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nff reports



NATIONAL FISHWORKERS FORUM

A Federation of State level Registered Trade Unions for Fishworkers in India

1 Founder Member of the World Forum of Fish-harvesters and Fishworkers (WFF)

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NFF REPORTS

1997

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**A Federation of State level Registered Trade Unions for
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Founder Member of the World Forum of Fish-harvesters and Fishworkers (WFF)

**Reports submitted at its Annual General Body Meeting in Vasai
December 6 - 8, 1997**

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WFF WEB SITE: [HTTP://WWW.SOUTH-ASIAN-INITIATIVE.ORG/WFF](http://www.south-asian-initiative.org/wff)

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FOREWORD

We are very happy to present the seventh issue of NFF report. Since 1991 it has been a persistent effort on our part to present a precise overview of the fisheries scenario of the country together with the various growing trends in this sector annually. Over the years we tried to compile the activities of the NFF and its constituents with a view to record the various initiatives of the primary stakeholder in this sector for wider discussion, feedback and future reference. We are very happy to present the seventh annual issue of NFF report containing various informations on our activities during the year 1997.

Since its inception the NFF represents the interests of various, local, state level and regional movements of the fisherpeople of India. While uniting all the movements the fishworkers of India always remains at the top of priorities of NFF activities, but it was felt equally important and essential to see our problems in a much larger context of struggles by the dispossessed and oppressed groups elsewhere. We feel this larger link up of all the dispossessed is essential to counteract the process by which powerful groups in society dictates development efforts for their own benefits and destroy both the environment and the livelihood of large section of the population. This connection of ours found expression in the form of our initiative and involvement in the formation of the National Centre for Labour (NCL), National Fisheries Action Committee Against Joint Ventures (NFACAJV), National Action Committee Against Coastal Industrial Aquaculture (NACACIA) etc. But 1997 had seen a big leap forward towards this direction in the form of the World Forum of Fish Harvesters and Fish Workers (WFF) coming into being. The NFF takes great pride for its contribution in the whole process of emergence of the WFF.

The report is self-explanatory. The entire credit for the compilation and publication of this report goes to all the constituent of NFF, our office secretary Philomine Marie, Asst. Ms. Leelamma, S. Santiago, Manisha Banerjee and the printers. We take this opportunity to thank each one of them.

We like to request our constituents member unions to ensure that the report is widely discussed and the feed back is made available to us. We further request each of our members to see that all efforts are taken to present a comprehensive report of their union activities for future publication. Any feedback and suggestion of this publication will be appreciated. We hope that all efforts are taken to present a comprehensive report of their union activities for their future publication. We hope this report will find the favour of our honourable readers, members and patrons.

R. K. Patil
General Secretary
183C Veer Savarkar Marg
Mahim, Mumbai-400016

Harekrishna Debnath
Chairperson
P. L. Ice Factory, Sultanpur
P.O. Diamond Harbour
West Bengal

Report of the Annual General Body Meeting of the NFF, 1997

Vasai, December 6-8, 1997.

Preliminaries

This meeting was hosted by the Vasai Machimar Sarvodaya Sahakari Samastha Maryadith. Mr. Philip Masthan welcomed the gathering. Mr. Daniel Bernier, the Secretary of the Canadian Council of Professional Fish Harvesters (CCPFH), was a special guest at the inauguration of the meeting. Mr. Masthan welcomed him and also felicitated Fr. Thomas Kocherry, who had been elected General Co-ordinator of the World Forum of Fish-harvesters and Fishworkers (WFF).

Both Thomas Kocherry and Daniel Bernier thanked the constituents of the NFF for their collaboration in making the inauguration of the WFF a historical event, and hoped that the World Forum would lead to successful struggles to safeguard the livelihood of the fishworkers world-wide.

Thomas Kocherry remembered with grateful appreciation the sacrifices which many fishworkers have made in the various struggles, some of them even losing their lives. He particularly remembered Philip Karthak from Vasai and other fishworkers who were wounded in the police firing during the Kanyakumari March on May 1, 1989.

Harekrishna Debnath, the Chairperson, expressed wholehearted support to the WFF and said it was only right to the NFF to offer all possible support in building up the international secretariat in Thiruvananthapuram, India. He also explained to the gathering that the NFF has refused the PEW Foundation Award on hearing that the PEW sponsors, Sun Oil Company, are involved in environmental pollution.

