

we reached the villages. It was learnt that the two villages were under four to five feet of water during the cyclone. Extensive discussions were held and proper lists of beneficiaries of these two villages were identified. Some fishing families had lost their fibre boats and engines and depended entirely upon the relief supply of rice from the government. All the hatched houses in the two villages had collapsed. It was reported to us that a new mouth of river Devi had opened up south of the main mouth. It was also learnt that out of the 52 trawlers of Nuagarh base, only 4 trawlers were intact and the rest were heavily damaged. The first dead turtle of the season in this stretch of the coast was found. Andhra trawlers were fishing very close to the shore (within 1 km). The local fishermen reported that due to the absence of trawlers from Paradeep and Nuagarh, the Andhra trawlers were coming in large numbers to fish in these waters.



On 20<sup>th</sup> November, we visited Gundalba and Sahana villages to distribute relief materials. 240 blankets were distributed to the families of fishermen and others of both villages. We visited Astaranga on 24<sup>th</sup> November, 1999 to distribute baby food and biscuits to the villagers of Gundalba. A boat trip was also made to the mouth of river Devi and we saw the two new mouths which had opened up south of the original mouth and south of Nadia Khia island where the turtle camps are set up. The coastal shelter belt comprising of casuarina trees was completely destroyed.

The local fishermen reported the sighting of corpses on the river mouth. Fishing operations by trawlers of Nuagarh had not commenced so far. The Andhra trawlers had moved to deeper waters and we could not see any trawler within 5 kms of the coast.

*(Reports of mortality have started coming in and several hundred dead turtles have already been counted on the coast. Operation Kachhapa and the Forest Department are attempting start patrolling operations – Eds.)*

## Indian Fisheries Over the Past 50 Years

### Part 1: The impact of mechanisation on the coastal fisheries

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India, with her 6000 km coastal line and innumerable rivers, lagoons, lakes, reservoirs

and ponds, has one of the largest population of fisher people in the world. The total

population of fisher people in India is over 12 million with two third depending on marine fishing and the remaining one third depending on fishing in a variety of inland water bodies. Despite having had greater importance in ancient times, fisher folks were relegated to the status of lower castes during the medieval period. Still, the community always enjoyed a certain autonomy and dignity. Fisher people, though highly skilled in their profession, had no access to formal education and they hardly entered into other areas of human life. The fishing community consists of peoples of all religions; 56 percent of them are Tribals, Animists, Dalits and Hindus, 23 percent are Christian and 21 percent are Muslims.

### **Mechanization and its Impact**

In 1953, the first real modernization of the Indian fisheries started with the introduction of the Indo-Norwegian Project. The project consisted of a fishing port and using mechanized boats to venture deeper into the sea. The fishing gear remained the same, namely gillnets, though now they were made of superior quality material. The intentions of this project were good, namely to increase the fish harvest in order to provide more food for the masses. This was achieved in that the quantum of fish catch increased considerably. Starting with the initiative of the Norwegians, spurred by the stronger and more compelling market forces that unleashed themselves from the early 1960s, and combined with the state patronage, the economy underwent a marked technological polarization. A schism developed between the traditional fishworkers and the mechanized boat owners who were mostly from outside the fishing community. The increased catch, due to mechanization, had to compete against the high cost of investment in gear and the fuel. That meant the price of fish had to be increased and that in turn meant the poor for whose nutrition the project was intended could not benefit from it. Moreover, there was no infrastructure for marketing the large amount of fish caught.

In the beginning of the 60s, prawns became very dear in Japan and the USA. Hence the Norwegians introduced bottom trawling in Neendakara to harvest the prawns. It has been found that bottom trawling causes much destruction affecting the whole of fisheries sector. This project did not take into account the controls in trawling that existed in Norway since 1936. This quick profit attracted more capitalists into the scene. Soon such trawlers were introduced in the other maritime states. By 1975, Kerala alone had 3500 trawlers. In 1997, the bottom trawlers in India totalled 23000.

The 1960s and 70s saw a gradual build up of the infrastructure for marketing and this helped the growth of the private mechanized sector. The government had set apart the inshore waters up to a depth of 20 meters exclusively for the traditional fishworkers. However, the trawlers did not follow the rule. As a result they were eating into the livelihood of the already impoverished artisan fishworkers. The mechanized boats used trawler nets which scrape the bottom of the sea destroying the larvae and the juveniles which were thrown away as waste.

