla is a typical marine fishing village in the coastal Panchayat of Karimkulam in Thiruvananthapuram district situated at the southern extreme of Kerala. The village is located right on the beach; most of the households live well within 200m from the sea. Most of the inhabitants here are connected with fishing or fish trade in one way or the other.

7.5.12.1 Problems Identified

- ❖ Mixing of sand with fish for sale
- ❖ Poor infrastructure facility

7.5.12.2 Programmes Conducted

Table 42. Programmes conducted in and around Pulluvila and Vizhinjam

Sl.No	Type of programme	Number
1	Fish Quality Management	21

7.5.12.3 Outcomes

- ❖ Sand mixing in fish is controlled and reduced

7.6 Karnataka & Goa

Karnataka and Goa together have 405 kms of coast line with a continental shelf area of 47,000 sq.km and 10000 ha. of potential brackish water resources for aquaculture. The fisheries sector plays an important role in the socio economic development of both the states, by its contribution to the food basket, nutritional security, foreign exchange earnings, employment generation and income. The fish production in Karnataka is around 2.7 lakh tons with the contribution of marine sector being 64% and inland sector 36%. The fish production from Goa state is around 0.7 to 0.9 lakh tons.

7.6.1 Mangalore

Mangalore is one of the major fishing harbours of Karnataka. About 2000 motorised vessels and 7500 non-motorized vessels are operating from this harbour. NETFISH has been organising regular training programmes at this harbour to educate fishermen on the hygienic handling of fish. NETFISH intervention has made several significant changes at this harbour.

7.6.1.1 Problems Identified

- ❖ Irregular washing of jetties and auction hall
- ❖ Dumping of fish and ice on floor
- ❖ Dumping of by-catch/ trash on the jetties
- ❖ Retail selling of fish in jetties
- ❖ Fish cutting in auction hall
- ❖ Drying fish in jetties
- ❖ Petty shops inside the landing centre
- ❖ Problems in parking of vehicles

7.6.1.2 Programmes Conducted

Table 43. Programmes conducted in and around Mangalore fishing harbour

Sl.No	Type of programme	Number
1	Fish Quality Management	24
2	Sustainable fishing/Conservation	22
3	Preprocessing	5
4	Dry fish training	7
5	Street-plays	13
6	Door to door programme	3
7	Mass communication	1
.	Total	75

7.6.1.3 Outcomes

- ❖ Dumping of by-catch/ trash fish in jetties was completely stopped
- ❖ Fish drying was decreased in harbour area
- ❖ Petty shops partially shifted to outside the harbour

7.6.2 Malpe

Malpe is also a major fishing harbour of Karnataka. More than 2100 mechanised vessels and 1300 non-motorized vessels are operating from this harbour. Several fish drying units are located in and around the harbour. NETFISH interferes in the day to day activities of the harbour to enable the fishermen to handle fish and ice hygienically.

7.6.2.1 Problems Identified

- ❖ No proper washing of jetties and auction halls
- ❖ Dumping of fish on the harbour floor
- ❖ Dumping of by-catch/ trash fish in jetties
- ❖ Fish cutting in auction halls
- ❖ Petty shops in the landing centre
- ❖ Improper parking of vehicles

7.6.2.2 Programmes Conducted

Table 44 Programmes conducted in and around Malpe harbour

Sl.No	Type of programme	Number
1	Fish Quality Management	16
2	Sustainable fishing/Conservation	16
3	Onboard	3
4	Preprocessing	7
5	Dry fish training	7
6	Street-plays	9
	Total	58

7.6.2.3 Outcomes

- ❖ Daily washing system was implemented in harbour
- ❖ Fish drying near the jetties has almost stopped
- ❖ Dumping of by-catch/ trash in jetties has reduced

7.6.3 Honnavar/ Tadri Fishing Harbours

More than 850 mechanised boats and 6400 non-motorized vessels are bringing their catch to this harbours for sale. General fish quality standard of the harbour was very poor before NETFISH interference. About 46000 fishermen are living in and around Hanoovar and Tadri. About 10% of the marine export of Karnataka is from Hannovar and Tadri.

7.6.3.1 Problems Identified

- ❖ Irregular washing of jetties and auction hall
- ❖ Dumping of fish on the harbour floor
- ❖ Dumping of by-catch/ trash fish in the jetty
- ❖ Retail selling in jetties
- ❖ Dressing of finfish/shell fish in auction hall
- ❖ Fish drying in jetties
- ❖ Petty shops inside the landing centre
- ❖ Catching of banned sea animals

7.6.3.2 Programmes Conducted

Table 45. Programmes conducted in and around Hannovar/ Tadri

Sl.No	Type of programme	Number
1	Fish Quality Management	23
2	Sustainable fishing/Conservation	21
3	Onboard	3
4	Aqua farm training	2
5	Dry fish training	10
	Total	59

7.6.3.3 Outcomes

- ❖ Dumping of by-catch/ trash fish in jetties is almost stopped
- ❖ Fish drying is reduced in jetties
- ❖ Retail selling is stopped in the auction hall
- ❖ Fish cutting practice inside the harbour has almost stopped

7.6.4 Karwar

Karwar is one of the main fish landing centres in Karnataka. More than 750 boats and 3600 vallams are operating from this harbour. Aqua farms are also located in Karwar region.

