



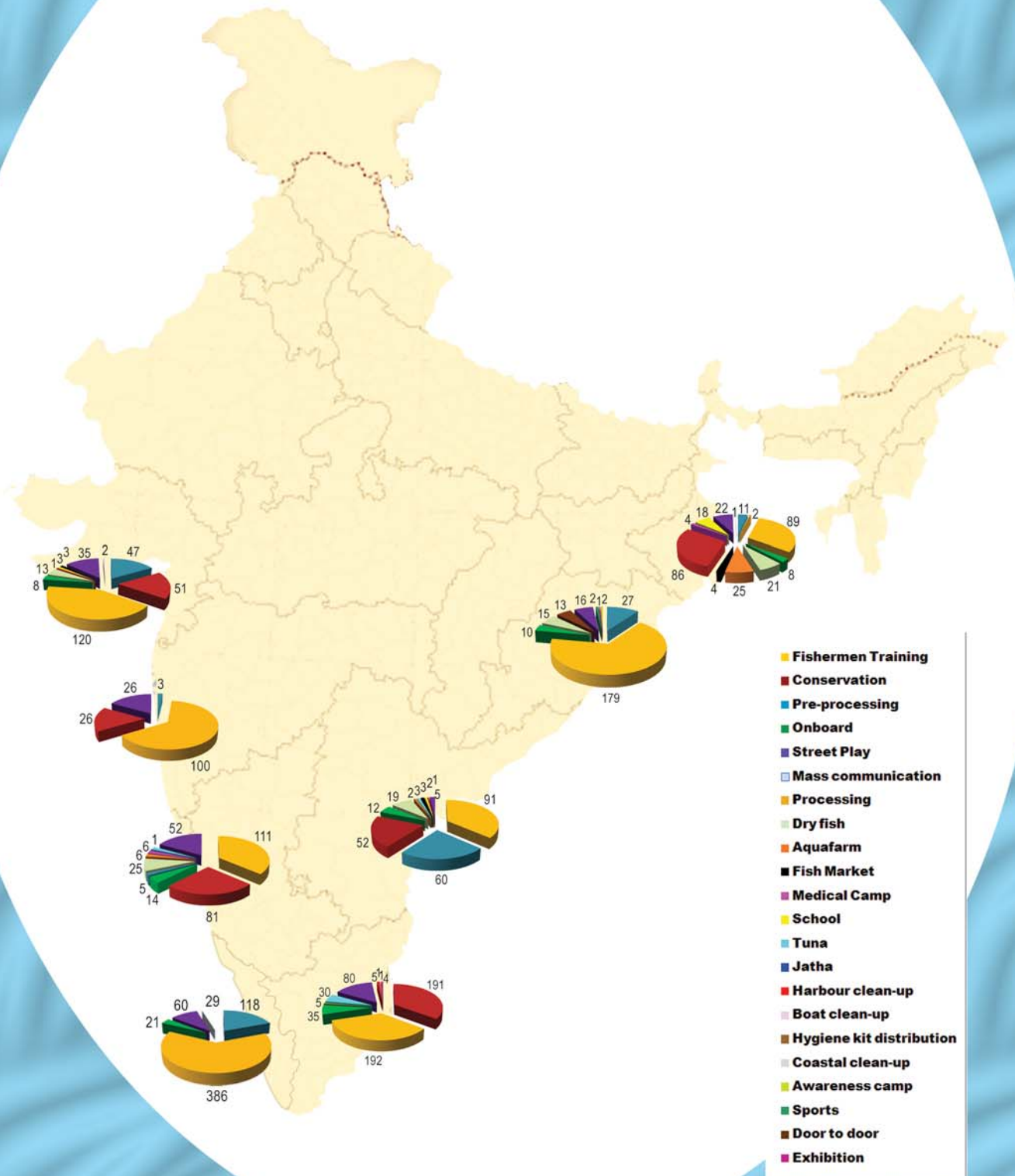
NETFISH



ANNUAL REPORT 2008-09

**Network for Fish Quality
Management and Sustainable Fishing**
(A registered Society under MPEDA)

FOOTPRINTS OF NETFISH



NETFISH - MPEDA

**ANNUAL REPORT
2008-09**

Network for Fish Quality Management & Sustainable Fishing (NETFISH)

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Published by

Network for Fish Quality Management and
Sustainable Fishing (NETFISH)

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Abbreviations used

AC	:	Awareness Camp
AFT	:	Aqua Farm Trainings
C&SFT	:	Conservation and Sustainable Fishing Training
CCP	:	Coastal Cleanup Programme
DD	:	Door to Door awareness programmes
DFT	:	Dry Fish Training
Ex.	:	Exhibitions
FMT	:	Fish Market Training
FT	:	Fishermen Training
HCP	:	Harbor Cleanup Programmes
HDPE	:	High Density Poly Ethylene
HKD	:	Hygiene kit Distribution
MBCP	:	Mass Boat Cleanup Programmes
MC	:	Mass Communication
Ob. T	:	Onboard Training
PPCT	:	Pre Processing Centre Training
Sc. P	:	School Programmes
SP	:	Street Plays
Sp.	:	Sports
TT	:	Tuna Training



1. The NETFISH

Network for Fish Quality Management and Sustainable Fishing (NETFISH) is a society under the aegis of the Marine Products Export Development Authority (MPEDA), Kochi. The Society was registered under the Travancore-Cochin Literary, Scientific and Charitable Societies Registration Act, 1955 on 01.06.2006 at Ernakulam. This society was formed with a view to organizing extensive training programmes among fisher folk to improve their knowledge in fish quality management and sustainable fishing. The major objective of NETFISH is capacity building through extension programmes among fishermen and other

workers in the fishing and fish processing sectors in areas such as quality management, post harvest handling and conservation of fishery resources.

2. President

Shri. Mohan Kumar I.A.S continued as the president of NETFISH during 2008-09.

3. Executive committee

The Executive Committee of the society for the year 2008-09 was reconstituted in the Second Annual General Body Meeting held at MPEDA head quarters Cochin on 11.07.2008. The new Executive Committee members of NETFISH are given below.

Table 1. Executive Committee members of NETFISH (2008-09)

Sl.No	Name	Address
1	Shri. G. Mohan Kumar IAS	President, NETFISH
2	Shri. B. Vishnu Bhat	Director, MPEDA
3	Shri. Kuruvilla Thomas	Director(M), MPEDA
4	Shri. J. Ramesh	Secretary, MPEDA
5	Shri. Joy Ipe Kurian	Jt. Director(Q.C.), MPEDA
6	Dr. Joice V. Thomas	Chief Executive, NETFISH
7	Dr. Meena Kumari	Director, CIFT
8	Shri. G. H. Manikfan	Director, CIFNET
9	Shri. V. Vivekanandan	Chief Advisor, SIFFS
10	Shri. T. M. Shivakumar	Director, Ministry of Commerce and Industry
11	Shri. Anwar Hashim	President, Seafood Exporters Association of India
12	Shri. Laxman Nayak	Secretary, Coastal People Development, Association (CPDA)
13	Prof. Rajeswari Joshi	Administrator, Sneha Kunja Trust, Honnavar, Karnataka
14	Dr. Lazarus	Chairman, Institute for Environmental Research & Social Education, Nagarcoil, Tamil Nadu.

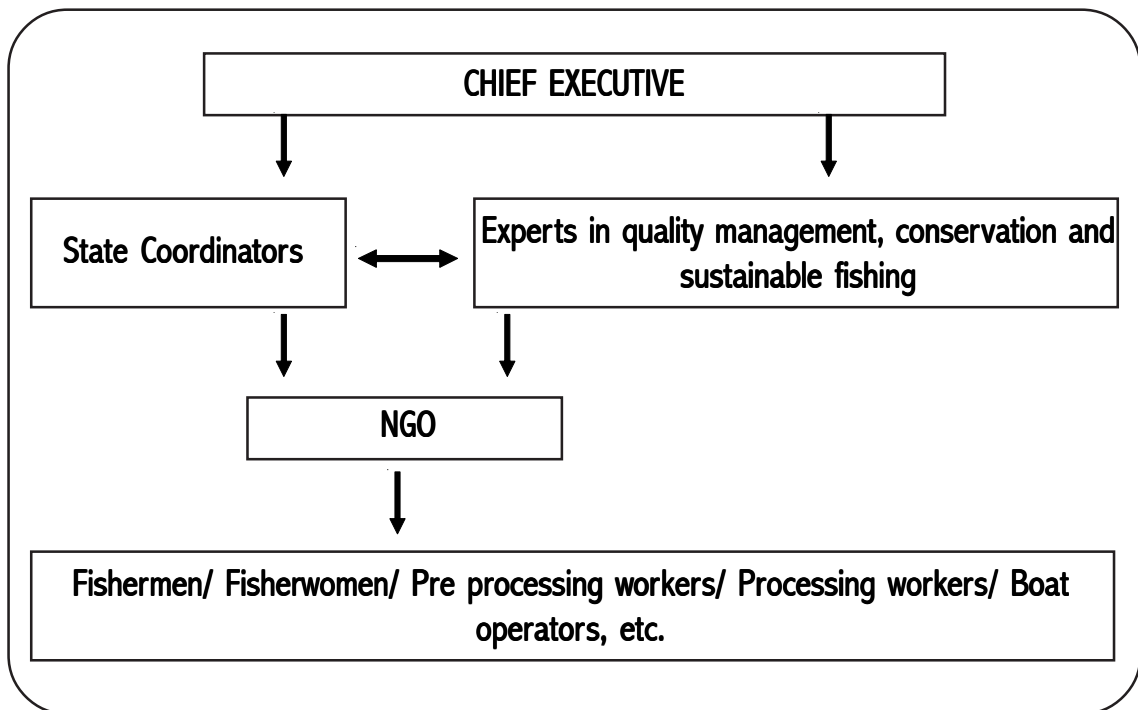
Sl.No	Name	Address
15	Shri. A. Dassu	Secretary, District Fishermen Youth Welfare Association (DYFWA), Gangavaram, Andhra Pradesh.
16	Shri. N. D. Kelkar	Director, Janshikshan Sansthan (JSS), Sindhudurg, Maharashtra.
17	Prof. Amalesh Choudhury	Secretary, S.D. Marine Biological Research Institute, Kolkata, West Bengal.
18	Shri. S. H. Sheikh	President, Brackish Water Research Centre, (BWRC), Surat, Gujarat.

4. Meetings

The Annual General Body meeting was held at MPEDA head quarters, Cochin on 11.07.2008. The Monitoring Committee consisting of Secretary MPEDA and JD (QC) met 9 times during the year and scrutinized

the monthly activities of NETFISH. The Executive Committee met thrice during 2008-09. First meeting was held at SIFFS, Thiruvananthapuram on 21.06.2008. Second and third meetings were held at MPEDA head quarters, Cochin on 03.11.2008 and 05.03.2009 respectively.

5. Office Structure



6. Action plan of NETFISH for 2008-09

A target of 2400 programmes was set for NETFISH for the year 2008-09 and all the regions except

Maharashtra where the State Coordinator resigned during the fiscal year achieved the target. The details of targets set for each state is given below in the table.

Table 2. Target for 2008-09

Region	FT	Ob.T	PPCT	DFT	AFT	Total
Kochi	170	20	50			240
Kollam	170	20	50			240
Chennai	170	20	50			240
Tuticorin	170	20	50			240
Kolkata	150	20	50	20		240
Vishakapatanam	130	20	50	20	20	240
Veraval	150	20	50	20		240
Bhubaneswer	150	20	50	20		240
Mangalore	130	20	50	20	20	240
Goa	50	10	20			80
Mumbai	120	10	30			160
Total	1560	200	500	100	40	2400

7. Training programmes

NETFISH successfully completed 2702 training programmes organized in all maritime states of India during 2008-09. In order to augment its outreach, special programmes such as street plays, free medical camps, harbour cleanup programmes, processions, etc., on fish quality management and sustainable fishing were also conducted. NETFISH developed and used various effective extension tools like documentaries, animation

films, leaflets, posters and radio programmes to add variety to the conventional trainings. NETFISH officials and member NGOs were trained frequently on relevant areas by organizing various trainer's training programmes and workshops to impart quality training to fishermen. During 2008-09 NETFISH covered 9 states and 53 districts of India by organizing 8 types of regular training programmes and five types of special programmes. Table 3 represents the types and number of training programmes conducted by NETFISH.

Table 3. Various training programmes conducted by NETFISH during 2008-09

SI No.	Name of the training programmes	Number
1	Harbor/landing centre trainings	1264
2	Conservation and sustainable fishing trainings	513
3	Dry fish trainings	92
4	Onboard trainings	108
5	Aqua farms trainings	33
6	Pre-processing trainings	281
7	Mass communication	33
8	Street plays	261
9	Fish market trainings	9
10	Medical camps	10
11	School programmes	23
12	Tuna handling trainings	39
13	Processions/ rallies	4
14	Harbour cleanup programmes	7
15	Mass boat cleanup programmes	2
16	Door to door awareness programmes	15
17	Sports	2
18	Coastal cleanup programmes	2
19	Exhibitions	4
	Total	2702

All the regions except Maharashtra, where the State Coordinator resigned during the year under review, could achieve more than the target of 240 programmes.

NETFISH has studied in detail the general fish quality management standard of each state and identified the bottom level problems in this area. Based on the cultural, educational and social diversity of each state NETFISH has modified its training programmes in a way to suit the local need of the beneficiaries. All the tools developed by NETFISH, such as documentaries, leaflets, posters

and animation films, were produced in ten different languages of the country. As each state has its own problems regarding fish quality management and conservation of fishery resources, NETFISH gave prime importance to identify these lacunas. The details of programmes conducted by NETFISH in each state follow.

7.1 Kerala

Kerala, situated in the Southwest part of India, has a slender stretch of land with a long surf beaten coast

on the western side and a lush green mountain range on the eastern side. The state has a coastline of 590 km and the Exclusive Economic Zone (EEZ) extends up to 200 nautical miles far beyond the continental shelf, which covers an area of 218536 sq km provide opportunities in traditional fishing in inshore waters from ages. Technological interventions such as mechanization in the 1950's and the motorization in the 1980 caused several changes in fishing methods along the Kerala coast. The mechanized sector plays an important role in the fishery of Kerala contributing to about 66 percent followed by the motorized sector contributing 27 per cent and the artisanal sector contributing 7 percent. The Marine fisheries are at cross roads now. The inshore waters are under heavy or excessive fishing pressures. Most of the resources are already optimally exploited.

7.1.1 Identified lacunas of the State

1. In Kerala, especially in the southern coastal districts, thousands of unauthorized peeling sheds are located and no data was available on the status and its number.
2. Hut peeling in Ambalapuzha and Sakthikulangara created many quality problems in the seafood export.
3. Floor peeling is a common menace in Aroor region.
4. Auctioning fish on the sandy beach in Vizhinjam and coastal districts of Alappuzha created quality problems.
5. In Anchuthengu and Vizhinjam region, fisherwomen were found mixing fish with sand for sale.
6. Fishermen were found degilling fish directly on the sand in Thottapally, Arattupuzha and Kallicked region of Alappuzha district.
7. Lack of adequate infrastructural facilities in many of the fishing harbours of Kerala.
8. Juvenile fishing was noticed in southern coastal districts.
9. Mini trawling was rampant in Purakkad region.

10. Lack of awareness regarding the sustainable fishing.
11. Uncontrolled increase in fishing effort.
12. Increasing number of fishing crafts and gears.
13. Mesh size regulation were not followed.
14. Lenient implementation of the MFRA's

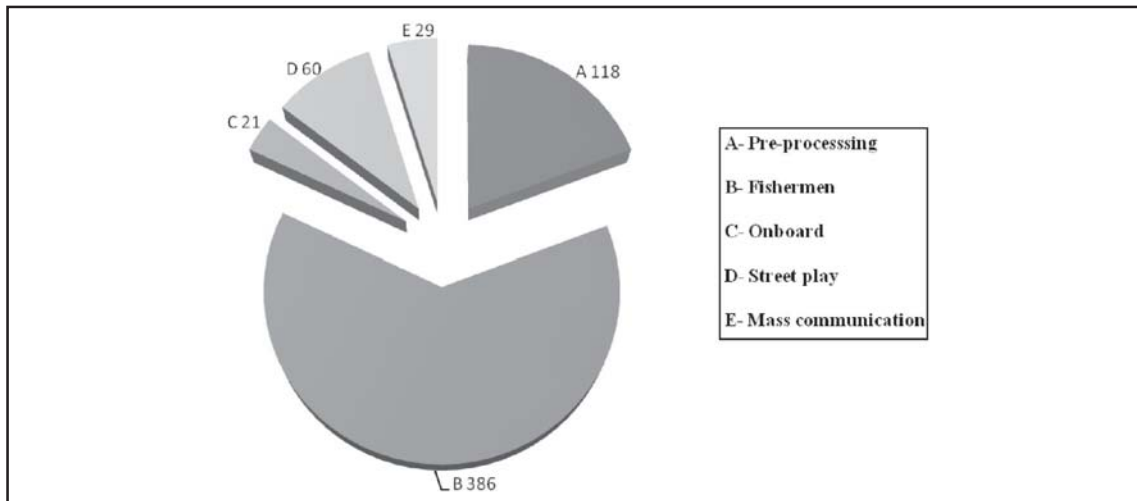
NETFISH organized training for fishermen in a need based manner and a total number of 614 training programmes were conducted throughout Kerala during 2008-09 which consists of 118 training programmes in the pre processing centers, 386 programmes in landing centers and harbours, 58 resource conservation training programmes, 21 onboard training programmes, 29 mass communication and 60 street plays.