On behalf of Mr. Gopinath Das of West Bengal, Harekrishna Debnath presented the WFF Co-Ordinator with a pager. Subsequently, Mr. Premjibhai Khokheri presented a Fax machine to the Coordinator.

Mr. Harekrishna Debnath, then presented the agenda for the meeting.

1. **Report of the last General Body Meeting.**
2. **Presentation of Reports from member unions.**
3. **Annual report of the NFF and presentation of accounts and appointing of Auditor.**
4. **Discussion and Decisions on issues raised in reports and planning for the future.**
5. **Planning of World Fisheries Day.**
6. **Any other matters.**

1. NFF General Body Report

Mr. R. K. Patil presented the report of the General Body Meeting of 1996 which was accepted and passed. Mr. R. K. Patil Presented the Annual Report of the NFF which was accepted and passed. Sr. Philomine Mary presented the

statement of accounts for January 97 - November 97, which was accepted and passed.

2. Reports of Member Unions

All the constituents of the NFF then presented their reports and a discussion on the issues that surfaced from the reports were then taken up.

2.1. Issues raised by the Andhra report

- a) Regarding the implementation of the Marine Regulation Act
- b) NFF's position vis a vis membership of trawler owners in the union.

As regards Marine Regulation Act:

After a discussion on the fact that the Marine Regulations are not strictly implemented in any state, it was felt that a national Marine Regulation should be enacted with a uniform demand to implement the monsoon trawl ban and to pressurise for the implementation of the Murari Committee Report.

DECISION I

Make an election demand of a ban on bottom trawl fishing in the territorial waters (22 KM or 50 meters depth, whichever is farthest) except in Maharashtra where the existing Marine Regulation should be implemented, excepting Sindudurg where up to 20 fathoms will be reserved for the artisanal sector.

DECISION II

Demanding a monsoon trawl ban on bottom trawling extending from Gujarat to Rameshwaram from June 15 to August 15 and from Rameshwaram to West Bengal from September 1st to October 30.

Follow up actions should be taken to see to it that these demands become a Central Notification prior to the monsoons.

As regards NFF's Membership:

- The majority membership in the NFF is from the artisanal sector. In some states like Maharashtra and Gujarat workers on the trawlers or some trawler worker-owners who happen to be members of the local unions are also members.
- It was explained that the NFF, in principle, is opposed to bottom trawling, purseining, ringseining and mini trawling as ecologically destructive fishing gears. Nevertheless, due to resource depletion fishworkers have been forced to use destructive gear. In order to work towards management of the resource in the long run, while safeguarding the present right to fish of the bonafide fishworkers, some temporary compromises in membership have been adopted in a spirit of dialogue.

2.2. Issues raised by Kerala.

- a) The need for a separate ministry for fisheries.

Decision III

It was decided to make this an election demand.

- b) Need to see that the Saving cum Relief Scheme be re-instituted at the National level. It was stated that the withdrawal of subsidies is one of the Structural Adjustments and should be fought.

DECISION IV

An indefinite dharna will be launched on July 1st in all state capitals with only one demand: "Implement the Savings cum Relief scheme for all fishermen and women and inland fishworkers in the coastal states."

The Action Committee to coordinate this campaign will comprise of Harekrishna, R.K.Patil, T.Peter, Peter Das, P.Ramalingam, P.V.Khokheri, A.Alleya, Purnima Meher, Sita Kar and Manali Shah.

A memorandum specifying the issues will be circulated by the July 1st Action Committee. The July 1st action will be preceded by various actions (memoranda, signature campaign etc.) at state levels.

- c) The need for interstate training of Youth Leaders.

DECISION V

Attempts at interstate trainings will be made in the following regions.

Orissa & West Bengal: Responsible - Harekrishna

Tamilnadu, Pondichery, Andhra and Kerala: Responsible - T.peter

Gujarat, Maharashtra and Goa: Responsible - R.K.Patil & Rambhai.

This programme should take place before July 1997.

2.3. Issues raised by Tamilnadu

- a) As the coast is under greater threat from corporate developments like sand mining, chemical and nuclear installations and tourism, it is necessary to launch a national campaign to protect the coast.