7.6.4.1 Problems Identified

- ❖ Improper washing of jetties and auction hall
- ❖ Dumping of fish on the floor
- ❖ Dumping of by-catch/ trash in jetties
- ❖ Retail selling of fish in jetties
- ❖ Fish cutting in the auction hall
- ❖ Fish drying in jetties
- ❖ Petty shops inside the harbour
- ❖ Catching of banned sea animals

7.6.4.2 Programmes Conducted

Table 46. Programmes conducted in and around Karwar

Sl.No	Type of programme	Number
1	Fish Quality Management	24
2	Sustainable fishing/Conservation	21
3	Onboard	2
4	Aqua farm training	9
5	Dry fish training	3
6	Street-plays	5
7	Mass communication	1
	Total	65

7.6.4.3 Outcomes

- ❖ Implemented daily washing system at the harbour
- ❖ Dumping of by-catch/trash in harbour has decreased
- ❖ Fish drying activity has stopped in auction hall

7.6.5 Malim

Malim is the major landing centre of Goa and more than 350 boats are operating from this landing centre.

7.6.5.1 Problems Identified

- ❖ Usage of bamboo baskets for loading and unloading ice
- ❖ Retail selling and petty shops in the landing centre
- ❖ Improper parking system
- ❖ Less working space in the harbour

7.6.5.2 Programmes Conducted

Table 47. Programmes conducted in and around Malim

Sl.No	Type of programme	Number
1	Fish Quality Management	7
2	Sustainable fishing/Conservation	9
	Total	16

7.6.5.3 Outcomes

- ❖ Fishers agreed to avoid the use of bamboo baskets in the landing centre

7.6.6 Kundapur & Karwar

Kundapur and Karwar are the main regions where aquafarms are located in Karnataka. More than 50 percentage of the culture shrimp production of Karnataka is from these regions. Hence NETFISH selected these areas to organize regular aquafarm training programmes.

7.6.6.1 Problems Identified

- ❖ No chill killing practices
- ❖ Improper icing of material
- ❖ Poor personal hygiene of workers
- ❖ Improper handling;
- ❖ Scarcity of skilled labours for harvesting
- ❖ Lack of unity among farming community

7.6.6.2 Programmes Conducted

Table 48. Programmes conducted in and around Karwar and Kundapur

Sl.No	Type of programme	Number
1	Aqua farm training	5
3	Procession/Rally/ Field day	1
	Total	6

7.6.6.3 Outcomes

- ❖ Chill killing is being practiced by at least 25% farmers

7.6.7 Field Day and Demonstration

Karnataka Veterinary and Fisheries Science University's Marine Fisheries Research wing and NETFISH jointly organized a field day at Ankola

for the shrimp farmers of Uttara Kannada district. Dr. Shivananda Moorthy, Director of Extension, KVFSU inaugurated the field day and gave a lecture on eco-friendly shrimp culture. NETFISH State coordinator gave a lecture on harvesting and post-harvest handling of cultured shrimps. Later farmers were given field demonstration on feeding, preservation after harvesting etc.

NETFISH conducted an extensive survey on dry fishing in August 2010, with the help of member NGOs and enquired for the better indigenous techniques for fish drying in the state. In Karnataka fish drying starts from October/ November. NETFISH contacted merchants and dryfish societies in Mangalore, Malpe and Karwar.

7.6.8 Participation in “AGRI- FISH-MELA” at Karwar

The Agriculture, Horticulture and Fisheries Departments in Karwar; the Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar; and the National Fisheries Development Board, Hyderabad, jointly organised an agricultural festival, flower exhibition and fish mela at Karwar from October 9 to 11. In an effort to spread awareness NETFISH-MPEDA, Mangalore exhibited a stall in all these 3 days during the function. The stall was exhibited to show the activities of MPEDA and NETFISH in the region. Details of MPEDA schemes, publications, brochures and leaf lets of NETFISH-MPEDA were displayed and distributed to the public.

NETFISH Street-play on sustainable fishing and conservation was performed during every evening. Many dignitaries gave appreciation to the performance as the street play was attracted by many people. NETFISH documentaries were shown during every evening in LCD screen that attracted many.

7.6.9 Mass Communication Programme

A mass communication programme was organized in association with fisher groups at Suratkal beach on the auspicious occasion of sea bathing festival on 4th January 2011. More than 1000 fishers were educated on this day on various aspects of fish quality and conservation. NETFISH posters were displayed and leaf lets were distributed to all. NETFISH street play was performed along with other cultural activities in the evening.

7.7 Maharashtra

Maharashtra having 720 kms of coastline has 6 maritime districts namely Thane, Greater Mumbai, Mumbai suburb, Raigad, Ratnagiri and Sindhudurg. There are total 184 landing centres in the state including major and minor landing centres. Maharashtra has 406 fishing villages and a continental shelf area of 112 kms.

7.7.1 Sassondock

Sassondock is one of the major fishing harbours of Maharashtra but because of the poor infrastructure facilities and heavy rush hygienic condition of the harbour is below par.