In addition to the above mentioned programmes, a detailed survey was conducted in Arattupuzha, Purakkad, Thottapally, Trikkunnapuzha, Ambalapuzha, Aroor and Ezhupunna to identify the number of peeling sheds in each of these panchayats, its owner and status. A study also was conducted to acquire information on the present status of harbours and landing centers of the entire coastal belt of Kerala.

Regular mass communication programmes were conducted in Munambam fishing harbour and as a result hygienic condition of the harbour has improved considerably. NETFISH State Coordinator could establish a good relation with the stake holders of the harbour and could visit the harbour at least twice a month. In Trichur district Nattika, Munakkakadav, Chavakkad and Vadanapally landing centers were visited regularly. These landing centers are now under the constant supervision of NETFISH State Coordinator. Even though good catches are obtaining from places like Ashanpady, Chettyyadi, Alungal, Parapanangady, Vadikkal, Pallivalappu, Moonnankallu, Aryan Kadappuram of Malappuram district even for export, no proper infrastructural facilities are available to manage the catch in these areas in a scientific manner. Regular training programmes were conducted in these areas and as a result substantial improvements could be achieved.

Table 4. District wise details of programmes conducted in Kerala during 2008-09

District	PPCT	FT	Ob.T	MC	SP	Total
Thiruvananthpuram		69				69
Kollam	30	20	9		30	89
Alappuzha	70	36			30	136
Ernakulam	18	15		29		62
Kasargode		25	3			28
Kozhikode		126	5			131
Trichur		45				45
Malappuram		31				31
Kannur		16	4			20
Mahe		3				3
Total	118	386	21	29	60	614


Fig 1. Contribution of each type of programme to the total

7.1.2 Pre-Processing Centre Training Programmes

A total of 118 pre-processing centre training programmes were conducted during 2008-09. These trainings were mainly concentrated at small scale peeling

centres of Arattupuzha, Kallickad, Valiazheekal, Pathiyankara, Thrikkunnapuzha, Purakkad, Punthala and Ambalapuzha, in Alapuzha district, Sakthikulangara , Kavanadu, Chavara, and Aayirumthengu in Quilon district and Aroor, Ezhupunna and Thoppumpady in Ernakulam district where hut peeling is very common.



There are 95 small scale peeling sheds located from Purakkad to Valiazheekal region. All do floor peeling and with out required basic infrastructural facility. Such unhygienic outfits creates quality problem in the international market. Based on the survey conducted by the NETFISH, two wards of Ambalapuzha panchayat were found suitable for constructing a common PPC to begin a step towards eradicating hut peeling from this region. A series of discussions were made with Panchayat and Matsyafed officials for finding out a suitable land for constructing the common PPC. After continuous discussions and efforts, 40 cents of land was found out at the rate of Rs.40000/cent and it was purchased and registered by Seafood Exporters Association of Kerala in which construction of the Common PPC was started. Ambalapuzha hut peeling is a curse in the seafood industry. As per the survey, there are 60 small scale peeling sheds with more than 50 workers in each peeling sheds.

There are about 1000 women peeling workers in and around the Sakthikulangara harbour and for that there is no organised set up. They purchase raw materials from the Sakthikulangara harbour and doing peeling at places which are convenient for them. By taking this point into consideration, NETFISH made a series of discussions with harbour and Matsyafed officials for getting suitable land for constructing a common PPC. Finally, Harbour Engineering Division of Sakthikulangara provided about 1 acre land for the construction of common PPC. Matsyafed took over this project and foundation stone was laid by Shri. S. Sharma, Hon. Fisheries Minister of Kerala.

In Aroor region, there are 38 pre-processing centers of which 32 had availed the subsidy of MPEDA and having minimum required facilities such as raw material receiving station, chill room, changing room, pre-processing hall, ETP even though they were not using tables for peeling. They all were warned and were given proper training on the negative impacts of floor peeling and as a result they started using tables.

7.1.3 Fishermen Training Programmes

NETFISH conducted mainly two types of fishermen training programmes.

7.1.3.1 Training programmes on Conservation and sustainable fishing

NETFISH started conservation training programmes from the year 2008. A total of 69 programmes were conducted during 2008-09 and 11 villages viz. Arattupuzha, Thrikkunnapuzha, Purakkad, Cheriazheekal, Sakthikulangara, Thoppumpady, Alappad, Adimalathura, Pulluvila, Vizhinjam and Anchuthengu were selected for conservation training programmes. Fishermen at Vizhinjam were found using gill nets and long line for fishing which is not harmful to the marine ecosystem and juvenile fishes. However, they were informed to follow responsible fishing practices by using sufficient mesh sizes in their gills nets as mentioned in the KMFRA rules and regulations. Purakkad, Arattupuzha and Thrikkunnapuzha villages of Alappuzha were selected as NETFISH villages where more emphasis will be given to implement co-management councils.

7.1.3.2. Training programmes on Quality Management in Landing Centers / harbours

Landing centre/ harbour based trainings were mainly conducted at places such as Vizhinjam, Poovar, Pulluvila, Anchuthengu, Sakthikulangara, Azheekal, Kallickad, Arattupuzha, Thrikkunnapuzha, Pallana, Purakkad, and Thoppumpady. A total of 317 training programme were conducted during the period of April 2008 to March 2009.

A study was conducted in the harbours of southern districts of Kerala such as Vizhinjam, Muthalapozy, Sakthikulangara, Kayamkulam and Thottapally regarding the prevailing situations to facilitate the financial support from NFDB for infrastructure development in these harbours. Hygienic condition of the Vizhinjam harbour

was very poor and fishermen were directly put the material on floor for auctioning. A total of 25 extension training programmes were conducted at Vizhinjam harbour for fishermen, boat owners and auctioneers with the intention to change this practice. As a result they established a system of using plastic sheets to keep fish for auction and putting sufficient ice for preserving fish.

In Anchuthengu, fisherwomen were used to mix fish with sand for sale. NETFISH conducted 30 training programmes for eradicating this system and as a result significant changes are evident.

Condition of the Sakthikulangara harbour is very poor and the floor of the auction hall is having lots of crevices. Roof of the hall is made with palm leaf. Non availability of good quality water is also a major problem. Fishermen use inshore polluted water for cleaning fish and other utensils. About 200 workers are doing floor peeling in the auction hall of Sakthikulangara harbour. Kayamkulam fisheries Harbor is not properly functioned due to lack of proper access to the harbour. The construction of a bridge between Aayiramthengu jetty and Kayamkulam Fisheries Harbor is not yet finished, to start the transportation to this harbour. Therefore mechanised and traditional fishermen are docking their boats in Ayiramthengu jetty near Kayamkulam fisheries harbour where basic facilities such as auction hall, cemented floor; drainage etc are not available. 36 training programmes were conducted in the landing centres of Alappuzha district such as Arattupuzha, Thrikkunnappuzha, Pallana, Thottapally, Purakkad and Paravur. Before the NETFISH interference fishermen and auctioneers were used to put the material directly on the unhygienic harbour floor but now the situation has been changed.

7.1.4 Onboard Training Programmes

Onboard training programmes during 2007-08 were mainly dealt with fish quality management aspects but this year (2008-2009) more emphasis was given to conservation aspects such as juvenile fishing, mesh size regulation, destructive fishing methods, etc. At the

inception of every programme, the trainer used to take a detailed theory class on conservation and quality management aspects. Then the deck and fish hold of the boat would be thoroughly cleaned before starting the practical training programme onboard on hygienic handling of fish proper icing, etc. A total of 21 onboard training programmes were conducted during 2008-2009.

7.1.5 Mass Communication Programmes

Extensive mass communication programmes were conducted in Munambam harbour. NETFISH could make a healthy relationship with the stake holders of Munambam fishing harbour and the harbour is now on the race to become one of the model harbours of India.

Thoppumpady harbour (Cochin Fishing harbour) is one of the major harbors in the country. The Cochin Fishing harbour was built by the Cochin Port Trust on its own land. Since its inception, the Port Trust is managing and maintaining the harbour. In connection with FVO visit NETFISH conducted 17 mass communication programmes in this harbour. NETFISH was not satisfied with the existing condition of the Thoppumpady harbour as the floor of auction hall was badly damaged, fishermen dump fish directly on the floor, lack of regular cleaning, uncontrolled parking of vehicles, lack of proper drainage facility, etc. These issues were discussed with the MPEDA chairman and submitted a proposal for the up gradation of Cochin fisheries harbour. As a result, Shri. V. Venkitesan, FAO expert, visited the harbour and prepared a report for the up-gradation of the harbour. A meeting was organized with the stake holders of Thoppumpady harbour to discuss the feasibility of forming a harbour management society like that of in Munambam fishing harbour to look after the day to day activities of the harbour. On 18th February 2009, a meeting was conducted with Joint Director (QC) MPEDA and Shri. V. Venkitesan, FAO Expert and Association members of Thoppumpady harbour. Shri. Venkitesan presented the report of Cochin fishing harbour up-gradation to meet international standards of hygiene and cleanliness and



to assure fish quality and safety. After discussion, the report was submitted to Cochin Port for preparing estimate for the infrastructure development in this harbour.

7.1.6 Street-plays

In addition to the NETFISH regular programmes, 60 numbers of street-plays “Kadalinte Kanivukal Kathupottaam” were conducted throughout the southern part of Kerala. These programmes helped to spread the message of NETFISH quickly to fishermen. Through street-play, the most accepted folk art form of Kerala, NETFISH tried to convey almost all important aspects of fish quality management and sustainable fishing to fishermen.

During 2008-09 street-play programmes were organized in places like Eravipuram, Vadi, Thankassery, Neendakara, Sakthikulangara, Chavara, Aayirumthengu jetty, CheriAzheekal, Azheekal, Parayakadave, Valiazheekal, Perumpally, Junkar Junction, Tharayilkadavu, Vattachal, Ramencherry, Kallickad, Arattupuzha, Pathiyankara, Thrikkunnapuzha, Thottapally, Purakkadu, Pallana, Punnapra, Chethi and Thumboli. These programmes were well accepted by fishermen and suggested to organize similar programmes in all the coastal districts of Kerala.

7.1.7 Outcomes

1. Hygienic condition of the Vizhinjam harbour and its surroundings was very poor and fishermen were found keeping fish on bare land for auctioning. After continuous training programmes by NETFISH, fishermen and auctioneers established a system of auctioning the fish in the boat itself.
2. Munambam harbour was developed as one of the model harbours of India.
3. In Vizhinjam region, fisherwomen used to sell fish mixed with sand. After continuous training programmes, now they are not mixing sand with fish.
4. In Vizhinjam region, fishermen reported that little changes occurred in the hygienic handling of fishes at harbour, but more can be done with the involvement of church in this region.
5. It is observed that fishermen at Vizhinjam refrain from using inshore waters to wash the catch.
6. In Thottapally, Arattupuzha, Kallickad regions after gillnetting, fishermen were degilling the fish directly on the sand. But after NETFISH training programmes, they degill the fish on clean plastic sheets spread over the ground.
7. The street play programme by NETFISH named “Kadalinte Kanavugal Kaathupottaam” was well accepted by the fishermen in southern part of Kerala and they suggested to extend this type of programmes through out the coastal belt of Kerala.
8. At Aroor, there are 38 pre-processing centre, of which 32 availed the subsidy of MPEDA and all of them have minimum required facilities such as raw material receiving station, chill room, changing room, pre-processing hall, ETP etc. But, they were not using tables for peeling. They were all warned and were given proper training on the negative impact of floor-peeling. Based on these programmes, they started using tables for peeling.
9. Based on the survey, it is revealed that there are 24 peeling sheds doing hut peeling in two wards of Ambalapuzha panchayat. The idea of common PPC at this region was emerged to curb these activities and a suitable land has been located by NETFISH, where the common PPC is being constructed with the help of Seafood association Kerala Division. As per the survey by NETFISH, there are 60 small scale peeling sheds with more than 50 workers in each peeling sheds.
10. There are about 1000 woman peeling workers in and around the Sakthikulangara harbour without any organised set up. They purchased raw material from the Sakthikulangara harbour and doing peeling

at their own interested places like harbour premises. A common PPC is being set up to rehabilitate those engaged in such unhygienic practices.

11. As a result of continuous discussion and training programme in Cochin fishing harbour, attitude of the stakeholders towards the quality management and sustainable fishing showed a positive change.
12. By onboard training programme, fishermen now started proper washing, icing and handling of fishes onboard.
13. Due to continuous training in Coastal villages of Alappuzha, very significant change was noticed in this region. Now they take the material in baskets for auctioning. If the landing is multi-species, they sort the material on the plastic sheet instead of doing it on bare land.
14. Attitude of fishermen changed due to awareness training programmes. They also think about sustainable fisheries and suggested that net factories should stop selling of small meshed net (banned type). Before imposing any type of mesh size regulation, measures should be taken to stop the production of concerned net in the net factories.
15. In Ambalapuzha, workers of the peeling sheds started hygienic practices such as washing of hands and legs before entering into the shed.

7.2 Maharashtra & Goa

Maharashtra has 5 maritime districts, 2 major harbours and 182 landing centers. Maharashtra and Goa with a coastline of over 827km is endowed with rich and varied fishery resources. Majority of the fishing vessels operate in the inshore waters and they cause enormous fishing pressure in the coastal waters. Maharashtra and Goa noticed the poor growth in marine fish production over the last decade due to the increased fishing pressure and over exploitation of resources. The multispecies,

open access marine fisheries further aggravate the problem and also create conflict among groups of operators over the areas of operation in Maharashtra and Goa. This clearly seeks the intervention of suitable agencies for ensuring successful fisheries management to avoid the stagnation in capture fisheries in future. The successful fisheries management and exploitation requires the understanding of the different aspects of fish quality management and conservation.

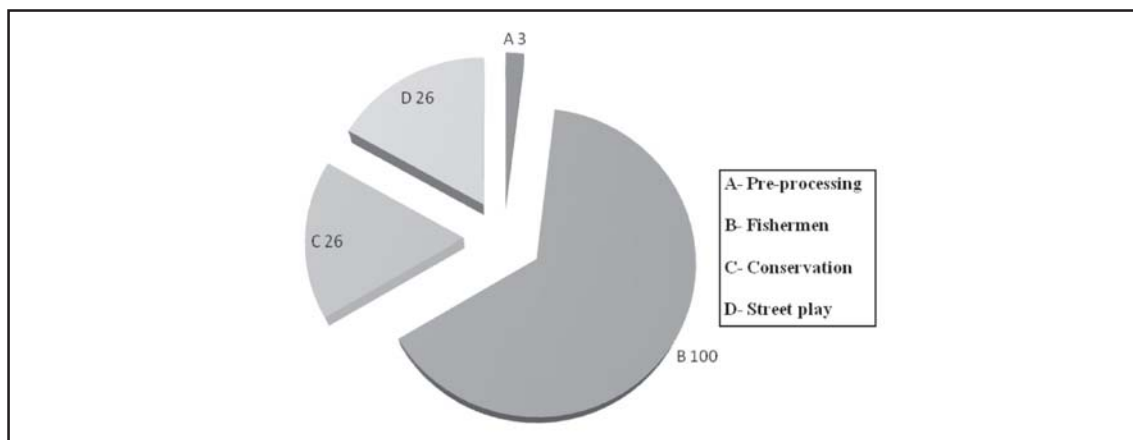
7.2.1 Identified lacunas of the State

1. Lack of facilities such as potable water supply, unavailability of sufficient quantities of ice made from good quality water, ruptured platforms in the auction halls, proper wharfs, toilets, proper roads, etc. in several landing centers of Maharashtra and Goa make it very difficult for the fishermen to follow the basic practices of hygienic handling of fishes at harbours
2. Inadequacy of proper awareness programmes among fisher folk regarding the importance of conservation and hygienic handling of fishes.
3. Greater percentage of illiteracy among fishermen is a main constrain for them in understanding and adopting new technological advancements of this sector
4. Ineffective implementation of the laws made it easy for the people to violate it, especially the mesh size regulation, night trawling and destructive fishing practices.
5. Less attention to pollution of marine environment
6. Over exploitation of fishery resources is the main problem in Goa state.