It was felt that the NFF should document CRZ violations and use this document as a campaign tool towards World Fisheries Day. This could be done through volunteers who would be trained for the same.

DECISION VI

Three training programmes will be organised for youth in the methodology for documenting the CRZ violations. Each state should select around 8-10 volunteers, preferably from different regions of the state, who are prepared to trek the entire coast of the state to document the violations. The training expenses should be borne by the state unions but TA and DA for the volunteers will be provided by the NFF, if needed. The training will be given by Mr.N. D.Chhaya, (Gujarat) and Mr.Nanda Kumar, (Thiruvananthapuram).

The document of each state should be published in the local language and should be completed by July 1998.

AREA	CONVENOR	VENUE	DATES
Gujarat, Goa and Maharashtra	R. K. Patil	valsad	March 1-3, 1998
Andhra, Tamil Nadu, Pondicherry and Kerala	T. Peter	Chunkankadai	March 13-15, 1998
W. Bengal and Orissa	Harekrishna	Diamond Harbour	April 25-27, 1998

b. Release of the Indian fishermen from Sri Lankan jails.

DECISION VII

It was decided to collaborate with the South Asian Labour Forum (SALF) that is taking initiatives in this regards. Tom, Harekrishna and Peter Das will Participate in the meeting convened by the SALF in Chennai on December 13, 1997.

3. ISSUES RAISED BY THE NATIONAL REPORT

3.1. Registration of Unions

Gujarat stated that the procedure for registration are complete. The application has been submltted in English which has now to be put into Gujarati after which the registration will be obtained.

Maharashtra explained that procedures are underway and that the union will be registered shortly.

Nagapattinam said they are still in a discussion process and will finlalise things by mid December 97. It was suggested that TFU apply for a state registration and Peter Das undertook the responsibility for this.

Goa: as only Xavier Pinto from Goa was present no information was available. Xavier accepted to facilitate registration process.

DECISION VIII

It was decided that all the member unions of the NFF should get themselves registered as trade unions as soon as possible.

3.2. Submission of the audited report and certificate of membership to the NCL.

No union has yet submitted these documents.

DECISION IX

It was decided that certificates for the year ending March 98 should be submitted at the earliest and the following dates were agreed upon.

KSMTF	- Dec 31, 1997	Responsible - P. P. John
DBMF	- Jan 15, 1998	Responsible - Chitaranjan
TFU	- Dec 31, 1997	Responsible - Peter Das

3.3. Furthering the NCL Campaign for Minimum Wages, it was explained that the NCL has launched a campaign for a minimum wage of Rs 125 per day for men and women. This may not be applicable to workers in the informal sector who depend on natural resources, e.g. fishworkers, forest workers etc.

✓ The NEF has been asked to propose how the workers in these sectors can also be safeguarded by minimum social security.

DECISION X

It was decided to hold a 2 day seminar to discuss and reflect on this issue. The NCL leadership will be initiated as resource persons. This seminar will be coordinated by the chairperson. Jesurethinam will be responsible for local arrangements. All state unions will meet the TA of the participants and the board and lodge charges will be met by SEWA -Ernakulam and Thiruvananthapuram.

Venue: Chennai,

Dates: April 18,19, 1998

Participants:

Gujarat -	6		
KSMTF -	10	Madurai	-5
Andhra -	4	Maharashtra	-10
Each Sewa-	3	Goa	-3
Tamil Nadu	-15	DBMF	-3

All groups must make sure there is one translator in the delegation.

3.4. Discussion on the possibility of giving affiliation to an all women Trade Union in NFF.

This issue was brought up in the report of Mercy and Nalini. The KSMTF raised objection to this saying that they saw no need for it.

The issue was then discussed at a conceptual level in the light of creating more space for women in the unions, where it would be more complementary than conflictual; broadening the union structure to include community based unions; re-conceiving the idea of democracy which should work more on a principle of consensus as in tribal communities, rather than the rule of the majority as in capitalist societies. It was felt that registering an all women's union of the processing workers who have specific demands will be welcomed and in no way conflicting with existing unionization.

DECISION XI

The decision of executive, initiating in the creation of the National Action Committee Against Industrial Aquaculture (NACAIA) was ratified.