7.7.1.1 Problems Identified

- ❖ No any basic infrastructure facilities, especially landing platform, auction hall, raised platforms for auctioning, proper roads, lights, etc. No proper management system at the harbour
- ❖ Insufficiency of potable water
Insufficiency of good quality ice
- ❖ No adequate toilet facilities and whatever arrangement made, there is no proper maintenance
- ❖ Hygiene and sanitation conditions on board and at landing centres is poor
- ❖ Overall sanitary conditions in the harbour and its surroundings is poor

7.7.1.2 Programmes Conducted

Table 49. Programmes conducted in and around Sassondock harbour

Sl.No	Type of programme	Number
1	Fish Quality Management	30
2	Sustainable fishing/Conservation	30
3	Onboard	3
4	Preprocessing	15
5	Aqua farm training	09
6	Dry fish training	
7	Street-plays	15
8	School programmes	05
9	Other Special programmes	09
	Total	116

7.7.1.3 Outcomes

- ❖ Improvement in hygienic conditions is observed in the peeling sheds of the harbour. Improvement in personal hygiene of workers is also observed
- ❖ Workers stopped chewing tobacco and related products in peeling sheds of Sasson dock
- ❖ Deck and all contact surfaces of fishing boats are being cleaned before and after fishing

7.7.2 Ratnagiri

Ratnagiri district is one of the most important maritime districts of the Maharashtra with the coastal belt extending to about 200 miles. Fishing industry in the district is mainly dependent upon the exploitation of marine resources. Ratnagiri is one of the major marine fish landing centers in India.

7.7.2.1 Problems Identified

- ❖ In this harbour only jetty is constructed. Facilities such as especially landing platform, auction hall, raised platforms for auctioning, proper roads, lights, etc. has to be provided for fish landing at landing centres
- ❖ Insufficient potable water supply
- ❖ Siltation is one of the major problems in the Ratnagiri harbour which prevent the smooth entry of vessels
- ❖ Hygiene and sanitary conditions on board and at landing centres need to be improved.
- ❖ No sufficient mooring facility

7.7.2.2 Programmes Conducted

Table 50 Programmes conducted in and around Ratnagiri harbour

Sl.No	Type of programme	Number
1	Fish Quality Management	28
2	Sustainable fishing/Conservation	35
3	Onboard	5
4	Preprocessing	12
6	Dry fish training	16
7	Street-plays	15
8	Harbour or coastal cleanup	01
9	Procession/Rally	01
	Total	113

International Beach Cleaning Day Celebration

NETFISH in association with its member NGO, Jan Shikshan Sanathan, Sindhudurg and College of Fisheries, Ratnagiri organized the International beach cleaning day celebration at Ratnagiri harbour on 20th September, 2010 with a view to creating awareness among fisher folk regarding conservation of marine resources, cleanliness of beaches, to maintain hygienic conditions at the harbour premises ,etc.

7.7.3 Harna

Harna is one of the major fish landing port situated in Dapoli Taluk, Ratnagiri District.

7.7.3.1 Problems Identified

- ❖ No basic infrastructure facilities at the harbour especially landing platform, auction hall, raised platforms for auctioning, proper roads, lights, etc.
- ❖ No sufficient ice availability.
- ❖ No adequate toilet facilities in the landing centre
- ❖ Mechanized vessels cannot come directly to the landing centre as there is no sufficient water depth. Small boats carry the catch from these vessels to landing centres.
- ❖ Hygienic and sanitary conditions on board and at landing centres need to be improved

7.7.3.2 Programmes Conducted

Table 51. Programmes conducted in and around Harna

Sl.No	Type of programme	Number
1	Fish Quality Management	15
2	Sustainable fishing/Conservation	27
3	Onboard	3
4	Dry fish training	12
5	Street-plays	15
	Total	72

Demonstrations of BRDs

In Ratnagiri and Harna area a demonstration programme was conducted for by-catch reduction devices (BRD).

7.7.3.3 Outcomes

- ❖ Fish handling in port and market was improved
- ❖ Usage of bamboo baskets was reduced
- ❖ Open transportation was minimized in Harne area

7.8 Gujarat

Gujarat has the longest coastal line among the states of India extending about 1663 kms and constitutes about 22% of country's total coast line. Gujarat coast is distinct with its shallow depth, wider continental shelf and vast stretches of saline and tidal mudflats. Gujarat tops the list of states of India in terms of marine fish export with 183870 ton worth Rs.183875.46 lakh during 2009-10. The fishing industry generates substantial foreign exchange and employment for about 160000 fishermen in Gujarat.

7.8.1 Veraval Fishing Harbour

The total fishermen population of Veraval fishing industry is around 70000, around 2091 trawler and 600 small fiber glass fishing vessel are operating in this area. The main fish landing is ribbon fish, croaker fish, squid & cuttle fish, shrimps and pomfret.