With the objective to overcome the above constraints NETFISH organized 155 different types of training programmes throughout Maharashtra and Goa during 2008-09.

Table 5. District wise details of programmes conducted in Maharashtra and Goa

Sl.No	Description	No. of Training programmes conducted						Total (2008-09)
		Sindhudurg	Ratnagiri	Raigad	Mumbai	Thane	Goa	
1	Preprocessing	1		2				3
2	Fishermen trainings	42	30	10	1	17		100
3	Sustainable Fishing/ conservation	14	11	1				26
4	Street-plays	20				1	5	26
	Total	77	41	13	1	18	5	155

**Fig. 2. Contribution of each type of programme to the total**

7.2.2 Fishermen Training Programmes

A total of 100 fishermen training programmes were conducted throughout Maharashtra during 2008-09. These programmes were mainly conducted in places like Dahanu, Dhakti Dahanu, Dungguvada, Ghivali, Murbe, Core, Amala, Gongri, etc.

7.2.3 Conservation and Sustainable Fishing Training Programmes

26 conservation and sustainability based training

programmes were conducted in all the five maritime districts of Maharashtra during 2008-09. By these programs NETFISH could create some awareness among fisher folk on adverse effects of bottom trawling, benefit of using by-catch reduction device, use of selective and non-selective gears, etc.

7.2.4 Pre-processing Centre Training Programmes

Three pre-processing centre training programmes were organised in Maharashtra during 2008-09.

Lectures were delivered on personal hygiene, hygiene and sanitation, role of ice in preservation of fish, hygienic handling of fish, etc. These programmes were organized in sea food plants such as Noor Ice and cold storage, Taloja, Navi Mumbai, Shroff processed foods, Nerul, Navi Mumbai and Amison Fisheries, Tarkarli, Malvan, in Sindhudurg District.

7.2.5 Street-plays

Apart from the regular training programmes of NETFISH, 26 street-play programs were conducted in places like Kelwa fishermen society, Kelwa, Vengurle Reddy, Shiroda Kerwada, Ubhadanda Kepadevi, Navabag, Vengurle Bandar, Kalvi, Mhapan, Nivati, Mobar, Vayangani, Devbaag, Tarkarli, Sarjekot, Dandi, Malvan Bandar and Aramol, Aramol bazar, Shivoli, Shivoli Bandar and Morje of Goa State

7.2.6 Outcomes

1. The fishermen of Maharashtra were very much against the monsoon fishing ban on trawling but after continuous training programmes by NETFISH they have started realizing the importance of conservation of fishery resources. They were taught in detail on the need of monsoon fishing ban, why it is different in different states, how monsoon fishing ban helps in sustaining our fishery resources, etc.
2. Plastic bags are banned in Vadarai landing centre, Dist. Thane and some parts of Alibaag area. We have created awareness among fishermen to stop the use of plastic carry bags.
3. In Thane district some fishermen were practicing dynamite fishing for years but through NETFISH trainings they realized the massive destruction it causes to the ecosystem and have completely stopped the activity.

7.3 West Bengal

West Bengal has a coastline of 158 Km comprising of 3 maritime districts and the state's fishermen population is 2,69,565 residing in 346 villages. The

fishing fleet consists of 6829 mechanised units, 1779 motorised units and 10041 non motorized units. The state has five harbours of which one is under construction and 23 major landing centres. The major fishing gears used are drift gillnet, bottom set gillnet, boat seine, shore seine, bottom long line and trawl net majority of them operating during the season from September to February. The Sundarban delta, one of the largest delta and mangrove ecosystem of the world, enrich the state's resources with its dynamic environment and biodiversity. In 2007–08 contribution from West Bengal is 12.64 Lakh metric tons in Inland fisheries (29% of India's production) and 1.83 Lakh metric tons in Marine fisheries (6% of India's production). The state is capable of contributing more for the development of Indian fisheries through proper management practices.

7.3.1 Problems/lacunas prevailing in the State

1. Unscientific handling of catch in many of the landing centers and fishing harbours.
2. Use of bamboo baskets in fishing vessels (gill netters) for washing catch.
3. Lack of awareness on personal hygiene.
4. Lack of proper awareness training programmes for fishermen.
5. Lenient enforcement of MFRA.
6. Massive wild seed collection.
7. Lenient implementation of mesh size regulation for Hilsa fishery.
8. Juvenile fishing and bycatch destruction.
9. Unscientific implementation of ban period.

NETFISH could successfully carry out 291 various extension training programmes along the 3 maritime districts of West Bengal viz. Medinipur East, 24 Parganas North, 24 Parganas South and also at Balasore District of Orissa during the year 2008-09. Majority of the programmes were conducted at fish landing centres to train fishermen on fish quality management. A good

number of awareness programmes on conservation and sustainable fishery were also conducted. Apart from the regular NETFISH programmes, medical camps, school programmes, street plays, mass communication

programmes etc. were also conducted at different coastal villages. In South Paragnas alone 141 training programmes were carried out. The district wise details of the programmes are given in Table 6.

Table 6. District wise details of programmes in West Bengal

Sl. No.	Description	Medinipur East	24 Parganas North	24 Parganas South	Balasore, Orissa	Total
1	Pre processing	1	10			11
2	Processing		2			2
3	Landing center	21		63	5	89
4	Onboard	2		6		8
5	Dry fish	13		8		21
6	Aquaculture	5	11		9	25
7	Fish market			4		4
8	Conservation	31		50	5	86
9	Medical camp	2		2		4
10	School programme	10		8		18
11	Street play	22				22
12	Mass communication		1			1
	Total	107	24	141	19	291

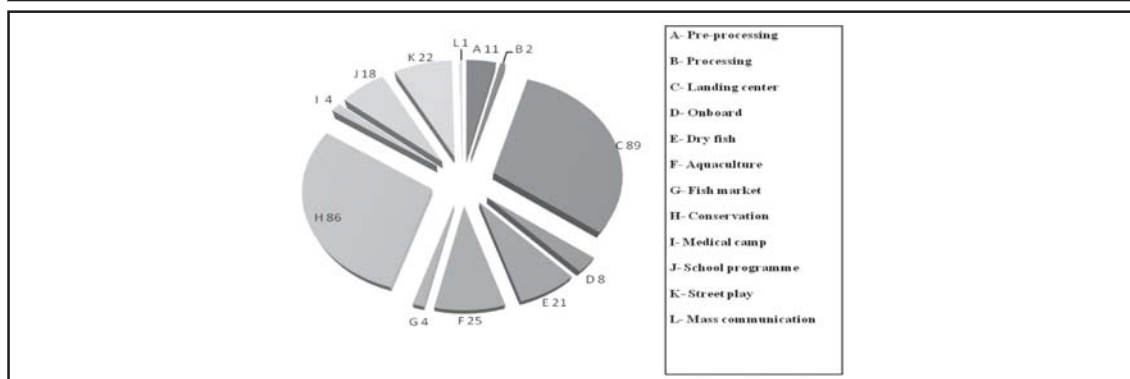


Fig. 3 Contribution of each type of training to the total

7.3.2 Onboard Training Programmes

During 2008-09 eight onboard training programmes were conducted along the coastal districts of West Bengal to improve the quality of catch from grass root level. Good response was received at Kakdwip Fishing Harbour, Namkhana landing Centre and Frezerganj fishing harbour. The trainings were organized to Gill netters and Gill netter with hook & lines. As a result of the training programmes fishermen take extra care to clean the deck of boats with detergent and chlorine before and after every fishing operation. MPEDA schemes related to the purchase of ice boxes, remodeling of fish store with fibre or PUF insulation, conversion of gill netter/trawler to tuna long-lines, etc. were also explained during the programmes.

7.3.3 Dry Fish Training Programmes

Dry fish is one of the main export commodities from West Bengal. The previous practice of drying fishes on sand beds in an unhygienic way has changed after the extension training programmes by NETFISH. Fishermen have started using straw and net as bed for drying the fish to minimize and avoid contamination with sand. Most of the fishermen are practicing rack system for drying fish especially for Bombay duck. In some places like New Jalda Khuti, fishermen are covering the dry racks with HDPE net to prevent the entry of birds, animals and flies. Fish drying area are encircled with nets to prevent entry of animals and pets. They were also made aware of the harm in using chemicals and pesticides while drying the fish. They have started practicing proper icing to raw materials during transportation of fish from fishing ground to drying area to retain the quality. They were advised to use garlic bath (50 gm crushed garlic in 1 litre of water) for 5 minutes to avoid attack of flies. They have been taught to pack the dry fish with polythene lined packet to retain the quality of material meant for human consumption.

7.3.4 Fishermen Training Programme

A total of 89 fishermen training programmes on fish quality management were organized along the coastal districts of West Bengal. As a result of this, fishermen have started practicing proper washing and storing of catch and also are paying attention to the time – temperature factor to maintain proper quality of fishes. Crushed ice is now used to minimize the damages and spoilage of fishes. Plastic crates are now being used for storage and transportation of fishes to the markets. In some places such as Digha, insulated ice boxes are being used for transportation of export quality fishes and shrimps to maintain cold chain from landing centre to processing plant. Fishermen have realised the utility of insulated ice box and insulated fish hold as it reduces the consumption of ice to the extent of 40%. They are also told about the importance of washing the platforms and premises of the fishing harbour, landing centre and auction hall before sorting and auctioning the catch. Wherever raised platforms are not available the fishermen are using plastic sheets for auctioning the catch. After undergoing the training programme the fishermen are now aware of the importance of the personal hygiene and sanitation. Fishermen were also made aware of the necessity for registering the fishing vessels with MPEDA for availing various assistance Schemes from MPEDA.

7.3.5 Pre-processing Centre Training Programme

NETFISH has conducted 11 training programmes on Hygiene and Sanitation practices in Pre-processing centres to create awareness among the pre-processing workers to upgrade the fish & fishery quality as per the required international quality standards. After the programmes remarkable changes were noticed among the pre-processing workers. They were made aware of the importance of proper hand washing and sanitizing procedures, wearing of



uniforms, head gear, mouth gear, proper use of sanitizing agents, use of ice and its importance, proper waste disposal and personal hygiene, etc.

7.3.6 Processing Centre Training Programme

NETFISH has conducted 2 training programmes on hygiene and sanitation practices in processing plants on request from their side to create awareness among the processing workers on good handling practices to upgrade the fish & fishery quality as per the required international quality standards. They were made aware of the importance of proper hand washing and sanitizing procedures, wearing of uniforms, head gear, mouth gear, proper use of sanitizing agents, use of ice and its importance, proper waste disposal and personal hygiene, etc. After the programmes remarkable changes were noticed amongst the processing workers.

7.3.7 Aqua Farm Trainings

West Bengal is one of the major producers of culture shrimps (Black tiger and Scampi). During 2008–09, twenty-five awareness programmes were conducted on shrimp culture where the NETFISH officials discussed about the hygienic harvest and post harvest handling of shrimps with auctioneers and shrimp farmers. It was agreed to maintain the quality of shrimps from farm site to the processing plants by adopting chill killing of the shrimp. Farmers are now aware of the benefits of using hatchery reared seeds in their farming practices instead of wild seeds collected from the rivers. NETFISH started campaign on use of hatchery produced seeds which are disease free and PCR tested. The shrimp farmers of Midnapur East and Bhograi block, Balasore, Orissa are interested to use ice boxes during transport of shrimps from farm to processing plant.

Shrimp farmers have been trained for scientific sustainable farming with hatchery seeds. Also they have been made aware of harm of using antibiotics in the

farming system. They have also been further advised to have clearance from the Aquaculture Authority for such farming as a statutory measure.

7.3.8 Awareness Programmes on Conservation and Sustainable Fishing

Marine fish landing in West Bengal in the year 2005 was 197424 metric tones and in 2006 it was 183817 metric tons. The stock of marine resources is depleting day by day with increase in the number of fishing boats. A good number of boats are engaged in fishing but the quality and quantity of catch is depleting. Reasons for such depletion were discussed among the fishermen engaged in coastal fishing and also the factors to be considered to regain the fish stock in future such as,

1. Prohibition of destructive fishing
2. Restriction on catch of fish seed, juveniles and gravid fishes during breeding season
3. Observation of closed season during monsoon period to allow the fishes to breed.
4. Regulation of mesh size of gill nets and modification of the meshes in cod end of trawl nets is to be followed to allow the juveniles to escape.
5. Wild seed collection is to be stopped to save the other varieties of fish seed. This can be promoted by providing the seed collectors with alternative livelihood.
6. Water pollution of sea and rivers.
7. To stop destruction of mangrove vegetation in the coastal areas as it acts as natural barrier for soil erosion and cyclone during rough season. Also it acts as breeding and nursery ground for fish and other aquatic organisms.
8. To protect marine turtle as it plays an important role in keeping the sea clean by way of feeding on the decaying materials and plant vegetation in water.

To sustain production, effective fisheries conservation measures need to be implemented among the fisher folks at the grass root level as well as for stake holders and concerned authorities. In order to make the fishermen community aware of this, NETFISH has conducted 86 awareness programmes at different fishing villages and landing centers in South 24 Parganas and Medinipur East districts.

7.3.9 Fish Market Training Programmes

Fish market is a place where fishes are collected from various sources and from where it is taken off for further uses like direct human consumption, pre-processing and processing for export. Therefore, fish market plays a vital role to maintain the quality of the fishes. NETFISH is also taking care of capacity building and creates awareness among the fish dealers, auctioneers and handlers, etc. on quality management, personal hygiene and proper sanitation. The following points were discussed among them –

1. Fish holding containers shall be clean, non-corrosive, non-absorbent and free from cracks and defects. Containers should be cleaned before and after use.
2. Avoid the usage of Bamboo baskets.
3. Containers shall be insulated and provided with cover at all times.
4. Fish should be kept in separate boxes after sorting.
5. Containers should be provided with holes at bottom to allow draining of melted ice.
6. Non-edible products like soap, disinfectants and other toxic & poisonous substances should be stored separately in designated areas.
7. Fish shall be sold on first come first serve basis.
8. Tanks and drums used for water storage shall be covered and kept clean.
9. Waste water must be disposed off and should not pose a hazard to potable water and fish.

10. Fish waste shall be properly collected and disposed off.
11. Premises should be washed and sanitized before and after use.
12. Arrangement shall be made for availability of good quality potable water.
13. Drainage system of the market should be cleaned and sanitized properly
14. Toilets and latrines should be made available in the market.

Transportation of fishes in hygienic condition from different sources was also discussed. Farm produced products as well as the catches from the marine sector should be transported to the fish market in clean plastic crates with proper icing and covered to avoid exposure to air. Vehicles should also be cleaned and sanitized properly. Hygienic handling of fish should be ensured in the market. Moreover, fish handlers should maintain proper hygiene and sanitation during fish handling.

7.3.10 Medical Camps

Fisher folk engaged in fishing and allied activities come across a lot of health hazards. NETFISH organised 4 Medical Camps in Medinipur East and South 24 Parganas for the welfare of the fishermen communities. It helped to create awareness on health problem and personal hygiene among the fishermen community as well as helped NETFISH to attract more fishermen towards its activities. During these camps two doctors examined the general health of about 422 fisher folks of South 24 Parganas and Medinipur East.

In addition to medical camp NETFISH organized free blood group detection camp for fisher folks on 26th October'08, 16th November'08 and 8th January'09 with the help of "Thanapukurpar Welfare Society", Contai, Medinipur East, a sister concern of Sarboday Sangha, member NGO of NETFISH. About 362 fisher folk's blood group were detected and each were provided with a card showing all relevant information on their health. They were directed to keep the card safely.



7.3.11 School Programme

Realizing the effectiveness of training school children, NETFISH conducted awareness programmes on fish quality management and conservation at different schools of the coastal blocks. Children in turn can easily create awareness among their parents and other family members, who are engaged in fishing and allied activities. Lectures on sustainable fishing and different conservation aspects like protection of mangroves, marine turtles and fish seed as well as the environment were delivered in detail. The present status of the fishery resources and exports from the state as well as from India, fish quality management and personal hygiene and sanitation were also covered during the programmes. School programmes were conducted in both the districts in West Bengal and 1747 students of Class IX to XII participated in the programmes. Each student was provided with a writing pad and pen to make lecture notes.

After attending the school programmes, students from Manasadwip R.K. Mission High School, Sagar motivated the wild prawn seed collectors not to destroy other variety of seeds of prawn, fish and crab during the collection of seeds of *P. monodon* & *M. rosenbergii* from the river. They were advised to release back such seeds to the water rather than disposing them to land so that they can grow to adult to avoid further depletion of our natural resources.