This initiative was taken by NFF leaders so that the 3 different formations, CASI with Jesurethinam as Convenor, PASI initiated by PREPARE, and the Third World Network Committee with Vandana Shiva as Convenor and Mr. Jagannathan would come together under one umbrella in the future with Thomas Kocherry as Convenor. This was ratified by the General Body. It was also mentioned that as the result of the active mobilization by NACAIA, the Venu Gopal Enquiry Report has been non-conclusive and has been able to offer no substantial recommendations.

DECISION XII

It was decided that Thomas Kocherry and Harekrishna Debnath would participate in the Agricultural Workers Convention organised by the National Campaign Committee for Rural Workers on December 15, 1997.

This Convention followed by a dharna will demand the enactment of an Agricultural Workers Bill.

3.5. Participation in the NAPM programme - Janadhikar Panchayat.

As the NFF has expressed its inability to organise a mass ticketless travel to Delhi, the following was decided.

DECISION XIII

Individuals and Constituents should collaborate with the NAPM to the extent possible. Nevertheless the NFF registers its disagreement with the fact that the NAPM organised both its meetings of National and state convenors on the exact dates of the WFF in Delhi and the NFF General Body in Vasai.

3.8. Organisation of World Fisheries Day

November 21st (The founding day of the WFF) will be celebrated as World Fisheries Day by the WFF. Various suggestions were made by the state unions for the highlighting of this day.

The following was the programme decided upon:

DECISION XIV

It was decided to Celebrate the World Fisheries Day in the following manner:

We will declare Nov. 21st as a FISHING HOLIDAY. All our actions and struggle prior to this will lead up to the demands of this day.

- Protect the coastal waters and coastal communities ✓
- Ban factory trawlers ✓
- Ban industrial aquaculture ✓
- Stop coastal industrial pollution ✓

We will highlight the spiritual and cultural wealth of the coastal communities and re-inculcate the value of respect for Mother Nature, the Coastal environment and its resources. Positively, we will focus on the conservation of the mangroves, initiating a tradition of the sacred mangroves and finding ways to develop reverence for the ecosystems, so that they can be declared protected areas.

Symbolically - a MANGROVE PUJA

The campaign begins today and all actions from today inculcate the spirit of the World Fisheries Day. Collectively we will launch the programme at the seminar on Minimum Wages in April where there will also be an exhibition on fisheries which can be emulated by state unions later.

On July 1st we will launch the documents on CRZ violations.

In October - each state will organise a MIRINE FESTIVAL organising sales of alternate products.

Nov. 14-21 will be the CELEBRATION OF LIFE Week. Each day concentrating on different actions, including local village festivals.

Nov. 19th will nationally be celebrated as MANGROVE CONSERVATION DAY.

On November 21st a MASS RALLY will be organized to any one particular area in the state where the coastal environment is being threatened. (e.g. the proposed international harbour in Thane district, Maharashtra; the rare earth mining at Chavara, Kerala)

Posters, badges, and flags with WFF logo and three demands should be extensively published during this period.

3.7. Fund Raising

It was felt that all possible avenues for fund raising should be explored by the state unions in preparation for the World Fisheries Day. The NFF will centrally

produce certain items that the states can buy placing orders with full cash payments, in order to inculcate discipline in fund raising drives. Orders will be delivered within two months. A price list of items will be circulated by February end. The following were the orders placed :

Item	Gujarat	Kerala	W.Bengal	T.N.	MahaR.	A.P
Posters	2000	2500	500	-	2000	-
Caps	2000	500	100	500	500	-
Logo	4000	1000	1000	-	1000	-
Badge	4000	5000	1000	5000	1000	-
Stickers	8000	10000	5000	2000	10000	-
Flags	1000	2000	500	2000	2000	-
T.Shirts	-	500	-	-	500	-
Shoppin bag	-	1000	-	100	200	-
Key chain	-	500	500	5000	500	-

DECISION XV

Of all the sales 25% will remain in the state, 25 % to the NFF and 50 % to the WFF.

DECISION XVI

It Was decided to spend Rs. 2.5 lakhs to set up the WFF Office in Thiruvananthapuram, adjacent to the NFF Office.

DECISION XVII

It was decided to appoint Mr S. Joseph, Kollam, as the auditor for 1997 - 98.

DECISION XVIII

It was decided to authorise Thomas Kocherry as signatory for auditing purposes.