7.8.1.1 Problems Identified

- ❖ Lack of proper sanitation and hygiene practices in handling fish
- ❖ Ice dumping on dirty floor
- ❖ Poor personal hygiene of fishermen, crew members as well as pre-processing workers
- ❖ No regular cleaning of fishing vessels
- ❖ Not carrying ice for single day fishing
- ❖ No proper infrastructure
- ❖ Dumping of thermocol, plastics, west wood, net, oil, diesel etc. in to harbour premises
- ❖ Open transportation of fish material from harbour to processing plant
- ❖ Cod end mesh size particularly in trawl boat is below 5 mm
- ❖ Juvenile fishing
- ❖ Industrial pollution in fishing harbour
- ❖ Handling of fish for domestic market is in a very poor

7.8.1.2 Programmes Conducted

Table 52. Programmes conducted in and around Veraval Harbour

Sl.No	Type of programme	Number
1	Fish quality management	26
2	Sustainable fishing/Conservation	14
3	Onboard	6
4	Preprocessing	19
5	Street-plays	3
6	Mass communication	1
7	Mass Boat Clean Up	1
	Total	70

Street Play Programme

NETFISH prepared a street play programme by including all relevant issues of fish quality and conservation and conducted 3 days street play programme at Veraval harbour. Almost 3000 people were participated during the 3 days programme.

Mass Communication

6th March 2011 was a historic day for entire fishermen community of Gujarat because after 63 years of independence of India, this was the first time they had arranged a very big get-together for the entire fishermen community of Gujarat. Under "Shri Akhil Gujarat Machhimar Maha Mandal", Veraval, Almost 1 lakh people from the different community gathered from more than 125 big or small landing centres. NETFISH Veraval exhibited a stall having educational information for fishermen in respect of fish quality management, conservation and sustainable fishing. Various leaflets were distributed to the fishermen and informed of various subsidy scheme by MPEDA. Street play of NETFISH was also performed during the programme. NETFISH effort was very well appreciated by fishermen participated in the meeting.

Mass Boat Cleanup

NETFISH conducted one day Mass boat cleanup programme on 29/03/11 at Veraval Fishing harbour. NETFISH provided liquid soap, brushes, etc., to crew members. PG students of college of Fisheries, Veraval also took active par-

participation to educate crew member about importance of cleaning of fishing vessel, crates and fish contact surfaces and also to maintain good personal hygiene. Around 63 fishing vessels have been cleaned spreading a message to fishermen community that cleaning of vessel is important in keeping fish fresh.

7.8.1.3 Outcomes

- ❖ The trained fishermen are using clean box to store ice and fish
- ❖ Fishermen started cleaning boats and auction hall
- ❖ The crates for the fish are being cleaned before using it
- ❖ Fishermen started using 25 mm cod ends in trawl nets instead of 5mm being used before

7.8.2 Mangrol Fishing Harbour

Mangrol is an important fishing harbour in Gujarat. Fishing here is done mainly with small fiber glass and mechanized trawlers. There are around 990 trawlers and 405 gill-nets operating in this area and the main catch is Ribbonfish, Croaker fish, Seer fish, Mackerel, Squid, Cuttle fish and Prawns.

7.8.2.1 Problems Identified

- ❖ No proper sanitation and hygienic practices
- ❖ Poor personal hygiene of workers
- ❖ No proper maintenance of fishing vessel
- ❖ Fishermen do not carry ice for single day fishing
- ❖ Cod and mesh size particularly in trawl boat is below 10mm
- ❖ Fishing during monsoon ban by small mechanized fishing vessels
- ❖ Open transportation of ice
- ❖ Poor handling of fishes for domestic markets

7.8.2.2 Programmes Conducted

Table 53. Programmes conducted in and around Mangrol harbour

Sl.No	Type of programme	Number
1	Fish Quality Management	19
2	Sustainable fishing/Conservation	13
3	Preprocessing	2
4	Street-plays	2
5	Mass boat cleanup	1
	Total	37

Street Play

Street play programme was organized at Mangrol harbour and surrounding areas and around 1600 people watched the programmes.

Mass Boat Cleanup

A mass boat cleanup programme was conducted on 27-03-11 at Mangrol fisheries harbour to make them aware of the importance of cleaning of vessels and fish contact surfaces. The programme was conducted from 9.30 am to 8.00 pm and NETFISH trained crew members on how to clean fishing vessels properly by this programme.

7.8.2.3 Outcomes

- ❖ Fishermen started carrying ice for single day fishing
- ❖ Ice is transported by covering with plastic sheets which was transported in open condition earlier.
- ❖ It is noticed that some of the crew members are regularly cleaning their fishing vessels.
- ❖ It is also noticed that some of fishing vessels are started using trawl nets with 25mm code end.
- ❖ It was observed that temporary booth holders are maintaining good hygienic practices inside the booth
- ❖ Harbour management committee was formed by the Department of Fisheries by the concerted attempt of NETFISH.

7.8.3 Porbandar Fishing Harbour

Porbandar is the second biggest harbour in Gujarat with more than 1133 trawlers and 539 small fiber glass vessels operating from it. 40% population of the city belongs to fishermen community and the major activity is fishing. There are 7 fish processing plants located around the harbour. The major fish landings are ribbon fish, croakers, prawns, pomfrets, squids, cuttle fish and lobster. There are more than 1 lakh people entirely depend on fishing for their livelihood.

7.8.3.1 Problems Identified

- ❖ Un hygienic fish handling practices

- ❖ Poor personal hygiene of workers
- ❖ Untidy fishing vessels
- ❖ Single day fishermen are not carrying ice while going for fishing
- ❖ Cod end mesh size particularly in trawl boat is below 10mm
- ❖ Fishing during monsoon ban by small mechanized fishing vessels
- ❖ Handling of fish for domestic market is very poor.