The Government of India has been facilitating this process of mechanization of the fishing boats through programmes such as the scheme for Motorization of Traditional Fishing Crafts, sponsored by the Ministry of Agriculture since 1986-87. About 13 per cent of all artisanal crafts in the country have reportedly been fitted with inboard or outboard engines by 1993. The mechanization of the traditional crafts by the use of outboard engines, produced by such multinationals as Yamaha, Johnson, Lombardi, Suzuki, etc., has resulted in the total dependence of the hitherto independent fishermen on multinationals. According to the officials who played a role in the introduction of trawlers, there was an implicit assumption within the Fisheries Department that all fishermen would in due course leave their artisanal craft and shift to boat fishing. Today it is evident that such a

massive transformation has not taken place. It has only brought in tension and conflicts among fishermen.

The conflicts between the trawler crews and the *kattumaram* fishermen grew in intensity in the 1960s and 1970s. The operations of trawlers potentially cause two kinds of harm to traditional gear users.

- Trawler crews actively seek out fishing grounds using mobile fishing gear. *Kattumaram* fishermen on the other hand generally make use of passive (fixed or floating) gear types. If trawling is carried out in the same area as *kattumaram*, fishing there is a real risk of damage to the latter fishermen's gear as well as to their lives.
- Trawlers and *kattumarams* exploit identical fishing grounds and target similar species, the most important of which is shrimp. If trawler operations are dense, their superior catching capacity naturally affect the catch of *kattumaram* fishermen.

This situation is very well summarized by the Supreme Court in its land mark Judgement by Justices S.C.Agarwal and Jeevan Reddy on June 23, 1993:

*"Over the years while the population of the traditional fishermen has increased by more than 20.8%, the average production of each fishermen declined by more than half. which resulted in 98.5% of the fishermen population descending below the poverty line. While the traditional fishermen who constitute 89% of the total fishermen-household caught a negligible quantity of fish, the mechanized fish gear operators who are very small in number have been taking away the bulk of the catch, viz., more than 92%. This is having a fatal effect upon the lives and economy of the traditional fishermen giving rise to*

*several incidents of breach of law and order."*

The last approach which was followed throughout India as well as in other countries of Asia was to introduce geographical zones to separate the antagonists. This was introduced first as a clause in the hire purchase agreement between the fisheries department and recipients of small trawlers (1971), and later in a Central Govt. order (G.O. 991 of 1979). This regulation was enshrined in Law in the Tamil Nadu Marine Fisheries Regulation Act 1983. Due to a lack of political will as well as severe difficulties in implementation, this rule has basically remained unenforced. As a result, at least along the Coromandel coast, the Government does not subject fishing to serious regulatory efforts.

### **Emergence of Fishworkers Organizations**

The threat to their very livelihood has forced the fisherpeople to forge new linkages and organize themselves to face the threats. The growth of the All Goa Fish workers' Union, The Kerala Swathanthra Malsya Thozhilali Federation (KSMTF), and the Tamil Nadu Fishworkers' Union (TFU) are the result of such trends. These organizations cut across castes, religions and creeds and are registered as Trade Unions without political affiliations.

### **National Fishworkers Forum (NFF)**

The NFF, founded in 1979, is a federation of state level trade unions for traditional fishworkers. Fishworkers, both men and women, of both the marine and inland sectors, working in traditional or mechanized crafts, fish venders, those who are working in processing plants, are entitled to become members of the Forum. Fishworkers unions from all the maritime states of India are represented in the NFF.

Through a long chain of hunger strikes, sit-ins, rallies, picketing National High Ways, Railways, Airports, Government offices,

blocking harbours etc, the NFF has been able to obtain Marine Fishing Regulations in most of the coastal states in India. Through on going struggles, the NFF has forced the governments to bring about zonal regulations for the mechanized boats, night trawling ban, purse-seine ban, monsoon trawl ban etc. Trawling during monsoon is banned in Kerala, Karnataka, Goa and Maharashtra. Women have played an important role in all the fish workers struggles. The NFF is more a community based trade union than membership based trade union. It's major victory was in 1993 when the Supreme Court upheld Purse-seine Ban and Monsoon Trawl Ban. It was a victory of the traditional fisher people and the need for a sustained fishery in India.

### **National Fisheries Action Committee Against Joint Ventures (NFACAJV)**

The National Fishworkers Forum (NFF) brought together all sections of fisheries in India under the banner of National Fisheries Action Committee Against Joint Venture (NFACAJV) and began to protest. It organised the first All India Fisheries Strike on 4th February 1994.