DECISION XIX

It Was decided to authorise Sr. Philomine Marie to present the audited statetnent to the Registrar of trade Unions.

DECISION XX

It was decided to authorise NFF accounting to include WFF Income and Expenditure.

DECISION XXI

It was decided that the next General Body Meeting will be held at Diamond Harbour in West Bengal, on December 6 - 8, 1998.

DECISION XXII

The General Body thanked the Vasai Machinter Sarvodaya Sahakari Samastha Maryadit, Mr.Philip Masthan and all his colleagues for the generous hoisting of the General body and the welcome into the Community.

DECISION XXIII

The General Body passed a resolution drafted by Mr. Khokheri for the release of the boats confiscated by the Governments of India, Pakistan and Sri Lanka.

R. K. Patil,
General Secretary

An overview of NFF Activities 1997

National Fishworkers Forum Report, presented at its General Body Meeting on 6th December 1997, at Vasai, Maharashtra.

General Situation

- ◆ **Fish-catch:** Generally the fish catch in Maharashtra, Goa and Gujarat was good in 1997. Maharashtra fisher people are convinced that the monsoon trawl ban is the reason as for this good catch. However Kerala, Tamilnadu, Andhra Pradesh, Orissa and West Bengal had very poor catch and the fisher people generally were quite worried about their survival.
- ◆ **Murari Committee Recommendations:** Though the Central Government decided to implement the recommendations of the Murari Committee, they were very slow in the implementation.
- ◆ **Aquaculture - Supreme Court judgement:** The historic judgement of the Supreme Court on 11th December 1996 to demolish all the aquaculture farms other than traditional and improved traditional was a victory for fisher people.
- ◆ **Government Stance:** But the Govt. of India and the Coastal State Governments stood with the multinational companies and the monopolists. But the fisher people once again showed their unity and protest.
- ◆ **The WFF:** The formation of the World Forum of Fish-harvesters and Fish-workers (WFF) is a red letter day for the fisher people of the world.

Some specific events

1. CRZ Study Committee - Kerala

The appointment of a committee to study the Coastal Regulation Zone notification in Kerala by the Ministry of Environment created a threat to the fisher people all over India. The NFF immediately went into action campaigning for the total implementation of CRZ notification without diluting it. The committee began their study and the Chairman was trying to manipulate the whole situation. Because of

our presence in the committee through Jerome Fernandez, Secretary of Thiruvananthapuram district unit of KSMTF the whole committee was exposed - this was possible because of the timely intervention of NFF. For the time being CRZ notification could not be changed by the pressure of the tourist lobby and industrial lobby.

2. Murari Committee Recommendations

Since the Ministry of Food Processing Industries did not honour the agreement reached in Mumbai on August 13, 1996, the NFACAJV decided to block Vishakapattanam, Kandla and Mumbai harbours. It was well prepared and we successfully blocked all the three harbours and staged Dharna in Delhi. Because of the timely intervention in Delhi the Ministry was forced to agree on the cancellation of all the licenses of Charter, test and lease vessels. However the Ministry did not agree to cancel the licenses of the existing joint venture vessels that are in operation - 32 of them. The Minister also agreed to issue 3 months notice to the existing 50 licenses with a view to canceling them all. He agreed to form a committee for having regular meeting with the Ministry for the implementation of all the recommendations of the high power Murari Committee. The Ministry issued notices but instead of canceling them, they have given licenses to four more vessels during the last months. The committee met three times and the last meeting was scheduled for 5th Nov. 1997. By the time the Government of India decided to bring the deep sea fishing under Animal Husbandry department of the Ministry of Agriculture. Because of this change the meeting did not take place. The Minister for Agriculture has agreed to fix another date for continuing the meeting with the Ministry.