7.8.3.2 Programmes Conducted

Table 54. Programmes conducted in and around Porbandar

Sl.No	Type of programme	Number
1	Fish Quality Management	21
2	Sustainable fishing/Conservation	09
3	Preprocessing	06
	Total	36

7.8.3.3 Outcomes

- ❖ Fishermen started keeping their fishing vessel clean before and after fishing trip
- ❖ Cod end mesh size of trawler vessels is increased up to 25mm
- ❖ Booth holders are maintaining good sanitation & hygienic condition
- ❖ Pre-processing workers are maintaining good hygiene practices.
- ❖ Booth holders are using clean covered crates for keeping fish

7.8.4 Vanakbara Fishing Harbour

Vanakbara is a minor harbour located near to DIU (UT) Island in Gujarat, around forty thousand fishers are living in this village and their major occupation is fishing; There are about 499 trawlers, 316 OBM & 219 IBM gillnetters and 321 non-motorized vessel are operating in this harbour and the major landings are ribbon fish, croakers, ghol fish, seer fish, king fish, pomfrets and prawns. Majority of the catch from this harbour is carried to processing plant located at Veraval in insulated vehicles as there are only two fish processing plants available at DIU. NETFISH has made an attempt to form a harbour management committee with the

help of Gram Panchayat and Department of Fisheries, DIU in this harbour.

7.8.4.1 Problems Identified

- ❖ Unhygienic fish handling practices
- ❖ Ice dumping is done on dirty floor
- ❖ Poor personal hygiene of workers
- ❖ There is no regular practice of cleaning fishing vessel before and after each fishing
- ❖ Fishermen are not carrying ice for single day fishing
- ❖ Open transportation of fish from harbour to booth and processing plant
- ❖ Cod end mesh size particularly in trawl boat is below 5mm
- ❖ Juvenile fishing

7.8.4.2 Programmes Conducted

Table 55. Programmes conducted in Vanakbara-DIU Harbour

Sl.No	Type of programme	Number
1	Fish Quality Management	11
2	Sustainable fishing/Conservation	07
3	Preprocessing	04
	Total	22

7.8.4.3 Outcomes

- ❖ Some fishermen increased cod end mesh size up to 25mm instead of 5-10mm in vogue
- ❖ It is observed that some fishermen are keeping their vessels clean before and after fishing

7.8.5 Dholai Port

Dholai port is a minor fishing harbour developed by Ministry of Agriculture, Govt. of Gujarat in Navsari district. The port has very good infrastructures like auction hall, rest shed, net mending hall, office, fish landing facility, electricity, etc., but the port is not fully operational due to non-availability of water. So fishermen are migrating to Bhaw cha Dakka in Maharashtra to sell their material. Now only 30 boats / day are operating from this harbour.

Umersadi Landing Centre

Umersadi is famous for Bombay duck fishery and dry fish production. Shrimps and lobsters are

also the major items in the landings. Dried Bombay duck is exported from this landing centre. There are 250 boats in Umersadi region. The fishing population of the landing centre is more than 5000.

Nargol Landing Centre

About 250 boats are operating from this harbour daily. The main items in landings are Bombay duck, ghol, prawn, shrimp, lobster etc. The major exports item is Bombay duck. The landing centre lacks basic infrastructure facilities such as facility for berthing of boats, water supply, electricity, etc. Catch is landed at sea shore and segregated by fisherwomen on plastic sheets. Average fisher population is 8000 in Nargol region.

7.8.5.1 Problems Identified

- ❖ No basic infrastructure facilities in the harbour
- ❖ The auction hall is not operational as no catch is coming regularly to the harbour
- ❖ No ice plants in and around the harbour
- ❖ Unhygienic handling of fish
- ❖ Wide use of bamboo baskets for handling fish
- ❖ Poor personal hygiene of workers
- ❖ Use of small mesh sized nets
- ❖ Mangroves destruction for domestic purpose as well as industrial development

7.8.5.2 Programmes Conducted

Table 56 Programmes conducted in Dholai, Bandar and around Umersadi-Nargol

Sl.No	Type of programme	Number
1	Fish Quality Management	28
2	Sustainable fishing/Conservation	17
3	Preprocessing	5
4	Dry fish training	12
	Total	62

7.8.5.3 Outcomes

- ❖ With NETFISH efforts bamboo baskets were replaced by Plastic crates at Dholai Umersadi and Nargol Landing centres

7.8.6 Jakhau/Randh at Kutchh

Jakhau is a big harbour located in Kutchh region of Gujarat, Around 1000 mechanized vessels are operating from this harbour. Prawns, lob-

sters and pomfrets are the main catch arrived at this harbour. There is neither any fish processing plant nor any Ice plant near to this harbour

7.8.6.1 Problems Identified

- ❖ Unhygienic handling of fish
- ❖ Poor personal hygiene of workers
- ❖ Improper cleaning of fishing vessels
- ❖ Cod end mesh size particularly in trawl boat is below 10mm
- ❖ Juvenile fishing
- ❖ Mangrove cutting for domestic purpose or Industrial development
- ❖ Dumping of fish material on sand /dust for drying