They also convinced the villagers about the importance of mangrove forests and advised them not to destroy the mangrove vegetation as it protects the areas from natural calamity, check soil erosion and save the river embankment from high tide. They also explained them about the role of mangroves in providing nutrients for the growth of natural fish food organisms as well as serving as breeding and nursery ground for fishes.

7.3.12 Seminars attended:

1. On 9th August 2008 Shri. Atanu Ray, State Coordinator NETFISH and Shri. Raju K. Joseph, Assistant Director, MPEDA, R.O- Kolkata attended

a seminar organized by Sintex Industries Limited at Digha, Medinipur East to promote use of insulated boxes to maintain cold chain for fishery products. More than 150 fishermen and boat owners attended the seminar. Shri Raju delivered a talk on role of MPEDA and schemes for the fishermen to improve quality of fish. State Coordinator NETFISH delivered a lecture on activities of NETFISH for fish quality management and on importance of insulated box and insulated stores in fishing vessel to retain the quality of catch and in maintaining the cold chain from fishing vessel to consumer.

2. On 30th August'08 a meeting was arranged with Shri G. Ravi Babu, Regional Coordinator, NaCSA and 60 prawn farmers of Goberia Village, Haroa, North 24 Parganas. The need of sustainable aquaculture practices, use of PCR tested hatchery prawn seeds; proper icing of harvested materials and its transportation to maintain quality to enhance exports of culture shrimps in global markets and formation of Society under NACSA- MPEDA were discussed. Problems such as use of antibiotics and others chemicals in aquaculture, indiscriminate collection of seeds, propagation of disease to ponds from wildly collected seeds of tiger prawn were also discussed in the meeting.
3. A training programme was conducted by ADF (Marine) Diamond Harbour, at Namkhana Training centre on 10th September'08 in which Atanu Ray, State Coordinator NETFISH took class on "Fish Aggregating Devices (FAD), Mari-culture and Sea Ranching" for 100 fishermen from 20 different fishermen organizations of South and North 24 Parganas.
4. On 21st November'08 a meeting was arranged by Sarboday Sangha on rejuvenation of mangrove plantation at Bidyapith, Khejuri, Medinipur (East). Principal, Khejuri Collage, School teachers, Panchayet members, local NGOs, Resource persons, Stake holders, Shri Sourav Maity, State

coordinator - Jadavpur University, Ministry of Earth Science, State Coordinator – NETFISH and Secretary of organizing NGO attended the meeting. A detailed discussion on importance of mangrove plantation and its importance in connection with ecology, sustainable fishery and minimizing land erosion were made. It was decided to form a Forest Protection Committee and three different villages of Khejuri block such as Pachuria, Kaukhali and Hijli are selected for mangrove plantation. It was also decided to make a field survey and a survey on tidal amplitude in the said areas. A field visit to Pachuria and Hijli was also done as part of the programme.

5. On 12th January'09, Atanu Ray, State coordinator NETFISH attended a seminar organized by The Science Association of Bengal (SAB) and NSTEDB, Dept. of Science & Technology, Govt. of India at C.V Raman Hall, IACS, Kolkata. Prof. Siddhartha Datta, V.C., Jadavpur University, Shri Praveen Roy, Scientist, NSTEDB, Govt. of India, Dr. P.K.B. Menon, former Advisor & Head, NSTEDB, DST Govt. of India & Vice President, SAB, Dr. S. Roychoudhuri, Secretary, SAB and other distinguished guests were present in that seminar on Science & Technology. Dr. Roy Choudhury, Shri Bimal Kumar Sengupta and State Coordinator addressed on the activities of NETFISH in the field of fish quality, conservation and sustainable fishing at the grass root level.
6. State Coordinator had attended an open meeting organized by Digha Fishermen & Fish Traders' Association, a member organization of NETFISH on 21st January '2009. The meeting was on conservation policies at Digha Mohana Landing Centre in presence of more than 500 fishermen, boat owners.

7.3.13 Mass Communication Programmes

NETFISH made use of mass media such as Doordarshan and All India Radio of West Bengal to spread out the messages on fish quality and conservation of

fish resources. These programmes will be beneficial not only for the marine fishermen community but will also be educative for all class of audiences.

1. On 29th January'09 a seminar on 'Post harvest handling of aquaculture shrimp' was organized by Bihari Bidyut Sangha, at Bihari, Atpukur, Haroa, North 24 Parganas. Shri K.N.Vimal Kumar, Deputy Director, MPEDA delivered his talk on post harvest handling, chill killing practices, proper icing and transportation of shrimp to maintain cold chain from pond to processing plant, avoiding antibiotic and other chemicals in aquaculture, avoiding soaking of shrimp as well as on export market and MPEDA schemes. Shri Sengupta of The Science Association of Bengal highlighted on sustainable culture practices and quality improvement of shrimp. Pamphlets and leaflets on CAA, State Govt. regulation on soaking of shrimp and use of antibiotics were circulated among the farmers.
2. On 15th January'09 State Co-coordinator, NETFISH and Shri Bimal Kumar Sengupta, retd. Deputy Director, Dept. of Fishery, Govt. of West Bengal and representative of The Science Association of Bengal recorded a 20 minutes talk at All India Radio, Kolkata on "*Macher Gunagata Mann Onnayanne NETFISH-MPEDA*" (Role of NETFISH-MPEDA in Fish Quality Management) which covered the aspects like fish handling and icing, proper packaging & transportation, boat maintenance, personal hygiene & sanitation and MPEDA's subsidy schemes. The recorded talk was broadcasted and rebroadcasted on 20th January'09 and 31st March'09 respectively at Kolkata –A on "Krishi Kathar Ashar".
3. On 24th February'09 a street play on fish quality management and conservation of fish resources, performed by Contai Pratikhee, at Mandarmoni, Medinipur East was covered by Doordarshan, Prashar Bharati, Kolkata, and it was telecasted on 4th April 2009.
4. On 25th February'09 Doordarshan, Prashar Bharati, Kolkata covered an onboard training programme

on fish quality management at Shoula landing centre. Shri K.N Vimal Kumar, Deputy Director, MPEDA R.O- Kolkata delivered a talk to Doordarshan on schemes of MPEDA for fishermen to improve quality of fish and fishery products, subsidy schemes for conversion tuna vessel, insulated fish box, insulated fish hold and on ice plant and export information regarding West Bengal. The programme covers practical demonstration on sorting, washing, icing and preservation of catches, cleaning of boat and food contact surfaces, use of insulated ice box and plastic basket instead of bamboo basket, use of chlorine and liquid soap, personal hygiene etc. Shri Tarun Kumar Giri, representative of The Science Association of Bengal and Asst. Director of Fishery, Govt. of West Bengal was interviewed, regarding conservation of fish resources and sustainable fishing. Atanu Ray, State coordinator also delivered a talk to Doordarshan on the role of NETFISH-MPEDA in the field of fish quality and conservation and importance of ice, spoilage, personal hygiene, boat maintenance, significances of insulated boxes and insulated fish holds to maintain quality of catch etc.

7.3.14 Street-plays

During 2008-09 NETFISH had come up with street plays, a new tool to spread awareness on fish quality management and Conservation & Sustainable fishing. Street play blended with folk arts, folk songs and dance is an easy way to communicate with the common people. Two organizations were selected- Contai Pratikee for Medinipur East and Angan Natya Sanstha for South 24 Parganas to perform street plays. Both the organizations were selected by Chief Executive, NETFISH and Deputy Director & Assistant Director, MPEDA respectively.

22 street plays were performed in the month of February and March '09 which covered cleaning of beach, landing centre and fishing harbor, handling of fishes, proper icing of catches, avoid rusty and cleaned shovel,

personal hygiene and habits of fisher folks, conservation of mangrove, avoiding juvenile fishing, avoiding use of *meen jal* for indiscriminate collection of prawn seeds from river and sea, pollution and protection of marine environment etc. The street plays received very good response from the fisher folks in West Bengal.

7.3.15 Outcomes

1. After conducting various extension programmes, about 40% of fishing boats, nets and accessories are being cleaned with detergent before going for fishing.
2. Fishermen have started sorting of valued fishes, cleaning and preserving them in separate crates, insulated fish boxes and fish holds.
3. The earlier practice of crushing block ice manually for preservation of fishes has changed after facilitating some of the boats with ice crushers.
4. In Digha at Mohana landing centre most of the fishing boats are using plastic crates/baskets for washing catch.
5. Previously fishes were transported in open truck and other vehicles in unhygienic condition and now they are using crates to facilitate the transport with proper covering.
6. Fishermen have realized the utility of insulated fish box and insulated fish hold that can reduce the consumption of ice to a greater extend.
7. In fish markets auctioneers are cleaning the floor before receiving the fishes and finally sorting out the quality fishes and transporting it as quickly as possible.
8. Fishermen are now aware about the registration of fishing vessel for availing various beneficial schemes of MPEDA.
9. Previously fishes were dried on the open sand bed, but after many extension programmes they are drying it either on straw bed with proper net covering or through rack drying.

10. Personal hygiene and habits of fishermen have improved to some extent.
11. After conducting many awareness programmes on conservation and sustainable fishing, fishermen have realized the importance of mesh size regulation of fishing gears to allow the juveniles to grow and breed to maintain the fish population for effective catch. To conserve Hilsa fishery fishermen started using 90 mm meshed gill net as per Govt. regulation.
12. Closed season is properly observed throughout in West Bengal.
13. NETFISH is motivating the seed collectors to stop indiscriminate collection of prawn seeds from creeks, canals of river systems and sea banks and also to release back the other varieties of fish and prawn seeds directly into the river/sea in live condition to prevent the depletion of wild stock.
14. As a result of awareness programmes on conservation, fishermen now stop caching any marine turtle (such as Olive Ridley) and even if caught accidentally in nets they are released back to water.
15. After attending the school programmes, students from Manasadwip R.K. Mission High School, Sagar motivated the wild prawn seed collectors not to destroy other varieties of prawn, fish and crab during the collection of seeds of *P. monodon* and *M. rosenbergii* from the river. They have advised the seed collectors to release back the other prawn and fish seed in live condition to the water instead of throwing them on land.
16. They also convinced the villagers about the need of protecting mangrove vegetations as it protects from natural calamity like cyclone/Tsunami, check soil erosion and save the river banks from high tide. Also they explained the villagers in detail about the role of mangroves in providing nutrients for the growth of natural fish food organisms and also in serving as breeding and nursery ground for fishes and other fauna.
17. After attending awareness programmes on Aquaculture, prawn farmers are now aware about the adverse effects of using antibiotics in the culture shrimps.
18. Prawn farmers are interested to register their farms under Coastal Aquaculture Authority (CAA).
19. Farmers are aware about the advantage of using PCR tested hatchery seeds instead of wild collected seeds from river.
20. Instead of stipend to the participants of the training and awareness programmes, NETFISH West Bengal provides plastic sheets, hand gloves, hand bags and it is well accepted by the fisher folks.

7.4 Karnataka

Karnataka has three maritime districts namely Dakshina Kannada, Udupi and Uttara. There are 5 major fishing harbours viz. Mangalore, Malpe, Honnavar, Tadri and Karwar and 25 fish landing centers in the state. Karnataka contributes 3.5% of India's total marine fish production and 1.5% of total inland (culture) fish production. Trawling, Purse-seining, gill netting and long lining are the main fishing methods of the state. There are 19 Inland fish sanctuaries in Karnataka.

7.4.1 Identified lacunas of the State

1. Facilities such as broad and lengthy wharfs, modern auction halls and public toilets/ bath rooms are required for Mangalore and Malpe harbours.
2. Sufficient potable water for drinking, washing and cleaning is not available in all the fishing harbours of Karnataka.
3. Lack of proper awareness among fishermen on the quality management and conservation of fishery resources.
4. Lack of need based extension training programmes for fishermen to aware of the new quality standards of the major buyer countries and growing concern over the depleting fishery resources of our country.

5. Mesh size regulation has not been observed in the state.
6. Trawling is widely taking place in inshore waters
7. Catching of endangered species is also in practice
8. Lenient implementation of closed season/ ban period during the monsoon months.
9. Ineffective management of fishery resources of the state.

Altogether 307 training programmes were organized in Karnataka during 2008-09. These trainings include fishermen training programmes at landing centers, onboard trainings, tuna trainings, pre processing centre trainings etc. Apart from the regular training programmes of NETFISH special programmes such as street plays, processions, rallies, and medical camps also were organized during the year. Details of the training programmes are given below in the table.

Table 7. District wise details of programmes conducted in Karnataka during 2008-09

Sl.No.	Description	No. of Training programmes conducted			Total
		Dakshina Kannada	Udupi	Uttara Kannada	
1	Preprocessing Center Trainings	2	2	1	5
2	Sustainable Fishing/conservation	9	18	54	81
3	Landing Centre	11	24	76	111
4	Onboard	2	2	10	14
5	Tuna trainings	1	1	4	6
6	Dry fish training	6	9	10	25
7	Street-plays	12	15	25	52
8	Aqua farm training	1	2	3	6
9	Procession/Rally			1	1
10	Medical camps			6	6
	Total	44	73	190	307

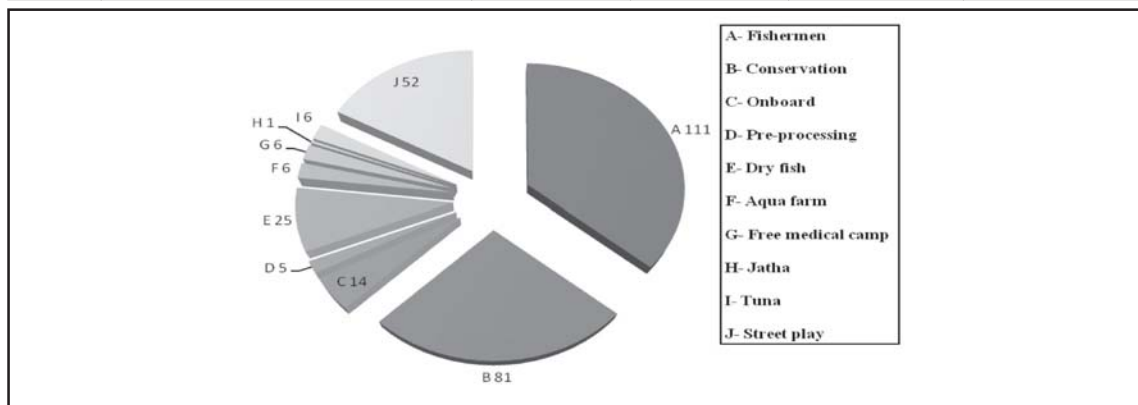


Fig. 4 Contribution of each type of training programme to the total

7.4.2 Fishermen Training Programmes

A total of 111 fishermen training programmes were conducted during 2008-09. This year majority of the programmes were conducted in northern part of Karnataka. These programmes were organized in places like Mangalore, Hejmadi, Bhatkal, Murudeshwar, Kasarkod, Honnavar, Kumta, Gokarna, Ankola, Mudga and Karwar landing centers and nearby fishing villages.

7.4.3 Sustainable Fishing/Conservation Training Programmes

Altogether 81 programmes were conducted during 2008- 2009. More number of fishers was attracted by the programme due to the new topics delivered and discussed. Many local body / panchayat representatives also attended the programmes enthusiastically.

7.4.4 Dry fish training Programmes

Of the total 25 training programmes conducted during this year, most of the training programmes were organized in Bengre village of Dakshina Kannada district, Hejmadi and Padubidri villages of Udipi district, and Kagal, Kimani and Keni of Uttara Kannada districts. In these trainings emphasis was given to use cement platforms to dry fish hygienically. They were advised to stop fish drying by spreading them in landing centers itself. Fisherwomen of Bengre village of Dakshina Kannada district were urging us to construct cement platforms for drying fish.

7.4.5 On board Training Programmes

In the onboard training programmes organized by NETFISH, fishermen were taught about cleaning and sanitation of fishing boats, role of ice in fish preservation, implementation of mesh size regulation, avoiding juvenile catch, sanitation and personal hygiene, etc. Soon after the ban period, it was noticed that majority of the catch comprised of fishes and cephalopods carrying eggs. Fishers were educated not to catch these fishes to safe guard the future stock.

7.4.6 Pre-processing Centre Training Programmes

Five pre-processing training programmes were conducted near Mangalore landing centre, and Kumta regions. MPEDA Asst. Director attended the programme and gave a lecture on hygienic handling of shrimps.

7.4.7 Aqua Farm Training Programmes

6 Aqua farm training programmes were organized in different parts of the state during 2008-09. Majority of the farmers faced severe loss during the year due to white spot formation and less market price. Unhygienic handling of the harvested material is a common practice in entire Karnataka and NETFISH is planning to concentrate more in this field in the coming year.