3. Convening NACACIA

Though the Supreme Court in its historic judgement on 11th December, 1996 ordered to demolish all the aquaculture farms in the coastal area other than traditional and improved traditional by 31st March 1997, no State Government took action. Instead, the Government of India and coastal State Government together with the Multi National Companies filed a number of petitions in the Supreme Court against the judgment asking for a stay. It was in this context, two Jatras from Calcutta of Porbandar were organized under the banner of NFF for campaigning against the Governments stand. All along the coast the fisher people gave massive support. The two Jatras reached Nagapattanam on 3rd April 1997 culminating with a mass rally and public meeting. It was made very clear that the fisher people are not going to lie low. At the same time it came to our notice that the Government of India introduced "Aquaculture Authority Bill" in the Rajya Sabha and it was passed in a hurry. The challenge became all the more difficult. So the NFF organized a National Action Committee Against Industrial Aquaculture (NACAIA). The members of the committee are as follows

**NATIONAL ACTION COMMITTEE AGAINST INDUSTRIAL
AQUACULTURE (NACAIA)**

- | | | |
|-----------------------------------------------------|---------------------------------|---------------------------|
| 1. Sri. S. Jaganathan
(Chairperson) | 6. Ms. Medha Patkar | 14. Sri. Banka Behari Das |
| 2. Sri. Thomas Kocherry
(Convenor) | 7. Dr. Vandana Shiva | 15. Sri. T. Peter |
| 3. Sri. Harekrishna
Debnath
(Acting Convenor) | 8. Sri. R. K. Patil | 16. Sri. Ramalingam |
| 4. Smt. Krisnammal | 9. Sri. P.V. Khokari | 17. Sri. P.M.Thandel |
| 5. Sri. Siddharaj Dhadda | 10. Sri. Mathany Saldanha | 18. Sri. Anil Prakash |
| | 11. Fr. Xavier Pinto | 19. Sri. K. Aleya |
| | 12. Ms. Jesurethinam
Christy | 20. Ms. D. Mallikka. |
| | 13. Sri. Jacob Dharmaraj | |

The committee organized a massive protest on 15th August 1997, the 50th year of Indian Independence Day marching towards aquaculture farms.

4.1 The WFF

The World Forum of Fish harvesters and Fish workers (WFF) has been in the process of formation since October 1995 after the Quebec meeting of the FAO. During that meeting it was decided to constitute an ad-hoc committee with a view to forming a World Forum of fisher people. Since then the NFF and the Canadian Council of Professional Fish Harvesters were working together as an organizing Committee. The NFF was responsible for boarding and lodging for the participants of the world meet in Delhi, 16-22 Nov. 1997. In order to raise funds for meeting these expenses the leaders of the NFF went from village to village asking for donations/contributions. It was to everybody's surprise that the fisher people all over India generously contributed towards the fund.

The organizing Committee brought together about 32 coastal nations to this meet. It was a wonderful experience for all who participated. An interim arrangement was made to create a formal constituent assembly of WFF. A co-ordination committee was elected. Thomas Kocherry has been elected the general co-ordinator and NFF Chairperson Harekrishna Debnath is elected member of the 10 member interim Co-ordination Committee of the WFF.

4.2 Release of fishermen held in Indian & Pakistani jails

The NFF has been collaborating with the South Asian Labour Forum's initiative for the release of the Indian & Pakistani fishermen detained in jail. Premjibhai Khokari has played an important role in facilitating the journalists' and trade union leaders' visit to Porbandar Jail. Because of the persistent pressure, the Government of India and Government of Pakistan were forced to release 194 fishermen from each side. We take this opportunity to thank CEC for their persevering facilitation to make this event happen.

5.1 Workshop on Minimum Wages

NCL- NFF participated in the Delhi workshop of NCL on minimum wages in April '97. NCL has launched a national Campaign on minimum wages on May Day 1997 in Delhi demanding a minimum daily wage of One hundred and twenty five rupees for the informal sector workers. But there are sectors like fisheries where we need farther clarity to workout a mechanism or modalities of implementations of the principle of minimum wages.

5.2 Documents needed

All the member Unions of NFF were requested to send audited report and certificate of membership for ascertaining the strength of NCL. This is very important for our representation in the Indian Labour Conference (I & C). Constituents need to respond to this urgently.

6. NFF - NAPM Collaboration

NAPM- Over the years the NAPM is gaining momentum as a movement. We are contributing to this process. NFF participated in all the major NAPM programs in the national and regional levels. The Pune Convention was attended and addressed by the NFF leaders.