7.8.6.2 Programmes Conducted

Table 57 Programmes conducted in Jakhau harbour and Randh landing centre

Sl.No	Type of programme	Number
1	Fish Quality Management	12
2	Sustainable fishing/Conservation	04
3	Dry fish training	10
	Total	26

7.8.6.3 Outcomes

- ❖ Fishermen drying Bombay duck properly by hanging them on ropes
- ❖ Hook & Line technique has been adopted by fishermen at Juna Bandar
- ❖ Fishermen at Jakhau Bandar adopted Gill net fishing replacing Gunja (Bag Net)
- ❖ Started using ice boxes as they understood the importance of use of ice in preserving their catch for longer time
- ❖ Ice Boxes were provided to fishermen on subsidy from Fisheries Department (Bhuj) by the coordination of NETFISH member NGO "SETU"

7.9 Boat Registration Campaign

Registration of all fishing boats with any of the departments/agencies concerned is indispensable for the legality of the fishing operation as well as for the traceability of the seafood products exported. To ensure that all the fishing boats operating in Indian waters are registered either with State Fisheries Departments or Maritime board or

MPEDA, wide boat registration campaigns were organized by NETFISH at all major harbours and landing centres along the maritime states of India. The campaign provided an opportunity for boat owners to obtain new registration as well as to renew the existing registrations. As part of the campaign initially NETFISH collected a database about the number of boats seeking new registration or renewal of registration or license through Boat owner's associations. Then a series of meeting were arranged with Secretary of Fisheries, Director of Fisheries and other State Fisheries officials of the regions concerned. Moreover, NETFISH conducted series of meeting with Fishermen Association and Boat Owner's Association along with MPEDA officials. In order to propagate registration of fishing boats and renewal of Fishing License NETFISH distributed notice, pasted posters and banners, made mike announcements, door to door programme etc. The message was spread through street play programmes and also through All India Radio. NETFISH also arranged Spot Registration Camp for registration of fishing vessel and renewal of fishing license in collaboration State Fisheries Department and Maritime Board and MPEDA. The statewide details of number of programmes conducted as part of the boat registration campaign is given below.

Table 58 Details of Boat registration campaigns

Sl.No	Type of programme	Number
1	Kerala	72
2	Maharashtra	7
3	Gujarat	29
4	Andhra Pradesh	18
5	Orissa	58
6	West Bengal	25
	Total	209

It was found that more than 75% of the boats in the country are already registered with either of the competent authorities. Through NETFISH's boat registration campaign rest of the boats also came up to obtain a new registration or license or to renew the existing registration or license. This programme got a good response from the boat owner's side from all over the maritime states of the country.

7.9.1 Outcomes

- ❖ In Maharashtra, as per the information from Maharashtra Maritime Board, it is not possible to do fishing without a valid registration. Hence almost all vessels were having a valid fishing vessel registration.
- ❖ In Karnataka and Goa, it is found that more than 98% of the fishing vessels already have registration and the remaining were set to obtain a registration.
- ❖ In Tamilnadu most of the boats are registered and those that are unregistered were identified and informed the boat owner to register their boat either in State fisheries, MPEDA, and other authorities. Also it was noticed that the fishing boats having OAL more than 15 m do not have registration with any one of the authorities. To solve this issue a request was given to Fisheries Secretary of Tamilnadu State Government to consider registration of the boats having OAL > 15 m by the State Fisheries Department.
- ❖ In Andhra Pradesh, as per the records, 1240 vessels are registered and renewal of license is being done regularly. As a result of the NETFISH campaign a few new applications were received for the MPEDA registration.
- ❖ In Orissa also almost all boats are registered and they are renewing their registration in time. In West Bengal all the mechanized boats are registered and their license is also renewed in time by the State Govt.

7.10 NETFISH participated in the Aqua Aquaria 2011

NETFISH participated in the Aqua Aquaria 2011, one of the largest aquaculture and aquarium shows in Asia, hosted by the Marine Products Exports Development Authority (MPEDA) at Chennai Trade Centre, from 6-8th February 2011. Aqua Aquaria- 2011 was inaugurated by Prof. K. V. Thomas, Union Minister of State for consumer affairs, food and public distribution.

The fair was a great success with the participation of aqua farmers and aquarium business personals from all over India. There were technical sessions during which experts in the field of Aquaculture from India as well as from abroad have given

presentation on various topics of aquaculture.

NETFISH used this opportunity to present all its extension activities to the public and exhibited all extension tools such as posters, leaflets, documentary films, animation films, training manual, etc in the stall. Leaflets on various topics of hygienic handling as well as conservation of fishery resources were distributed to hundreds of farmers visited the stall. Farmers, scientists, business persons, state fisheries officials and school and college students visited the NETFISH stall. Various Documentary films and animation films of NETFISH on conservation and hygienic handling of fishes were shown to public on a separate stage which attracted many people from various sectors of the society.

Street-plays of NETFISH from four maritime states of India viz. Karnataka, Andhra Pradesh, Kerala and Tamil Nadu were performed during the three days programme. The messages of NETFISH on conservation of fish resources, quality management and sustainable fishing were presented to the public by these street plays prepared in the various folk arts of the states. The Yakshagana style of performance of Karnataka team and street drama by Andhra and Kerala teams and folk dances by Tamil Nadu team were the major attractions of the 3 day programme. School children were attracted to the various boat models exhibited at the NETFISH stall. During the show NETFISH officials interacted with hundreds of farmers from various maritime states and discussed with them in detail on the hygienic practices in aquaculture.