7.4.8 Street-plays

Chintana' from Kumta, associated with SCODWES, one of the member NGO of NETFISH and Sirsi members of Srushti Kalavidaru, Mangalore were selected for conducting street plays for NETFISH in Karnataka. Street plays were conducted both in Kannada and Tulu language. Tulu street plays were conducted in Yakshagana style, the local folk art in vogue. The street plays attracted not only the fishers but also the general public from fishing villages, harbours, dry fish yards, beaches and school premises. 52 street plays were conducted in coastal districts of Karnataka during 2008-2009.

7.4.9 Tuna Training Programmes

NETFISH organized six tuna awareness programmes in association with Snehakunja trust, Honnavara and SCODWES in different parts of Karnataka. Tuna Technical Assistant Mr. Yesbir Kumar gave the technical information about the tuna long lining and economic feasibility. NETFISH State Co-ordinator has translated the lectures to the local language. Fishers requested NETFISH to conduct more programmes of this type since this type



of training was new to them. As a result 9 boat owners came forward to convert their boats in to tuna loglines.

7.4.10 Jatha

NETFISH Mangalore and SODWES Sirsi jointly organized a jatha highlighting personal hygiene, sanitation and conservation of fisheries for fishermen's school children and their parents. NETFISH Chief Executive inaugurated the function and addressed the gathering. Presidential address was given by Mr. Subramanya Sheregar, the Head Master, Janata Vidyalaya, Mudga colony. More than 150 students, their parents (fishers), members of self help groups, school teachers of Janata Vidyalaya High school were participated. During the training session sanitation Kits consists of a nail cutter, hand gloves, tooth brush, paste, comb and coconut oil were distributed to children.

7.4.11 Medical Camps

NETFISH and Snehakunja Trust Kasarkod jointly organised six free medical camps during 2008-2009 for the fisher community of in Tadri, Honnavar, Kasarkod, Bhatkal and Belikeri fish landing centers.

Six Free medical camps was organised on behalf of Snehakunja Trust and NETFISH at landing centres such as ,Tadri, Kasaragod ,Honnavar,Tadadi in association with fishermen unions. 90 % of the women examined had problems related to calcium deficiency and Anaemia. Children had health complaints resulting from malnutrition.

The main advantage of this programme was that fishers were advised to keep the landing centre clean, reduce the bad habits and improve their personal hygiene. The beneficiaries were happy that the camp was arranged at their working place (landing centre) itself as they did not have to lose their day's labour.

7.4.12 NETFISH participation in Matsyamela

Matsya Mela 2008-2009 jointly organised by College of fisheries Mangalore in association with Karnataka

Veterinary, Animal and Fisheries Sciences University, Bidar, NFDB, Hyderabad and Department of Fisheries, Government of Karnataka from February 13 to 15 at Nehru Maidan, Mangalore. In an effort to spread awareness about the importance of fish and fisheries in the region MPEDA SRO, Mangalore in association with NETFISH Mangalore and NaCSA Kundapur exhibited a stall at the show. Broachers of NETFISH were displayed and distributed to the public. On 14th evening NETFISH street play was performed by Srishti Kalavidaru team. The street play was performed in local TULU language and in Ykshagana style.

7.4.13 Special NETFISH initiative at Mangalore harbour

Preparations were started in Mangalore harbour from the month of September 2008.

1. Asst. Director MPEDA with State Coordinator NETFISH met the president of purse seine boat operators and trawl boat operators association and requested their co-operation in keeping boat, deck and fish hold clean.
2. 2nd meeting was held with DD fisheries, AD harbour in charge, and project Coordinator explained the importance of keeping the harbour clean.
3. NETFISH SCO along with AD harbour in charge was constantly in touch with Engineers of Corporation of Mangalore for providing potable water supply.
4. MPEDA AD with NETFISH SCO conducted a meeting with member NGOs' of NETFISH and advised the field officials to take care of the cleanliness of landing centre and urged them to conduct more training programmes.
5. A team consisted of Asst. Director, MPEDA, Deputy Director, EIA and NETFISH State coordinators visited the Mangalore fishing harbour to see the developments. Asst. Director harbour in charge from the state fisheries department explained the present condition of the harbour and future plans

for infrastructure developments. Sign boards in both the auction halls were repainted by NETFISH.

JD QC of MPEDA visited the Harbour on 20th November and expressed his satisfaction over the preparedness and gave suggestions for the further improvements. The FVO mission members accompanied by JD QC MPEDA, JD EIA, DD and AD EIA, MPEDA AD visited the Mangalore Fishing Harbour on 21st November. The team inspected the Metro auction hall and wharfs, ice plants. KFDC MD, Manager, DD fisheries, project co-ordinator, AD fisheries and leaders from fishermen associations were present during the visit. The inspection of landing centre gave a lot of feed back to officials of state and central as well as fishers and NETFISH. Team work by fishermen associations, merchants, NETFISH-MPEDA and state fisheries officials provided the harbour a new face.

7.4.14 Other Activities of NETFISH- Mangalore

NETFISH Coordinated the visits of QC officials of MPEDA, EIA and state fisheries officials to the major fishing harbours of Karnataka viz. Mangalore, Malpe and Tadri for upgradation of landing centers.

On June 28th, State coordinator Attended a Workshop on “conservation and sustainable fishing” organized by Covalent Centre for Development in Mangalore. Member NGO’s of NETFISH, Snehakunja Trust and DKPO, Mangalore were also present.

DD from EIA and MPEDA AD, visited Mangalore and Tadri fishing harbours on 19th and 20th of August 2008. The team expressed satisfaction over the cleanliness of Mangalore Harbour and suggested to conduct more programmes in Tadri and other northern part of Karnataka.

7.4.15 Outcomes

1. A system for daily and continuous washing of harbours is being practiced in Mangalore fishing harbour from November 2008 onwards.

2. Honnavar fishers are cleaning their Kasarkod harbour at regular intervals by forming a harbour cleaning committee.
3. Tadri landing centre is being cleaned up by the local fishers.

7.5 Gujarat

Gujarat comprises of 25 districts including 13 maritime districts having a wide array of harbours and fish landing centers includes 2 big harbours (Veraval and Porbandar), 12 intermediate harbours, six landing centers cum harbours and 217 fish landing centers. Fishermen of the state largely depend upon capture fisheries for their livelihood. Gujarat with its long coastline plays a major role in the fish products export scenario of the country.

Fish quality management standard of State was poor. Veraval and Porbandar, two big landing centers of the state are too much crowded. Lack of Infrastructure is the main problem in Veraval, Porbandar, Mangrol, Okha , Vanakbara harbours and some small landing centre such as Sutrapada , Navi Bandar, Chorwad, Umersadi. Lack of awareness about the importance of maintenance of fish quality and conservation of fishery resources was another main problem. In this context NETFISH has interfered in this area and identified the point by point lacunas in consultation with fishermen community.

7.5.1 Identified lacunas of the State

1. Improper transportation of fish by way of transportation without ice and transportation in open trollies are in practice mainly in Veraval harbour.
2. Dumping unwanted things in harbours such as Veraval , Porbandar and Mangrol landing centres
3. Fishermen were crushing ice on floor rather than using ice crushers
4. Improper maintenance work of auction hall and harbours

5. Over exploitation of fish resources
6. Mangrove deforestation
7. Rampant use of very small meshed cod ends in trawl nets
8. Violation of monsoon ban in certain areas
9. Lack of awareness among fishermen on the fish quality standards of the buyer countries
10. Lack of a proper extension organization to transfer the scientific knowledge gained from research organizations

Activities of NETFISH in Gujarat were well planned according to the lacunas identified. By keeping the NETFISH goal in mind, the State Co-ordinator and member

NGOs of the state got along with fishermen community and continuous effort was made to change the attitude of fishermen, NETFISH has succeeded to develop a strong relationship particular in Veraval, Vanakbara, Mangrol, Madhvad, Jakhau, Umersadi, Nargol with fishermen community where people are ready to change from the age old practices in vogue.

A total of 283 programmes were conducted in Gujarat during 2008-09. Apart from the regular training programmes special programmes were also organized in the state. Programmes like mass boat cleanup and street-plays got very good response from fishermen. Of the total 13 maritime districts of Gujarat NETFISH has covered 10 districts with its various activities. Table 8 gives the district wise details of various training programmes conducted in Gujarat during 2008-09.

Table 8 District wise details of programmes conducted in Gujarat

District	FT	C& SFT	ObT	PPCT	FMT	DFT	HCP	ScP	SP	MBCP	Total
Junagadh	40	10	4	45	-	5		2	35	1	114
Porbandar	25	13	-	1	-	-					39
Imanagar	4	4	-	-	-	1					9
Amerali	-	6	-	-	-	7					13
Kutchh	13	7	-	-	-	-					20
Valsad	16	6	1	-	-	-					23
Navsari	9	-	-	-	-	-					9
Surat	5	-	-	-	-	-					5
Daman-UT	2	2	1	-	-	-					5
Diu-UT	2	7	2	1	2	-	1	1		1	17
Total	116	55	8	47	3	13	1	3	7	2	283

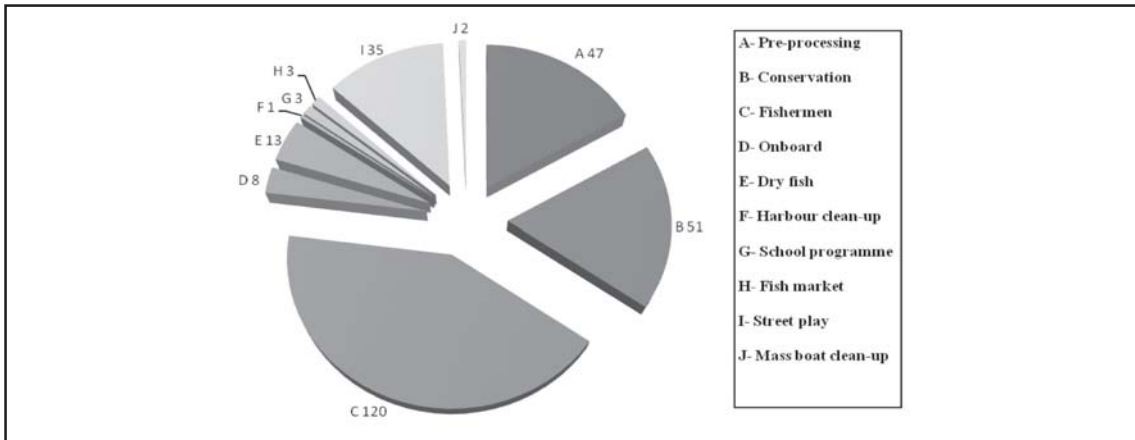


Fig. 5 Contribution of each type of training programme to the total

7.5.2 Pre-processing Centre Training Programmes

In Gujarat, NETFISH-MPEDA conducted 47 pre-processing worker’s training programmes during 2008-09 and as a result of this programmes , worker’ are now a days maintaining proper personal hygiene inside the factory

7.5.3 Fishermen Training Programmes

NETFISH conducted 171 fish quality management and conservation programmes in the major landing centers of Gujarat and created awareness among fishermen on the different aspects of fish quality management and conservation.

7.5.4 Onboard Training Programmes

NETFISH conducted 8 onboard training programmes mainly in Veraval and Vanakbara region. Fishermen were taught on usage of detergent , role of Ice , use of GPS, Fish finder , proper handling of material onboard, impacts of juvenile fishing, personal hygiene and sanitation ,etc.

7.5.5 Programme for School Children:

NETFISH conducted an awareness programme on sustainable fishing and conservation for school children on 29/12/08 & 30/12/08 at Veraval and on 07/01/09 at Vanakabara, Diu. For this programme, one or two students from 6th or 7th standard were selected from nearby schools of fishing harbours. This programme was conducted understanding the school students are the most effective tool for spreading awareness among their parents on the various quality management and conservation aspects of fishery resources. Schools in Gujarat extended their wholehearted support to the programmes of NETFISH.

7.5.6 Mass Boat cleanup Programme

On 11/02/09 at Vanakabara, Diu, a one day Mass Boat Cleanup programme was organized by NETFISH. More than 350 boats were cleaned during the campaign. NETFISH has provided detergent, bleaching powder and wire brush for cleaning boats. The programme was well acclaimed by fishermen and boat owners. This program has generated huge awareness among fishermen on the cleanliness of the boat.

Andhra Pradesh



Dry fish awareness training programme



Fishermen training programme at their residence



NETFISH initiated harbour cleanup by school children



NETFISH Street-play



Onboard training programme



Pre processing centre training

Andhra Pradesh



Sustainable fishing training programme

Karnataka



Free Medical Camp by NETFISH



Fishermen Training Programme



Harbour cleanup programme arranged by NETFISH



NETFISH stall in Matsyamela

Karnataka



NETFISH street-play



Onboard training programme

Maharashtra and Goa



Drying fish on cement platforms



Fishermen training programme in Goa



Fishermen training programme



NETFISH Street play

Tamil Nadu



Demonstration on tuna handling



Pre-processing Training



Harbour cleanup programme



NETFISH in news



Onboard training programme



Pre-processing centre training

Tamil Nadu



Sanitation kit distribution



School children with NETFISH slogans

Gujarat



Dry fish training programme



School children training programme



Fishermen training programme



Harbour cleanup programme

Gujarat



Harbour cleanup programme in news

Mangrove plantation in news



Mass boat cleanup campaign



NETFISH street-play



Onboard training programme



Awareness Camp for School Children

Kerala



Degilling fishes on plastic sheets



Fishermen training programme



Mass awareness programme



NETFISH street-play



Onboard training programme



Pre-processing centre training

Kerala



Sorting fish on plastic sheets



Sustainable fishing training programme

Orissa



Leaflet Distribution



Door to door awareness programme



Fishermen training programme



NETFISH street-play

Orissa



Onboard training programme



Onboard training programme

West Bengal



Aqua farm training programme



Awareness programme for school children



Dry fish training programme



Fish market training programme

West Bengal



Fishermen training programme



Medical camp by NETFISH



Onboard training programme covered by Doordarshan, Kolkata



Pre-processing centre training programme



Street play coverd by Doordarshan, Kolkata



Sustainable fishing training programme



7.5.7 Harbour/Coastal Cleanup Programme

On 29/09/08 NETFISH arranged a coastal cleanup programme at Vanakbara , Diu , The president of Vanakabara Gram Panchayat had inaugurated the programme and more than 100 girls of Government Girl's High school, Vanakbara had took part in this programme and cleaned the entire coastal and Harbour area of the Village , more than 700 Kgs of garbage such as plastic pouch , unwanted wood , coconut fibres , net pieces, thermocol , plastic bottles, etc. were collected and burnt.

7.5.8 Street-plays

35 street play programmes were arranged at different fishing villages of Gujarat during 2008-09. Fishermen were very interested to watch these kinds of programmes. NETFISH found this as an effective tool to spread awareness on quality management and conservation and sustainability of fish resources among fisher folk.

7.5.9 Outcomes

1. Almost in all landing centers handling of raw material is improved. People has started to use jumbo box for storing of RM with ice at landing centre, auction hall and during transportation of Raw Material from landing centre to factory premises.
2. NETFISH could develop a strong relationship particularly in Veraval , Vanakbara , Mangrol , Madhvad , Jakhau , Umersadi , Nargol with fishermen community.
3. An attempt has been made to stop open transportation of Raw Material mainly in Veraval centre. Fishermen started transporting fish in covered condition in trolleys.
4. Fishermen who are going for local fishing started taking sufficient Ice to preserve fish onboard.

5. Dumping of oil, grease, thermocol, net pieces, etc. in harbour water is almost stopped at Veraval.
6. Most of the workers in pre-processing centres are now following sanitation and hygiene in working place and maintaining personal hygiene properly which has resulted in the quality of the peeled materials from these centres. They are also maintaining Time and Temperature logs of the Products.
7. Awareness was created among local fishermen community for Conservation and Sustainable Fishing through School children awareness programme at Veraval and Vanakbara region and also by other extension training programmes.
8. Due to training programme on Conservation and Sustainable Fishing, people of Madhvad village planted around 8000 mangroves seedling in three hectare area, supplied by Paryavarniya Vikas Kendra ,Member NGO NETFISH,
9. As a part of the training programmes, mass boat clean up campaign was arranged from 25/02/09 to 05/03/09, in which more then 350 boats were cleaned including fish hold. NETFISH found tremendous support from local leader's of fishermen community, Department of Fisheries Gujarat and MPEDA R.O. Veraval. By this programme, NETFISH could spread the news widely to all boat owners that, keeping boats clean is also equally important as careful handling of fish onboard to maintain the quality of fish.
10. In Vanakabara landing centre training programme had been arranged for Fish Market women on better quality management. Most of the women were keeping fish on the floor or on some dirty wood plate. During the training programme , member NGO , NETFISH had provided plastic sheet to 60 women and it is successfully implemented in Fish Market area through Local Grama Panchayat.