### **The Struggle Continues**

Even as this paper is being written (June 1998) the struggles are going on. While the fisher people are involved in a nation-wide agitation against the Government's anti-people policies, scientists, economists, researchers legal experts and others who are committed to sustainable development are contributing towards a better future for all.

The demands of the present agitation (from July 1, 1998) of the fisher people include:

- That the Aquaculture Authority Bill of 1997 pending before the Lok Sabha be withdrawn.

- That the Notification dated 9th July 1997 issued by the Ministry of Environment & Forest amending the CRZ notification of 10th February 1991 be withdrawn.
- That steps to implement in total the Supreme Court judgement of 11th December 1996 on Aquaculture be taken.
- That all the existing Joint / Lease licenses be cancelled and that the Government should continue holding meeting with the National Fisheries Action Committee Against Joint Ventures (NFACAJV) for the implementation of all the recommendations of the Murari High Power Committee.
- That there should be a monsoon trawl ban in all the coastal states at the same time for the conservation of fish resources.

### **World Forum of Fish-harvesters and Fishworkers (WFF)**

The problems of the fisher people all over the world are similar. The United Nation's Food and Agricultural Organization's reports of 1995 and 1996 have found unequivocally that the fisheries of the world are undergoing the most serious crisis ever recorded. At least seventy-five percent are on the verge of a collapse due to the ravages of over-fishing, destructive fishing gears - most particularly by factory trawlers - and the effects of coastal industrial aquaculture, industrial and domestic pollution, and the myriad consequences of global warming. The fisher people's organizations from 35 countries came together in New Delhi from 17-21 November 1997 and formed the World Forum of Fish-harvesters and Fishworkers (WFF). The objectives of the Forum is to protect the fish resources and the fishing communities by promoting sustainable development of fisheries through eco-friendly gears and methods and to work for a global ban against all destructive fishing (particularly factory trawlers), coastal industrial aquaculture and coastal industrial

pollution. India has been chosen as the co-ordinator. The WWF has declared November 21, its foundation day, as World Fisheries Day. On this day, every year, all over the

world actions, campaigns will be organized with the view to protecting the fish resources and the fishing communities through a sustainable small fisheries.

*(“Part 2: The impact of aquaculture on coastal management and fisheries” will be published in the next issue)*

## **Indigenising The Turtle Excluder Device For Indian Waters**

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### **Introduction**

The Turtle Excluder Device, which was first tested out in US waters and then extended to the Wider Caribbean/Western Atlantic Region, is now used in as many as 43 countries. As a result, wild caught shrimp does no longer threatens the survival of sea turtles or other endangered marine species. The prototype of TED which originated in the 1960s was then known as Trawling Efficiency Device, whose sole function was to prevent/reduce the unwanted by-catch and thereby ensure a trouble-free and more profitable shrimp fishing. The TED is a metal grate of inter-spaced bars through which the shrimp can pass whereas turtles or other large by-catch escape through the opening. The TED has been found effective in saving endangered sea turtles and other marine animals by 97 percent. The Government of India have both international and national obligations to protect endangered sea turtles on its coasts. The technology transfer of TED has been effected through a Workshop-cum-Demonstration on the Georgia Jumper model from the NMFS, USA to the local artisans and trawl crew in 1996 in Orissa. However, the trawlers of Orissa coast still resist the idea of TED in the apprehension that many commercial fish species would also escape along with the turtles. In view of this, an imperative need exists for indigenising the

TED to suit the mixed catch of Indian trawlers.

### **Background**

In the 1960s, some shrimpers of USA designed a device, called "Trawling Efficiency Device", which when fitted to the trawl-net enabled unwanted by-catch to escape through an opening while the shrimp catch was retained. When the Endangered Species Act was passed in 1973 enjoining the Federal Government of USA *inter alia* to protect the endangered sea turtles, necessary research was commissioned to study the feasibility of TED as a turtle saving device. In 1987, the National Marine Fisheries Service (NMFS), USA, introduced regulations requiring the use of TED for all mechanised shrimp trawlers in domestic warm waters. However, since sea turtles were a migratory species, it was felt that protecting them in U.S. waters alone would not be enough to protect them. As a result, in 1989, the United States passed a complementary law to the Endangered Species Act, US Public Law 101-162, Section 609, which stated that “all nations exporting shrimp to this country (US) must be certified by the US Government for protecting sea turtles from incidental death in shrimp trawl nets. Certification requires that levels of protection be comparable to those in the United States. Shrimp harvested using TEDs, manually hauled nets, or aquaculture