8. Member NGOs of NETFISH for the year 2010-11

1. **Setu Information Center**, Bhadreswar, Kutch, Gujarat.
2. **Brackish Water Research Centre (BWRC)**, Mougul Street, Surat, Gujarat.
3. **Development Foundation Trust**, Hatina District, Junagadh, Veraval, Gujarat.
4. **Siddharth Development Foundation**, Dr. Aambedkar Nagar, Junagadh, Veraval, Gujarat.
5. **Nagrik Bhahu Udeshiya Seva Pratistan**, Sindhudurg, Maharashtra.
6. **Manavikas Sevabhavi**, Chandranagar, Thane District, Maharashtra.

7. **Sahyadri Community Development & Women Empowerment Society (SCODWES)**, Maratikoppa Main Road, Sirsi, Karnataka.
8. **Snehakunja Trust**, Honnavara, Uttara Kannada District, Karnataka.
9. **Ashika Trust**, Mangaladevi, Mangalore, Karnataka.
10. **MFSS**, Thalakkalakam Parambu, West Hill, Kozhikode, Kerala.
11. **South Indian Fisherman Federation Society (SIFFS)**, Karamana, Trivandrum, Kerala.
12. **Scuba Social Service Organisation (SCUBA)**, Adiramapattinam, Thajavur District, Tamil Nadu.
13. **Chevaliar Roche Society (CRS)**, Polpettai, Thoothukudi, Tamil Nadu.
14. **Village Resource Centre MSSRF**, Thangachimadam, Ramanathapuram District, Tamil Nadu.
15. **Village Resource Centre MSSRF**, Nagercoil, Kanyakumari District, Tamil Nadu.
16. **S.O.H.E.S**, Pillayar Kovil Street, Kanchipuram District, Tamil Nadu.
17. **GAIA International Organization**, Thiruvanmiyur, Chennai, Tamil Nadu.
18. **Village Resource Centre M.S.Swaminahan Research Foundation**, South Palpannaicherry, Nagapatinam, Tamil Nadu.
19. **AP State Fishermen Development And Welfare Association**, Hyderabad, Andhra Pradesh.
20. **Jnankalyan Welfare Society**, Mallayapet, Rajahmundry, Andhra Pradesh.
21. **Socio Economic Alternatives Research Resource Community For Humanity (SEARCH)**, Guntur District, Andhra Pradesh.
22. **District Fishermen Youth Welfare Association**, Vivekananda Bhavan, Vishakapatnam, Andhra Pradesh.
23. **Subha Rashmi Mahila Seva Samiti (SRMSS)**, Balasore District, Orissa.
24. **Rangalata Peoples Rural Development Society (RPRDS)**, Bentapur, Puri District, Orissa.
25. **The Science Association of Bengal**, Barisha P.O, Kolkata, West Bengal.
26. **Sarboday Sangha**, Khejuri, Medinipur (East), West Bengal.

9. AUDIT REPORT 2010-11

BALANCE SHEET AS ON 31-03-2011

As on 31.03.10 Rs	LIABILITIES	Rs	As on 31.03.11 Rs	As on 31.03.10 Rs	ASSETS	Rs	As on 31.03.11 Rs
4,914,484	CAPITAL FUND Opening balance Add: Fund received from MPEDA during the year Less: Excess of Expenditure over income for the year	1,536,114	1,934,656	93,512	FIXED ASSETS Computer Equipments-Op Bal Add: additions during the year Less: Depreciation for the year	93,512	
13,000,000		16,000,000				5,351	
(16,378,370)		17,536,114		114,314		98,863	
1,536,114		15,601,458				59,318	
	OTHER LIABILITIES & PROVISIONS Salary Payable Expenses Payable Audit Fee Payable Income Tax-TDS payable				LOANS & ADVANCES Salary & TA Claim Receivable From MPEDA Advance to Staff	39,545	
740,508		547,882	387,702	114,315		124,597	
33,685		35,759	20,994	22,856		549,307	
4,412		6,618	408,696	12,574		8,793	
778,605		7,785	598,044		CASH & BANK BALANCE Cash in hand Balance with banks		
2,314,719			2,532,700	1,698,197		1,810,458	1,810,458
				2,314,719			2,532,700

Notes forming part of Accounts-attached as Schedule 2

As per our report of even date attached

Sd/-
Chief Executive Officer

Sd/-
Treasurer

Sd/-
Secretary

Sd/-
Auditor



NETWORK FOR FISH QUALITY MANAGEMENT & SUSTAINABLE FISHING (NETFISH) REG. NO. ER509/06, KOCHI
Income & Expenditure Statement For The Year ended 31.03.2011