11. In the region of Diu and Veraval people started to change their net from trawl net to gillnet, as a result of NETFISH Training on Conservation & Sustainable Fishing.
12. Resolution was passed in Grama sabha of Vanakbara landing centre to form a Harbor management committee on 19/02/09 by the inspiration from NETFISH

7.6 Andhra Pradesh

The state of Andhra Pradesh is having a bountiful fishery resources with coast line of 974 Km spread in 9 coastal districts. The state has four major fishing harbours and 36 major and minor landing centres. There are 851 fisher folk villages with a population of 8,71,000 and the fishing fleet comprises of 2028 mechanized boats, 5056 motorized boats and 17762 traditional boats. Of 1.50 lakh ha area of the state favorable for aquaculture, 0.53 lakh ha are under culture and 0.78lakh ha are under development for constructing ponds. About 102 reservoirs, 2 natural lakes and 74050 natural ponds with 2.28 lakh ha water spread area enrich the state. The fishery sector is well facilitated with good number of ice plants, cold storages and processing units. Fish production is about 941 lakh tonnes and the income from the export of various culture and capture fishes is about 2500 crores.

7.61 Identified lacunas of the State

1. Fish drying activities made all the four fishing harbours and premises dirty.
2. Due to the lack of infrastructure facilities, fishermen were crushing ice on floor rather than using ice crushers
3. Usage of bamboo baskets for handling fish and ice is still in practice at all the landing centers and harbours. Manufacturers should come forward to make plastic boxes of suitable sizes.
4. The condition of local fish markets are not up to the mark without proper infrastructures, drainage systems and hygienic operation practices in them.
5. Handling practices of fishery products in landing centers are bit improved, but still there is shortage of crates and trolleys.
6. Trash fish should be controlled in all the fishing harbours
7. Catching of Gravid crab in Kakinada fishing harbour was not controlled.
8. Mesh size regulations are not properly implemented at all the landing centers.

NETFISH could successfully complete 251 training programmes during the year 2008-09. It included 91 fishermen training programmes, 60 pre-processing programmes, 12 onboard trainings, 52 programmes on conservation and sustainable fishing, 24 dry fish awareness programmes, one mass communication and 2 Aqua farmers' programmes. Apart from the regular target of 240 programmes, 10 programmes on harbour clean up, school children awareness, meetings and street plays were also conducted.

Table 9 District wise details of programmes conducted in Andhra pradesh during 2008 - 09

Sl. No.	Description	Visakha-patnam	Kakinada	Machili-patnam	Nizam-patnam	Total
1	Pre processing	20	30	5	5	60
2.	Fishermen	31	40	8	12	91

3	Onboard	11			1	12
4	Conservation & Sustainability	14	26	5	7	52
5	Dry fish	6	7	2	3	18
6	Aquaculture		1		1	2
7	Fish market	2			1	3
8	Tuna Onbord handling	2	1			3
9	Harbour cleanup	1				1
10	School programme	1			1	2
11	Street play				5	5
12	Mass communication	1			1	2
	Total	89	105	20	37	251

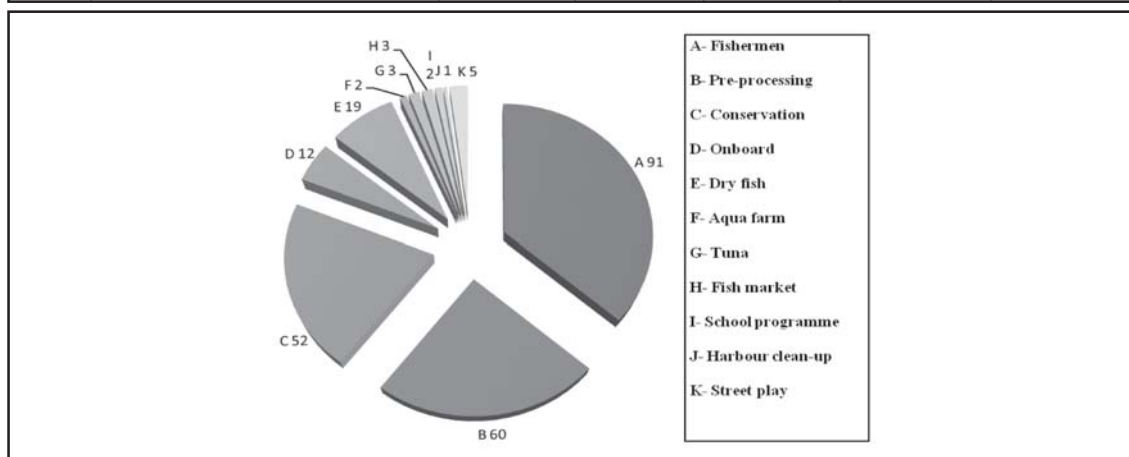


Fig. 6 Contribution of each type of training programme to the total

7.6.2 Pre-processing centre training Programmes

A total of 60 training programmes were conducted at Odarev Chirala, Nizampatnam, Pudimadaka fish landing center, Visakhapatnam and Kakinada for the pre-processing workers and for the fishing harbour cubical workers at Visakhapatnam and Kakinada. They

were made aware of the importance of personal hygiene and use of keeping their premises and working environment clean. During the training programmes, they appreciated NETFISH trainings and the use of it for their socioeconomic development. The cubical workers of Visakhapatnam fishing harbour started regular cleaning of their work premises. Pre-processing workers from Etimoga and Kakinada who are working in processing

plants at Kakinada were made to understand the need of hygiene and started following good hygienic practices. Pre-processing workers of Sai Marine Export Pvt Ltd., Nellore were given intensive training on cleaning operations for keeping the hygienic condition and the participants were supplied with hygiene kits with soaps and nail cutters.

7.6.3 Fishermen Training Programmes

91 Fishermen training programmes were conducted in places like Visakhapatnam, Kakinada, Machilipatanam, Nizampatnam fishing harbours and fish landing centers like Uppada, Kumhabishekam, Nakkapalli, Odarev, Gilakaladindi, Kondapalem, Pudimadaka, Mutyalammalem, Lawsence bay colony, Chinnamangaripet fish landing center.

NETFISH and its activities were introduced to fishermen and they were given awareness on good handling practices like using trolleys and plastic crates in moving the products, cleaning the fish contacting surface, role of ice, personal hygiene, etc. They were familiarized with hygiene practices and its implementation in their work spot. After knowing the importance of cleanliness in harbours a small committee was formed among boat owners association for its maintenance at Nizampatnam and Machilipatnam fishing harbours. NETFISH supplied hand gloves and plastic bins for fishermen in order to make them practice hygienic handling of fishery products. At Kakinada fishing harbour, NETFISH distributed 15 pairs of gum boots to cubical workers instead of stipend.

The need of registering boats with MPEDA for getting subsidies were known to fishermen at Odarev fish landing center, Nizampatnam and Machilipatnam fishing harbours. As a result of the trainings of NETFISH they now want to register their boats whereas some others wanted to go for Tuna boat conversions.

The JD of AP State Fisheries, Guntur district appreciated the NETFISH activities during the harbour committee meeting at Nizampatnam and promised to give good support in conducting NETFISH training programmes in their region.

7.6.4 Onboard Training Programmes

12 Onboard trainings to keep onboard hygiene standard were conducted in the region of Visakhapatnam and Odarev fish landing center of Nizampatnam, using 6 cylinder trawlers on wet lease basis through President, AP Mechanized boat owners association, Visakhapatnam.

Fishermen and crew members were well trained on use of ice and cold chain operation and its effect on quality of fish. They were given awareness on spoilage and different types of bacterial contaminations causing the damage of fish and its effect on price reduction. Need of cleaning in fish hold and its effects on the quality of seafood were also taught. Importance of segregation of catch and maintaining separate fish hold area to pack fish and shrimp were made known to them.

Practical demonstration was conducted on boat cleaning operations. The need of cold chain operations, avoiding trash fishing, disadvantages of drying fishes on deck and use of bleaching powder in killing bacteria and micro organisms were also explained. The uses of latest technologies such as GPS, Fish finder, VHF sets were introduced to them.

As an outcome of the onboard training programmes, fishermen started practicing proper washing, handling, sorting, icing and storing of catch onboard.

7.6.5 Conservation and Sustainable Fishing Training Programmes.

52 training programmes were conducted during the year at Visakhapatnam, Kakinada, Nizampatnam, Machilipatnam fishing harbours and other fish landing center like Uppada, Odarev, Etimoga, Gilakaladindi, Kondapalem and Pudimadaka.

Awareness was given through visual aids on TED and its significance in controlling environmental imbalance and survival of fish in ocean. The need of mesh size regulation and implementation of other methods for conservation of fishery resources were explained. Mangrove vegetation and its importance in giving shelter



to juveniles and in protecting from natural disasters and calamities were discussed with the fishermen. They were made aware of different types of pollutants and its ecological impacts. Fishermen were trained on use of bycatch reduction devices, Tuna long line monofilament hook system, GPS, Fish finder, VHF sets for sustainable fishery.

As a result of the training programmes the fishermen showed interest in maintaining the ecology of ocean and sustainability of fishery resources for their good future. They agreed to control the dumping of pollutants in to sea. The boat owners associations of Visakhapatnam fishing harbour controlled landing of trash fish to harbour. The fishermen of Pudimadaka and Kondapalem fishermen reduced the use of gill nets and more hooks and long liners are being used to control juvenile fishing.

NETFISH supplied participants with food instead of stipend. In some places they were supplied with hooks and ropes in view of avoiding the juvenile fishing.

7.6.6 Dry fish Training Programmes

18 dry fish training programme and 6 post handling fishery products were conducted in all the 4 fishing harbours and Pedagantyada, Odarev and Uppada Fish landing centers.

As an outcome of the training the fishermen started drying fish on fish drying plat forms provided to them. In Odarev fish landing center they started practicing Bamboo rack system instead of earlier system of drying fish on soil. Some fishermen come forward to start sachet packing and producing value added dry fish for the super markets. The fishermen of Odarev fish landing center used nylon net (damaged) to cover the bamboo racks to avoid contaminations and birds. Fisher folk were aware on the harm in using chemicals and pesticides while storing and taking the products to the markets. In Uppada fish landing center dryfish makers are using plastic sheets on ground.

NETFISH supplied 18 x 24 ft synthetic plastic sheets to the dry fish makers at Chepalatimmapuram in Visakhapatnam region for encouraging hygienic drying methods.

7.6.7 Aqua Farm Training Programmes

NETFISH conducted 2 training programmes on Hygienic practices and Post harvesting handling at aqua farms. Problems faced by workers at the time of harvesting in keeping the quality of the catch were discussed and they were advised not to use any antibiotics in culture. They were explained about the use of Ice and cold chain operation and its effect on the quality of fish. Aqua farmers were trained on spoilage and bacterial contaminations as well as different type of contaminations and its effect on price reduction. Also given the cleaning schedule to be followed in aqua farms to avoid any sort of Physical, Chemical and bacterial contaminations.

Pond workers were trained on cleaning and hand washing procedures and proper use of hand dips and foot dips. They were explained about the hygienic standards to be maintained after receiving the harvested material, cold chain operation to be followed, and the use of chlorine and its importance. Personal hygiene and its importance in handling food products were also explained. Material handling by using plastic sheets and the utensils used for holding catches and ice packing were demonstrated during the training.

7.6.8 Tuna Training Programmes

Three training programmes were conducted on onboard handling of Tuna fish and Tuna fishing development during the year in Kakinada, Kondapalem and Pudimadaka. NETFISH with the help of Mr. George, an expert from Australia trained the boat owners and fishermen and made them aware of various subsidy schemes provided MPEDA for Tuna fishery development. With the assistance of MPEDA Tuna insulated boxes were installed in 4 fiber boats of Mutyalammappalem fish landing center.

Procedure for getting sashimi grade were explained and demonstrated for the participants. After attending the training programmes fishermen showed interest in Tuna fishery and started following hygienic handling practices for the production of sashimi grade tuna. They reduced the usage of gill nets and started practicing tuna long lining.

7.6.9 Harbour Cleanup Programmes

On 4th November 2008 Vizakhapatnam fishing harbour clean up programme was initiated by NETFISH with the support of District Fishermen Youth Welfare Association (DFYWA), a member NGO in NETFISH. Stakeholders and 50 school students actively participated for the success of the programme. A lecture was given on hygienic practices in harbour and the participants removed plastic, decomposed fishes and other unhygienic material from the harbour. About 3000sqft area was cleaned and sanitized in 3 hours. In addition a rally was also conducted from the State Fisheries Dept. office to fishing harbour.

7.6.10 Fish Market Trainings

NETFISH trained 90 fisher folks at Bapatla and Visakhapatnam fishing harbour by conducting 3 Fish market training programmes. Awareness was given on contamination caused by different types of unhygienic practices in market. Procedures for maintaining the hygienic standard in fish market were explained. NETFISH supplied 3x4 ft plastic sheets to fisherwomen at fishing harbour, Visakhapatnam to encourage good handling practices. Importance of hand gloves in maintaining hygiene by controlling bacterial contaminations and safety to workers hands were also explained. As an outcome they started using plastic sheets for keeping fish for sale. Care is being taken in keeping the market premises clean, neat and free from stagnant water. They started cleaning the utensils before and after the sale. Procedures for cleaning cubicals were demonstrated and fish vendors were supplied with plastic sheets (4' x 4') instead of stipend on World Fisheries Day by the JD, State Fisheries Dept., Vizag.

7.6.11 Mass Communication Programmes

A Mass communication programme was conducted at Visakhapatnam fishing harbour in association with two mechanized boat owners associations. Dr. Kasim of CIFT addressed the gathering on quality handling of fishery products.

Mr. Yakub Basha, JD, State Fisheries Department, Visakhapatnam advised the dry fish producers to avoid fish drying in fishing harbours and to carry out salt curing and fish drying activities in the land provided for the purpose by state Government at Timmapuram.

Mr.P.C.Apparao, President, AP Mechanize Boat Owners Association advised the boat owners not to dispose trash fishes in harbour so as to prevent contamination.

Mr,Mogi Ramudu advised the owners to use plastic or non corrosive utensils for handling the fishery products and to avoid bamboo baskets. He appreciated NETFISH in providing plastic baskets instead of stipend in training programmes.

7.6.12 School Children Programmes

NETFISH organized 2 school children training programmes at Kondapalem fish landing center and Bapatla. On 19th Jan, 2009 children were trained on personal hygiene and sanitation, as well as hygiene practices to keep boats, harbour and its premises clean and neat, etc. Sanitation standards at different landing centers of their district were discussed. Use of Ice, cold chain operation and its effect on quality of fish were explained. Training was also given on sorting and storing of different varieties of fishes based on their demand and value. They were explained about the use of latest technologies like GPS, Fish finder, VHF sets in fishing. Awareness was given on significance of mesh size regulation, TED etc in the conservation and management of fishery. NETFISH distributed hygiene kits to the 90 school children.



7.6.13 Street-plays

On 26 March '09 five street plays were performed by 6 member team of Srujana cultural association from Repalle, Prakasam district at Repalle and nearby fishermen villages. Nearly 300 fisher folk were made aware on different quality aspects to be maintained while handling fishery products onboard and in landing centers. The street plays could create a good response among the fisher folk and it is proposed to intensify the activity in all 4 major fishing harbours of AP State.