R. K. Patil
(General Secretary)

Harekrishna Debnath
(Chairperson)

Production alone cannot determine Public interest - Supreme Court

In 1993, when the Kerala Government had imposed a ban on trawling during the monsoon season in order to protect the marine species during their breeding season, the association of trawler owners challenged the ban in the Supreme Court arguing that the country was losing a big amount of fish that could be caught during this particular season. Giving its verdict, the Supreme Court had this to say:

"We are also of the opinion that the Government of Kerala is perfectly justified in adopting the attitude that the public interest cannot be determined only by looking at the quantum of fish caught in a year. In other words, production alone cannot be the basis for determining public interest. The Government is perfectly justified in saying that it is under an obligation to protect the economic interest of the traditional fishermen and to ensure that they are not deprived of their slender means of livelihood. Whether one call it distributive justice or development with a human face, the ultimate truth is that object of all development is the human being. There can be no development for the sake of development. Priorities ought not to be inverted nor the true perspective be lost in the quest for more production."

NFF Report of the work among women 1997

Follow-up of the problem of the migrant workers in the processing plants

This year has seen some success achieved in this area of work.

First of all some members of the core team (Mercy, Purnima, Alphy) visited the processing plants in Gujarat, Maharashtra and Tamil Nadu. The two latter states are still resistant to visits unlike Gujarat where the former year's meeting with plant owners have facilitated visits. In Gujarat, plants in Veraval have also begun to improve the living facilities of the workers but, these are still in a disastrous state in Bombay and Tamil Nadu.

All through the year we have received a large number of complaints from women who have either been cheated or wounded at the plants and we have managed to respond effectively to most of the cases except in cases where the victims did not want to disclose their identity or make written complaints. This contact was a result of all the handbills we have distributed in Kerala and Tamil Nadu and to contacts in the migrant states.

In April we conducted a two day session on the migrant labour Act with the assistance of Mr. Subbu from the Construction Workers Union. This was an informative session and helped us to formulate a strategy to work further on the issue. All members of the NFF core group and activists from Kerala participated.

Subsequently the state representatives had a meeting with the Women's Commission of Kerala who from that day on have got seriously involved in the issue.

They first of all produced a video film on the plight of the workers in the Kerala Processing plants. They telecast this on Doordarshan as also a means of awareness raising.

They called a meeting with the Kerala Labour Commissioner and Railway Police and followed this up with a meeting chaired by the Chairperson of the National Women's Commission and Labour Commissioners or Secretaries from various states. Although only the Commissioner of Gujarat, Tamil Nadu and Kerala were present, this was a very fruitful meeting as all concerned were keen to do something about it.

As a follow up we assisted the Women's Commission in making a 'dos' and 'don'ts' check list to be published at all processing plants and the National Commission said they would call another meeting in Delhi and establish the need for the right of inspection of the plants by concerned women's organizations.

In Tamil Nadu a large meeting of women intending to go back to work in the plants was convened by Alphy in May in Nagercoil. Over 150 young women attended and we informed them of all their rights and the regulations under the Migrant Labour Act. Similar but smaller meetings were organised in several locations in Kerala.

In June-July when the workers were returning to work, the Labour officers and Railway Police moved into action and intercepted the trains going to Maharashtra and Gujarat and off loaded the workers without relevant papers. Although this raised a hue and cry from among the workers, it forced the contractors to register and deposit the security money for the workers and by the end of the season over 50 contractors had registered.

But this does not mean that the problem is solved. Only a very few plants respect the rules of the law.

One visit was also made to Mangalore where the team from Roshini Nilaya had made contacts with the Labour Commissioner. This has to be followed up.

The meeting that was to be held in Bombay with the processing plant workers for which Rambhau and Poornima had agreed to do the ground work, did not materialize as yet.

Many complaints are being received from the east coast too and efforts must be made to alleviate some of these problems in the coming year. (Newspaper writings attached).

Follow-up of the vendors issue

As decided we succeeded in making a survey of the vendors and markets in Cochin Corporation area (PCO & SEWA), the whole of Thiruvananthapuram District (PCO & SEWA), Nagercoil municipality (Sr. Alphy), Madurai Corporation (Pennurumai Iyakkam) and Mangalore Corporation (this was done by Roshini Nilaya).

All this data was sent to SEWA Ahmedabad by May 1997. We succeeded in integrating the vendor's demands into the 9th plan document in Kerala and through the Planning Board wrote to all city Corporations to pay heed to this issue.

Discussion on home based workers

As the ILO has now accepted a Convention for home based workers, we had organised a session with SEWA Ahmedabad in Trivandrum for the women activists of Kerala and the NFF core group.