Previous Year (Rs.)	Expenditure	For the year ended 31-3-2011 (Rs.)	(Rs.)	Previous Year (Rs.)	Income	(Rs.)	For the year ended 31-3-2011 (Rs.)
3,953,862	Extension Activities - Sch:1(a)	2,952,249		2,500	Miscellaneous Income		
615,171	Training- Fishermen	721,783		2,500	Application fee	2,000	
1,444,065	Training- Pre- Processing	1,348,224		200	Membership fee	2,500	
286,016	Training- Onboard	283,199		135	Renewal fee	3,200	
784,580	Training-Tuna/Dry Fish/on shore	1,702,710		5,335	Others	—	7,700
—	Training-Conser: & Sustainability	349,897		1,000	Excess provision written back		
—	Training-Aquaculture	95,291					
—	Boat Registration Campaign	116,529					
1,147,415	Trainers Training Programme	1,088,059		16,378,370	Excess of Expenditure over income for the year		15,601,458
623,372	Street Play	179,674	10,336,426				
—	Other Extension programme	395,423					
101,077	Fishermen Aid Programmes	425,884					
635,852	Publicity & Literature	1,847					
415,529	Catch Certificate Prog.	412,722					
297,810	Travelling For Extension Training Staff	180,000					
606,600	Animation Charges	82,935					
10,911,349	Documentary						
480,000	Employee Cost- Sch:1(b)	480,000					
3,203,202	Salary- Chief Executive	3,240,436					
770,446	Salary- State Co-ordinators	672,750					
4,453,648	Salary- Staff		4,393,186				
118,791	Other Charges- Sch:1(c)						
4,412	Advertisement for recruitment	55,773					
7,818	Audit Fee	6,618					
80,029	Bank charges	9,615					
44,601	Internet & Website	70,635					
219,570	Insurance & AMC	48,819					
64,605	Meetings	164,933					
76,698	Miscellaneous & Contingent Expenses	57,966					
20,897	Telephone/Mobile charges	74,772					
48,859	Postage & Telegram	23,066					
3,309	Printing & Stationery	64,832					
179,382	Taxation/other consultancy	3,309					
868,971	Traveling Expenditures	227,316					
150,737	Depreciation on Fixed Assets		807,654				
16,384,705			71,892				
			15,609,158				
				16,384,705			15,609,158

As per our report of even date attached

Sd/- Auditor

Sd/- Secretary

Sd/- Treasurer

Sd/- Chief Executive Officer

NETWORK FOR FISH QUALITY MANAGEMENT & SUSTAINABLE FISHING (NETFISH) REG. NO. ER509/06, KOCHI
Receipts & Payment Account For The Year ended 31.03.2011

Receipts	(Rs.)	(Rs.)	Payments	(Rs.)	(Rs.)
Opening balance			Payments for Extension Activities		
Cash			Training Programmes		7,654,265
Bank	1,698,197		Publicity & Literature		425,884
Funds received from MPEDA		1,698,197	Fishermen Aid Programme		395,423
Other Income		16,000,000	Travelling For Extension Training Staff		412,722
Salary, TA to Technical and field staff paid (MPEDA a/c)		7,700	Documentation		262,935
			Mass Awareness		1,185,197
		2,883,915	Salary -CEO,SCO's etc		4,406,386
			Salary, TA to Technical and Field Staff paid (MPEDA a/c)		3,211,536
			Advertisement-Recruitment		55,773
			Establishment & Other Items		734,821
			Audit Fee (2009-10)		4,412
			Other Advances		1,793
			Fixed Assets Purchased		28,207
			Closing balance		
			Cash in hand		-
			Balance with banks	1,810,458	
		20,589,812			1,810,458
					20,589,812

As per our report of even date attached

Sd/-
Chief Executive Officer

Sd/-
Treasurer

Sd/-
Secretary

Sd/-
Auditor

Schedule 2

NOTES FORMING PART OF ACCOUNTS FOR THE YEAR ENDED 31-03-2011

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 as below:

Computer and accessories -60% under WDV method

Furniture and fittings -10% under WDV method

Depreciation has been provided on assets acquired during the year. 50% of the normal depreciation has been charged in case of assets acquired after 30th September of the year.

2. 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 orders of the Commissioner of Income Tax Kochi dtd 21.07.2008.

3. During the year 2010-11, an amount of Rs.1,60,00,000 has been received as fund transfer from MPEDA (author/founder of the Society) and the same has been credited to Capital fund.

4. Travelling Expenses incurred by State Co-coordinators and Field Staff inconnection with extension activities are also classified under " Extension Activities " (Schedule 1(a))

5. Previous year's figures were regrouped wherever necessary.

Sd/-
Chief Executive

Sd/-
Treasurer

Sd/-
Secretary

Sd/-
Auditor

OFFICE BEARERS



Ms. Leena Nair, I A S
President



Dr. Joice V. Thomas
Chief Executive Officer



Atanu Ray
SCo, West Bengal



S. Mohopatra
SCo, Odisha



Hanumantha Rao
SCo, Andhra Pradesh



K. Anandan
SCo, Chennai, TN



Dr. R. Balasubramanian
SCo, Tuticorin, TN



Dr. S. Shassi
SCo, Kollam



Aliamma Kuriachan
SCo, Cochin



K.A. Narayana
SCo, Karnataka



Santhosh Kadam
SCo, Maharashtra



Jignesh V.
SCo, Gujarat



Deepu A.V.
Research Assistant



Afsal V.V.
Research Assistant



Remya K.R.
Accountant



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

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

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