7.6.14 Outcomes

1. After conducting various extension programmes, about 40% of fishing boats, nets and other utensils are being cleaned with detergent before and after fishing. Now fishermen started using proper washing methods, proper icing and proper handling of fishes onboard. Now they know the importance of washing and storing of catch in ice immediately after sorting. Fish holds are kept clean in most of the fishing vessels. Due to the awareness programmes conducted on fish quality, most of the catches are sorted and shrimp and fish are stored separately in fish holds. Fisher men are aware of cleaning the harbour plat forms and auction hall before sorting and auctioning the catch. They are using plastic sheets in areas where proper auction hall and platforms are not available for keeping fish for auction and also obey the instruction of hygienic inspectors posted in harbours by the state fisheries department.
2. Through the extensive training programmes, awareness could create among fishermen on the different techniques needed in handling and preservation of fish. In some landing centers fishermen started to practice good handling methods such as using trolleys and plastic sheets for carrying and keeping crushed ice, crates for transportation of fish and to keep the harbour premises clean. Also initiated to implementing code of conduct in fishing harbours.
3. As an outcome of quality training programmes, the boat owners associations of Visakhapatnam fishing harbour prohibit the landing of trash fish to harbour and even if it comes, necessary actions are being taken for shifting it from harbour premises.
4. By the conservation training programmes, fishermen of Pudimadaka and Kondapalem are now aware on various conservation methods. They reduced usage of gill nets and started using hooks and long lines more, to control juvenile fishing and also to get benefited by catching marketable size fish.
5. As an outcome of the Dry fish awareness training programmes conducted intensively in potential areas, dry fish makers are using hygienic containers for salting and some of them are using fiber drums with cap to avoid blow fly infestation. Uppada area dry fish vendors are using plastic sheets to dry fish. They also started using nylon nets over the dry palm leave to avoid direct contamination from flies. In Uppada fish landing center dry fish makers are using plastic sheets for drying fish instead of spreading over sand.
6. Due to the awareness programmes, fishermen are now utilizing the Fish drying plat forms provided by the state fisheries departments. Earlier they avoided this because of certain drawbacks like over drying and crispy drying which makes the product brittle.
7. Due to awareness programmes on dry fish in Odarev fish landing center, fish drying is carrying out by bamboo rack system where the racks are arranged horizontally at a certain height from the land. Previously they were dried on bare sand. Some fishermen come forward to start Sachet packing and value added dry fish products for super markets. The fishermen of Odarev fish landing center started using nylon net (damaged) to cover fishes on bamboo racks to avoid contamination and birds. Fisher folk were aware of the harm in using

- chemicals and pesticides while storing and taking the products to the markets. In Uppada fish landing center dry fish makers are using plastic sheets on ground.
8. As a result of awareness programmes conducted in Visakhapatnam local fish market, some of the regular sellers started using plastic sheets for keeping and displaying the fish. The market premises are kept clean and neat and prevent stagnation of water. They started cleaning the utensils before and after the sale at market.
 9. As a result of training programmes on quality management at Kakinada fishing harbour catches are now sorted and stored properly. Sorting of shrimp is carried out on small stand tables. Fishermen are now paying more attention to time – temperature factors to maintain proper quality of the catch. Crushed ice is properly used to minimize damage to fish and to reduce spoilage. Crates are being used for collecting the crushed ice.
 10. Plastic crates are now being used in some fishing harbours for storage and transportation of catches to the markets and to the exporters. In some landing centers insulated ice boxes were introduced for the transportation of fish and maintaining cold chain. Fishermen have realized the utility of insulated fish box and insulated fish hold as it reduces the consumption of ice to a great extent.
 11. In some landing centers like Uppada fiber boats are provided with insulated fish holds particularly to store tuna fish and other catches.
 12. Now the harbour cleaning operations of Visakhapatnam fishing harbour is intensified as State Fisheries Department provided power washer system.
 13. In Kakinada, exporter cubicles are being cleaned by the owners. State fisheries department is going to appoint sweepers.
 14. Knowing the importance of co-management councils in fisheries, steps were taken to start Harbour Management committees in Nizampatnam and Machilipatnam. Cleaned plat forms or surfaces are used in these fishing harbours. Personal hygiene and habits of fishermen have been improved to some extent.
 15. Awareness was created among the stake holders to control the use of bamboo baskets and in the coming years this will be totally controlled. Fishermen were made aware on cleaning the harbour, platforms and auction hall before sorting and auctioning the catch. Wherever the auction hall and platforms are not available, they use plastic sheets for keeping fish for auction.
 16. Most of the fishermen are now aware on importance of personal hygiene, sanitation and conservation of fishery resources. Fishermen were also made aware of the requirement of registration of fishing vessels with MPEDA for availing various assistance schemes and approaching the RO, Visakhapatnam.
 17. Extensive training programmes were conducted before the visit of FVO mission (EU team) to the fishing harbours at Kakinada and Visakhapatnam. Fisher folk and stake holder are aware on hygienic and sanitary aspects to be implemented in their surroundings.
 18. As a result of the awareness programmes conducted by NETFISH on dry fish activities in fishing harbours with the help of State Fisheries Department, the trash fish drying in Visakhapatnam fishing harbour were shifted temporarily. An effort for permanent shifting is going on.
 19. Due to NETFISH training programmes, workers in exporter cubicles of Kakinada and Visakhapatnam fishing harbours are paying more attention in cleaning, icing and sanitation aspects.
 20. Fishermen of Nizampatnam and Machilipatnam are now aware about the registration of fishing vessel for availing various beneficial schemes of MPEDA.

21. After extension programmes, fishermen have started sorting of valued fishes, cleaning and preserving in separate crates, before keeping in insulated fish boxes or fish holds.
22. Closed season is properly observed in most of the coast. Awareness was created on conservation of sea turtles. If they find any turtle in their catch it is released back to the sea.
23. Personal hygiene and habits of fishermen have improved to great extent.
24. In Nizampatnam fishing harbour most of the fishing boats are using plastic crates/baskets for washing catch and transportation.
2. Lack of proper knowledge regarding fish quality management and its importance in getting good price
3. Fishermen of the Chilka lake region were reluctant to use ice to preserve their catch.
4. Inadequacy of ice plants in Chilka region
5. Transportation of fish in open containers
6. Deforestation of Mangroves in the coastal areas.
7. Wild seed collection
8. Improper implementation of MFRAs
9. Over fishing
10. Improper observation of closed seasoned.
11. Lack of proper extension programmes to fetch scientific knowledge to the fishermen community.

7.7 Orissa

Orissa has a coast line of 480 Km bordering 6 districts viz. Balasore, Bhadrak, Kendrapoda, Jajatsingpur, Puri and Ganjam. The state of Orissa offers scope of livelihood in both inland and marine sectors. Fishermen population of the state is about 11 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. Orissa has 3 major fishing harbours and 24 landing centers.

7.7.1 Identified lacunas of the State

1. Lack of adequate facilities in the landing centers and harbours

Based on the lacunas identified a total of 265 programmes were conducted in Orissa during 2008-09. Majority of the training programmes were conducted in different harbours and landing centers on the post harvest fish quality management aspects. 179 training programmes of this type were organized in 4 maritime districts of Orissa. 27 number of pre-processing centre training programmes were organized in 2 districts viz. Balasore and Jajatsingpur during 2008-09. Details of different training programmes conducted in different state is given in the table 10.

Table 10. District wise details of programmes conducted in Orissa during 2008-09

DISTRICTS	FT	DFT	PPCT	ObT	D-D	SP	MC	AC	Sp	TOTAL
Puri	143	12		7	13	16	01	01	02	195
Balasore	16		12	3						31
Bhadrak	18	3								21
Jajatsingpur	2		15							17
Ganjam								1		1
Total	179	15	27	10	13	16	01	02	02	265

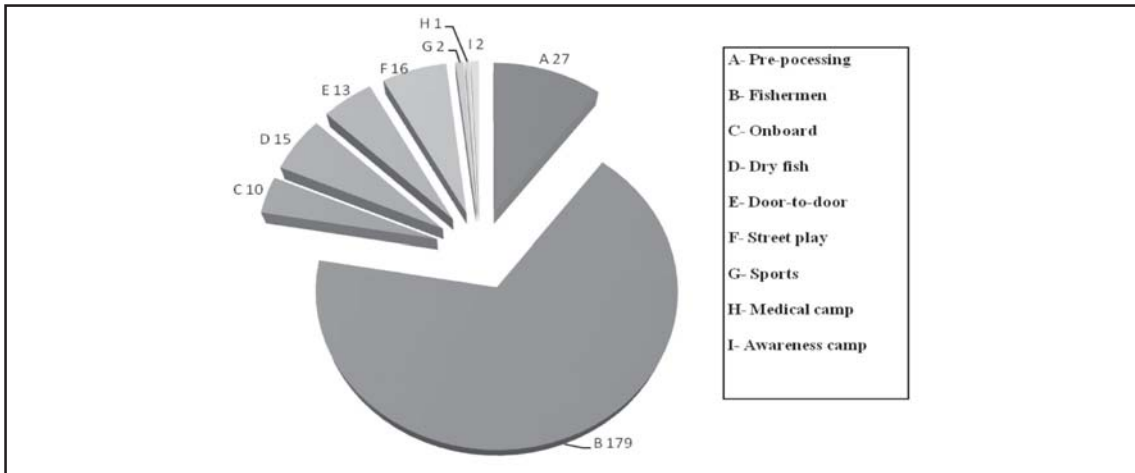


Fig. 7 Contribution of each type of training to the total

7.7.2 Pre-processing centre training Programmes

One of the critical stage at which fish quality diminishes is the pre-processing centers where it is handled in an untidy manner. Majority of the pre processing centers of the state lack adequate facilities and the available facilities are also not been used too. By taking all these facts in to consideration NETFISH has conducted 27 training programmes at pre-processing centers of Jajatsingppur and Balasore districts to make the workers aware of the new international fish quality standards, importance of fish quality management in pre processing centers, important measures that should be strictly followed while working in pre processing plants, etc.

7.7.3 Fishermen Training programmes

NETFISH Orissa has organized 179 training programmes for fishermen in landing centers and harbours of different parts of Orissa. 143 programmes were organized in Puri district itself. Repeated training programmes were conducted in same landing centers to familiarize the people with the message of NETFISH. The main objective of this type of extension programmes were to create awareness among the fish workers, fish

traders, boat owners ,etc. regarding the maintenance of fish quality standard in harbours and hygienic handling of fishes. These 179 training programmes include several practical classes in which the harbour premises was cleaned in presence of NETFISH official.

7.7.4 Onboard Training Programmes

NETFISH Orissa arranged 10 onboard training programmes in which fishermen were trained on good handling practices, personal hygiene, sanitation, etc. These programmes were organized in places like Balaramgadi, Bahabalapur, Chilka, etc.

7.7.5 Dry Fish Training Programmes

15 training programmes for people engaged in dry fish activities (mainly women) were conducted in the state during 2008-09. The aim of the training programme was to create awareness among fish workers on hygienic handling and scientific drying of fish. Each of these training programmes was targeted a group of 30 people. As the people engaged in dry fish activity were mainly women and illiterate, it was very difficult in the early stages to change the mindset of the people but due to the door to door awareness programmes, street plays and by the combination of other extension tools like leaflets, posters and documentaries they are now slowly getting out of their age-old practices.

7.7.6 Street plays

16 numbers of street plays were organized in Puri district during 2008-09. These programmes got huge appreciation from fishermen community and people from neighboring districts were coming to watch the programme. Street plays are conducted in the form of horse dance.

7.7.7 Door to Door Awareness Programmes

These types of awareness programmes were conducted by visiting the individual houses of fishermen for a face to face interaction and collect feedback of NETFISH training programmes from them.

7.7.8 Outcomes

1. As a result of the continuous training programmes by NETFISH in Astranga, of Puri district many SHGs are now coming forward to open new ice plants in nearby areas of fishing harbour.
2. Talasare fish landing centre of Balasore district is now regularly being cleaned as per the cleaning method and schedule prepared by NETFISH.
3. As a result of the door to door awareness programme several villagers from many fishing

villages came forward to work as volunteers in NET FISH

4. Nuagarh fishing harbour of Puri district is being cleaned regularly as per the cleaning method and schedule prepared by NETFISH.

7.8 Tamil Nadu

Tamil Nadu with a coastline 1076 km has 13 maritime districts and two coastal union territories contributing 15 % of India's coastal length. The state has 611 fishing villages, 3 major harbours, 4 medium fishing harbours and 6 jetties. Main fishing gears used in Tamil Nadu are gillnet, trawl net, shore seine, boat seine, long lines and traps. The Gulf of Mannar in Bay of Bengal between Rameswaram and Kanyakumari is among the world's highly diverse ecosystem. Considering the biological richness of the area the Government of Tamilnadu bought the 21 uninhabited islands and developed as the first National Marine Park of the country. The Gulf of Mannar Biosphere Reserve extending over 10,500 km² and includes 21 islands of the National Park (560 km²) is the first marine biosphere reserve in the country. The mangrove ecosystem at Pichavaram is another protected ecosystem of the state.

Table 11. District wise details of programmes conducted in Tamil Nadu during 2008-09

District	C&SFT	FT	Ob.T	TT	SP	HCP	CCP	HKD	PPCT	Ex.	Total
Tanjavur	37	20	10								67
Pudukottai	12	5	1								18
Ramanathapuram	32	42	5				1				80
Thoothukudi	10	28		2		1		1			42
Kanyakumry		8		3	32						43
Thiruvalluvar	13				12				1		26
Chennai	39	14		18	16	3			2	4	96
Kanchipuram	25	29			20	1			1		76
Villupuram	2	19	1								22
Cuddalore	6		2	1							9
Pondycherry		8	10	1							19
Nagapatinam	15	19	6	5					1		46
Total	191	192	35	30	80	5	1	1	5	4	544

7.8.1 Identified lacunas of the state

1. Lack of awareness among people regarding the fish quality management and its importance
2. Inadequate number of ice plants in most of the fishing villages.
3. Ignorance of the cold chain process in fisheries by fishermen
4. Soaking cuttle fish and squids brought by the mechanized boats in water at Tuticorin Fishing harbour.
5. Use of wharf for auctioning and loading catches in Chinna Muttam harbour of Kanyakumari District.
6. Drying sardines on bare sand at Rameswaram, when large catch is landed.
7. Mangrove deforestation in the river mouth at Thiruvallur district.
8. Operation of pair trawling (Bull Trawl) in Sethubavachathiram, Mallipattinam, Mandapam and Rameswaram even though it was banned by Tamil Nadu state Govt.
9. Operation of purse seines even though it was prohibited by the state fisheries dept.

10. Destructive fishing methods like dynamite fishing in many pockets of Tamil Nadu
11. Lenient implementation of cod end mesh size regulation.

After identifying all these short falls NETFISH has conducted a total of 544 training programmes along the entire coastline of Tamil Nadu during 2008-09. A detailed breakup of the programme is given in Table 11. These 544 training programmes include conservation and sustainable fishing training programmes, fishermen training programmes at harbours and landing centers, onboard training programmes, pre-processing centre training programmes, tuna trainings, street-plays, harbour cleanup programmes, coastal cleanup programmes, hygiene kit distribution and exhibitions. Of the 13 maritime states of Tamil Nadu, NETFISH has covered 12 districts with its various activities. NETFISH could establish a firm relationship with the fishermen and other stake holders of fisheries of Tamil Nadu, govt. officials related to fisheries sector, research institutions, etc. This was the foundation stone laid by the NETFISH for the formation Co-management councils in all the districts in the coming years.

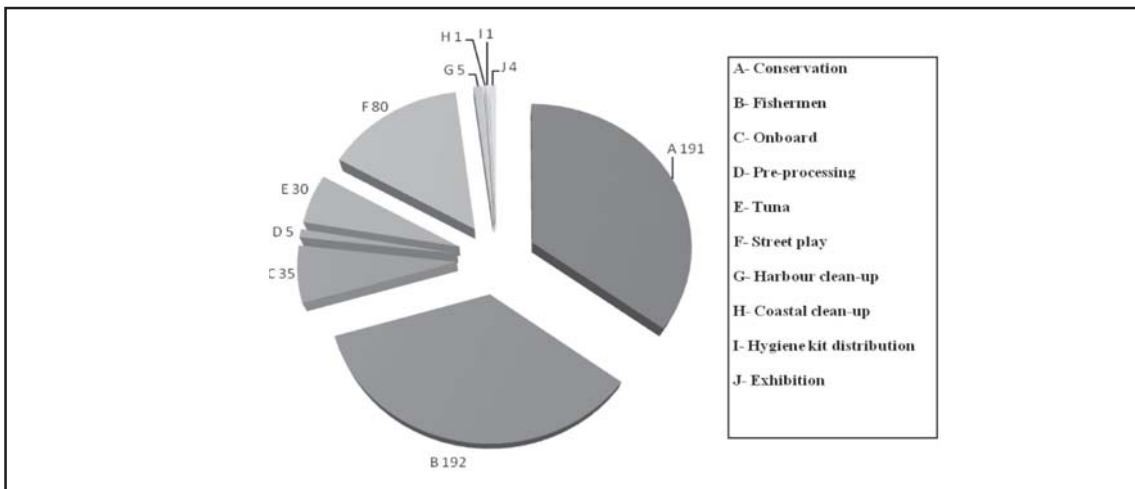


Fig. 8 Contribution of each type of training to the total

7.8.2 Conservation and Sustainable Fishing Training Programmes

A total of 191 conservation and sustainable fishing training programmes were conducted by NETFISH during 2008-09. Different topics dealt in the conservation classes were impacts of juvenile fishing, hazards of destructive fishing practices, by catch reduction methods, mesh size regulation, adverse effects of the destruction of mangroves and coral reef ecosystems, etc.

7.8.3 Fishermen Training Programmes

192 fishermen training programmes were organized in different landing centers and harbours of Tamil Nadu during 2008-09. These programmes were organized in 10 districts. Maximum number of programmes were conducted in Ramanathapuram district and followed by Kanchipuram. Topics covered in these training programmes were different aspect of hygienic handling of fishes onboard, at harbours and in pre-processing centers.

7.8.4 Onboard Training Programmes

NETFISH State Coordinator and trainers from member NGOs go with fishermen to sea and conduct onboard training programmes for them. 35 such programmes were conducted during 2008-09. During the class fishermen were being taught different aspects of scientific onboard handling of fish, proper icing, preservation etc. All the fishermen involved enthusiastically in these trainings. Majority of the onboard training programmes were conducted in Tanjavur and Pondyicherry districts.

7.8.5 Tuna Training Programmes

30 tuna training programmes were conducted in 6 districts of Tamil Nadu during 2008-09. During these fishermen were trained on handling tuna for making Sashmi grade tuna.

7.8.6 Pre-processing Centre Training Programmes

5 numbers of pre processing centre training programmes were organized in 4 district of Tamil Nadu during 2008-09. During these trainings impacts of hut and floor peeling, quality standards to be ensured in the pre-processing centers, etc were discussed.

7.8.7 Street-plays

Important aspects of fish quality management, conservation and sustainable fishing were conveyed effectively to the fishermen through street-plays, the most accepted folk art form of Tamil Nadu. 80 numbers of such programmes were organized in 4 districts of Tamil Nadu viz. Kanyakumari, Tiruvalluvar, Chennai and Kanchipuram during 2008-09. Huge crowd gathered in all these places to watch the programme. Street-plays helped to spread the message of NETFISH more easily to the beneficiaries.

7.8.8 Harbour Cleanup Programme

Nearly 68 school students from Kanchipuram district participated in the harbour cleanup programme which was arranged by SOHES, member NGO of NETFISH at Kasimedu, Chennai. Fisheries Inspector, Assistant Director from Port management, Boat Owners Representatives, Deputy Director and Assistant Director, MPEDA were present on the occasion. The programme begun with the national anthem, which was followed by a lecture on hygienic handling of fishes at harbours. Cleaning of the entire harbour area was also done by the students, boat crews and fishermen.

7.8.9 Science city Exhibition

NETFISH Chennai took part in the Exhibition held at Adayar Anna University, Chennai on 19-22 February 2009 and won the first prize for the best stall. Different posters and leaflets of NETFISH were displayed in the stall. Hundreds of people visited the stall and enquired about NETFISH activities.

7.8.10 Coastal Cleanup Programme

On 15.9.08, NETFISH-MPEDA celebrated “World Coastal Clean-up Day” with PAD, member NGO in NETFISH and GOMBRT. PAD volunteers with a colorfully decorated vehicle with digital banners on four sides, depicting the importance of cleanliness of beaches, importance of the avoidance of plastic garbage disposal into the sea or beach to safeguard turtles, corals, marine environment and beaches were travelled the entire coastal area. The volunteers of PAD arranged a wonderful cultural programme in the main street of Therespuram, Tuticorin with drums called “Parai “. The volunteers, officials and fisher folk cleaned the Tuticorin Therespuram beach. From 15.9.08 to 22.9.08, the volunteers travelled through fishing villages from Tuticorin to Natarajapuram in Ramanathapuram district by cleaning the coastal villages. Thus huge awareness was created among fishermen on the importance of cleaning beaches and harbours.

7.8.11 Awareness Campaign on Cleanliness and Hygiene

On 15.11.08, 120 NSS volunteers of Fisheries College, Tuticorin took part in the awareness campaign organized by NETFISH at Tuticorin fishing harbour. They cleaned the entire fishing harbour premises. Dr. V.K. Venkata Ramani, Dean, Fisheries College talked about the importance of hygiene in the pre and post harvest management. Dr. G. Sukumar, Associate Professor and also Coordinator NSS Programme explained the role played by the students in cleaning fishing harbour. Shri.R. Ilam Paruthi, Assistant Director of Fisheries, Shri. S. Asok Kumar, Assistant Director, MPEDA and C.Ravindran, State Coordinator spoke on the occasion.

7.8.12 Supply of Hygiene Kits

Hon'ble Minister for Social Welfare, Tamil Nadu, Smt. P. Geetha Jeevan distributed hygiene kits sponsored by NETFISH to mechanized boat owners of Tuticorin harbour on 21.11.08. The Hygiene Kit supplied comprised of 5

pairs of Gum boots, 5 pairs of gloves, 5 pairs of NETFISH-MPEDA name printed caps, 5 numbers of wooden coir brushes, 5 litres of liquid cleanser and 5 Kg. of bleaching powder. These Kits were supplied to 265 boats of Tuticorin fishing harbour.

7.8.13 Outcomes

1. Hygiene in fish handling is realized by both mechanized and country craft fishermen.
2. Use of ice with fish in the ratio of 1:1 is now very well understood by the fisherfolk, after our training
3. By our onboard training, the mechanized sector fishermen are taught, how to keep the deck devoid of oil, how to clean it first with detergent and then with bleaching powder.
4. By our conservation classes, fisherfolk's mind-set has now changed. They are now aware of fish catch reduction, its causes and effects.
5. Co-management principles were told among fishermen. Though they don't know how it will be implemented with fishermen themselves, NGOs and Govt. agencies, at least a positive attitude is generated among them.
6. Due to classes on conservation, each and every village wants FAD (Fish Aggregating Device) or AR (Artificial Reef). This may be provided either by the NGOs or Govt. in their villages, which will be a good step for enhancing growth of fish population.
7. By tuna training, fisher folk knew that hook and line is a passive gear, which goes in hand in hand with conservation principles. They also know that sashimi grade tuna will fetch 5 times more price than the ordinary canning grade tuna.
8. By conservation classes, the fisher folk in Thanjavur, Pudukottai, and Ramanathapuram districts knew the importance of mangrove afforestation in the coastal belts. Hitherto, they were cutting them for cattle feeds, fuel, woods and floats of nets. Now

they realized the importance of mangroves, as a barrier for cyclones and tsunamis and a safe and sheltered habitat for the breeding of fishes and crustaceans.

9. The supply of hygiene kits to Tuticorin mechanized boat workers played a major role now. They kept the kits in their boats. Initially, they were reluctant to use the gum boots and gloves but started wearing it, once they understood its need to protect themselves from poisonous sea snakes and harms while handling live catfish and crabs. This feedback got from the mechanized workers of Tuticorin Fishing Harbour. They were advised to use them at the time of sorting and also in auction halls. Thus slowly the fisher folk are switching over to the habit of using gum-boots and gloves.

8. Trainers training organized at CMFRI Kochi

NETFISH organized a 15 days trainers training programme from 15.04.2008 to 31.04.2009 for candidates from member NGOs so as to develop them as trained trainers by revamping their knowledge on the various topics being covered in the extension programmes among fisher folk particularly on conservation of aquatic resources and sustainable fishing

9. Workshop on Co-management in Fisheries

NETFISH conducted a one day consultative workshop on 'Co-management in Fisheries' on 10.03.2009 at Hotel Avenue Centre, Kochi. The workshop began with an introduction by Dr. Joice V. Thomas, Chief Executive, NETFISH. Delivering the welcome speech, Shri B. Vishnu Bhat, Director MPEDA explained the role of MPEDA societies in extension education especially in the area of sustainable fishing, conservation of fishery resources and aquaculture. He expressed his happiness in the NETFISH activities for the welfare of fisherfolk. This workshop was conducted mainly to familiarize the concept of co-management to the members of Non Government Organizations (NGOs) in NETFISH. An eminent gathering including Scientists from reputed

fisheries organizations, representatives from member NGOs from all maritime states of India, Matsyafed, and officials of MPEDA and NETFISH participated in the workshop.

Shri C.M. Muraleedharan, FAO consultant did a presentation on Conceptual Understanding on Fisheries Co-management, discussing the importance of Co-management in fisheries management and for empowering the community. The four major pillars of Co-management and the various challenges in establishing the Co-management councils were also discussed.

Shri. V. Vivekanandan, Chief Advisor, SIFFS made a comprehensive presentation on Co –management in Allapad Panchayat –a case study, during which he shared his experience while implementing Fisheries Co-management Council (FIMAC) in Alappad in Kerala, Nagapatinam and Rameswaram in Tamilnadu. He explicitly highlighted the practical aspects of implementing the concepts of Co-management in Indian context with reference to the models available world over.

A brain storming session led by Shri C.M. Muraleedharan, Shri V. Vivekanandan and Dr. Lazarus followed the presentations in which various queries from the participants were discussed and answered. Possible strategies to implement co- management council in the various fishing villages in India were evolved during the session. Dr. Lazarus asked the NGO members of NETFISH to identify critical fish habitat and resources in their regions and form a Co- management body to protect it.

The workshop came to an end by the vote of thanks by Dr. Joice V.Thomas Chief Executive, NETFISH.

10. Training Programme at MANAGE Hyderabad

NETFISH organised a five day training programme on 'New Dimensions in Extension Management' from 16th to 20th March 2009 at National Institute of Agricultural Extension Management (MANAGE), Hyderabad. NETFISH Chief Executive Officer, State Co-ordinators, Research Assistant and representatives of partner NGOs from all maritime states of India attended the programme.

Eminent personalities from renowned organizations gave lectures, discussing recent advancements and their implementation in fishery extension management and different problems in extension work and strategies for their betterment. All the classes were highly informative and thought provoking. The importance of communication capabilities and leadership qualities for the effective functioning of extension programmes and the role of extension workers in leading the community were also explained during the training.

A field visit was conducted to Chivalla village where the participants got opportunity to interact and share their experience with members of the Self Help Groups (SHGs) of Sneha Mutually Aided Co-operative Credit Society Ltd.

Chief Executive NETFISH expressed his heartfelt gratitude to Dr. M. N. Reddy and Dr. Balasubramani, co coordinators of the programme and expressed the happiness on the smooth conduct of this programme.

11. Publications

11.1 Leaflets

During 2008-09 NETFISH has produced 13 leaflets in ten different languages of India on various aspects of fish quality management, sustainable fishing and conservation of fishery resources. The titles of these leaflets are given below.

- Juvenile Fishing
- Marine Turtles
- Onboard Handling Of Fish
- A Good Fish Market
- Eco-Friendly Fishing Methods
- Fish Handling At Landing Centers
- Responsible Fishing
- Bycatch Reduction Measures

- Mangroves
- Coral Reefs
- Pollution in Fishing Harbours
- Fish Handling At Pre-Processing Centres
- Ice & Fish

11.2 Posters

NETFISH produced ten posters on different aspects of fish quality management, sustainable fishing and conservation of fishery resources in ten languages during 2008-09. The titles of these posters are given below:

- Today's Juveniles Tomorrow's Wealth
- Wash Fish In Good Quality Water
- Never Carry Fish In Open & Without Ice
- Always Use Shovel To Handle Fish
- Carry Enough Ice When Going For Fishing
- Use Solar Fish Drier For Good Quality Dry Fish
- Clean Your Boat Before & After Fishing
- No...No...I Don't Need This Fish, You Handled It Unhygienically
- Fish : Ice, 1kg : 1 Kg
- Who Spoiled It?

11.3 Documentaries

NETFISH has produced four documentaries such as "Hygienic Handling of Fishes Onboard", "Hygienic handling of Fishes in Harbours", "Responsible Fishing and Conservation of Fishery Resources" and "Hygienic Harvest of Shrimps in Aquafarms" during 2008-09.

11.4 Animation Films

Two animation films entitled as "Good Practices for Better Price" and "Conservation of Marine Resources" were produced by NETFISH during 2008-09.

Audit Report 2008 - 09
Network for Fish Quality Management & Sustainable Fishing (NETFISH), Kochi (Reg.no.er 509/06)
Balance Sheet as on 31-03-2009

As on 31.03.08 Rs	LIABILITIES	As on 31.03.09 Rs	As on 31.03.08 Rs	ASSETS	As on 31.03.09 Rs
77,26,008.00	<u>CAPITAL FUND</u> Opening balance Add: Fund received from MPEDA	77,26,008.00 1,30,00,000.00 2,07,26,008.00	3,53,466.00	<u>FIXED ASSETS</u> Computer Equipments Less: Depreciation for the year	5,31,942.00 2,98,162.80 2,33,779.20
	Less: Excess of Expenditure over income for the year	1,58,11,523.60	61,166.00	Furniture & Fittings Less: Depreciation for the year	64,256.00 6,425.60 57,830.40
		49,14,484.40	4,60,318.00	<u>LOANS & ADVANCES</u>	2,91,609.60
4,44,544.00	<u>OTHER LIABILITIES & PROVISIONS</u> Salary Payable Expenses Payable Audit Fee payable Income Tax-TDS payable	3,18,663.00 35,219.00 5,000.00 19,111.00		Amount receivable- MPEDA Tech.Asst-Sal receivable MPEDA Advances	55,000.00 39,407.00 27,911.00
		3,77,993.00	72,95,602.00	<u>CASH & BANK BALANCE</u> Cash in hand Balance with banks	73,649.00 48,04,900.80
81,70,552.00		52,92,477.40	81,70,552.00		52,92,477.40

As per our report of even date attached

Network for Fish Quality Management & Sustainable Fishing (NETFISH), Kochi (Reg.no.er 509/06)
Income & Expenditure Statement For The Year ended 31.03.2009

Expenditure	(Rs.)	(Rs.)	Income	(Rs.)	(Rs.)
<i>To Extension Activities</i>			<i>Miscellaneous Income</i>		
Training- Fishermen	37,99,942.00		Application fee	8,000.00	
Training- Pre- Processing	7,85,823.00		Membership fee	2,500.00	
Training- Onboard	10,22,178.00		Renewal fee	2,600.00	13,100.00
Training- Tuna/Dry Fish/on shore	7,41,517.20				
Training- Conser: & Sustainability	11,78,313.00				
Mass Awareness Programmes	6,48,220.00				
Street Play	6,23,969.00				
Other extension programme	5,51,881.00				
Animation charges	3,08,840.00				
Documentary	1,26,200.00				
Trainers training	5,29,625.00	1,09,42,711.20	Excess of expenditure over income for the year		1,58,11,523.60
Publicity & literature	6,26,203.00				
<i>To Employee Cost</i>					
Salary- Chief Executive	3,00,000.00				
Salary- State Co-ordinators	23,80,000.00				
Salary- Staff	6,47,165.00	33,27,165.00			
<i>To Other Charges</i>					
Advertisement charges	2,01,343.00				
Audit Fess	5,000.00				
Bank charges	7,367.00				
Internet Charges	51,066.00				
Meetings	1,38,456.00				
Miscellaneous Expenses	59,902.00				
Mobile Charges/Telephone expenses	78,931.00				
Postage & Telegram	11,048.00				
Professional charges	5,000.00				
Printing & Stationery	42,531.00				
Traveling Expenditures	5,51,367.00				
TA/DA to NGO	98,148.00	12,50,159.00			
Depreciation on fixed assets		3,04,588.40			
		1,58,24,623.60			1,58,24,623.60

As per our report of even date attached

Network for Fish Quality Management & Sustainable Fishing (NETFISH), Kochi (Reg.no.er 509/06)
Receipts & Payment Account For The Year ended 31.03.2009

Receipts	(Rs.)	(Rs.)	Payments	(Rs.)	(Rs.)
Opening balance			Payments for extension Activities		
Cash	16,309.00		Training programmes		80,57,398.20
Bank	72,79,293.00		Publicity & literature		6,26,203.00
Funds received from MPEDA		72,95,602.00	Salary Paid		33,11,669.00
Other Income		1,30,00,000.00	Advertisement charges		2,01,343.00
		3,79,011.00	Establishment Exp disbursed		11,30,863.00
			Documentation		4,35,040.00
			Mass awareness		18,24,070.00
			Advances given		27,911.00
			Fixed assets purchased		1,81,566.00
			Closing balance		
			Cash in hand	73,649.00	
			Balance with banks	48,04,900.80	
		2,06,74,613.00			48,78,549.80
					2,06,74,613.00

As per our report of even date attached

NOTES FORMING PART OF ACCOUNTS FOR THE YEAR ENDED 31-03-2009

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

c. Fixed asset-

Fixed assets are stated at costless depreciation

d. Depreciation-

Depreciation is provided as per the rates prescribed under the Income Tax Act 1961

Computer and accessories -60%

Furniture and fittings-10%

Depreciation has been provided on assets acquired during the year. 50% of depreciation has been charged on all assets acquired after 30th September 2008

2. During the year 2008-09, an amount of rupees 1,30,00,000 has been received as fund transfer from MPEDA and the same has been credited to Capital Fund

3. Expenditure the head "Training programme" for the year Rupees 5,29,625 includes an amount of Rupees 2,50,000 paid towards National Institute of Agricultural Extension Management, Hyderabad for orientation and training for NGOs and State Coordinators

4. The institute has been granted exemption under section 12AA of Income Tax Act 1961 vide order No. CIT/CHN/T/12A/741/2007-08 of the Commissioner of Income Tax , Kochi.

5. Previous year's figure was regrouped whenever necessary.





**Network for Fish Quality Management
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