At this session we decided to launch an awareness campaign on the convention and then to join the signature campaign in an effort to make the Indian government ratify the

A Fisherwomen's Union for Central and North Kerala

The vendors survey in Ernakulam district revealed that there are many women in fish related activity in the district. There are also a large number of women in Alleppey district. Therefore we decided to create a separate platform for women in this district under the name of the Alleppey-Ernakulam Fisherwomen's Forum. Over the year local groups among these workers have begun to organise. There are 18 such groups. Subsequently, the issue of the women who work in the processing plants in Kerala was also looked into as some complaints from these workers were received by the Forum.

In order to link up the problem of these women to our national demands, we need to find a strategy of integrating these issues and this forum to the NFF. Presently the idea and norms for registering a women's union that can affiliate to the State Union and then the NFF is being discussed. Several meetings and the local issues of these women have been taken up.

There seems to be resistance in the KSMTF to accept an all women's union. It will be good if this can be discussed in the NFF.

Participation in other related forums

We have actively participated in the activities of the NAPM to the extent possible in Kerala and Tamil Nadu and in the women's network called Stri Vedi in Kerala.

The document 'Women in Fisheries in India' was finally completed and has been published by the ICSF. The data on women in fisheries in India will come under a separate publication. Again we express our thanks to all in the NFF who made this possible.

Problems and focus for the future

We recognise that the activities of the women core group have shrunk down to the states where the NFF member unions have specifically assigned women to follow this task i.e. Maharashtra, Kerala and Tamil Nadu. Unless there are some active women in the other states, it is not possible for us to pursue any concrete work in the states. We had hoped the member unions would co-operate. With the greater focus on fish exports, women's access to fish for sale and processing has been reduced considerably and it becomes very difficult to protect women's spaces in the fishery. Only if the NFF pressurizes for a restriction of exports especially of locally consumed fish, is there hope for this sector being marginalised. If the NFF launches into the coastal ecology and management of programme as stated in the PEW project, we sincerely hope the gender perspective is well developed.

Mercy Alexander

Nalini Nayak

Dakshin Banga Matsyajibi Forum (DMF) Annual Report 1997

Fish-catch during the year

The fisheries scenario in the marine sector in West Bengal in 1997 remained almost same as the previous year. Catch per vessel went farther down although the projected total catch showed a slightly upward trend. Among the main commercial species Hilsa and Sardine catch was very poor. The trawlers also reported very low shrimp catch. In the inland capture sector the average catch was slightly better than previous years in some major rivers. This is attributed to two big floods.

Culture Fisheries

In the culture fisheries the dreaded Epizootic Ulcerative Syndrome (EUS) seems to be less vehement this year. But the holocaust of viral attack in the shrimp/prawn ponds caused a serious devastation in the shrimp economy. Most of the small farm owners deserted the farms. This is likely to act as a deterrent to senseless involvement in prawn culture.

Women Fishworkers' convention

After the last Annual General Body Meeting of the NFF, on 18th December 1996, a Women Fishworkers' Convention was organised at Contai in Midnapore district. It was very well organised and largely attended. More than 400 women fishworkers participated. DMF executive Sita Kar took the leading role in organising this convention. Leaders of the Contai Mahakuma Kholi Matsyajibi Samiti and Contai Municipal Authority supported this convention. NFF chairperson was the main speaker in the convention. DMF leaders and many leading politicians also spoke and supported the women's initiative. A district level association of the women fishworkers engaged in dry fish sector was formed in the convention with Sita Kar as the co-ordinator. This association will work as the Women's Cell of the DMF in Midnapore district.

Pakistan-India People's Convention on Democracy and Friendship

Pakistan-India People's Convention on Democracy and Friendship was held in Calcutta from 28th December 1996 to 1st January 1997. We participated in this convention in big number. Hiralal Das Roy, Nirmalendu Das, Gopinath Das were in the DMF delegation to this convention. During this convention we had the opportunity to exchange our views on different issues. Relation to working class in a special session was facilitated by the NFF chairperson and Mr. B.M. Kutty of the Pakistan Labour Institute. We had NFF leaders, Sri Premjibhai Khokari, Sri Ramesh Dhuri in the convention.

Marine Fishing Regulation Act

West Bengal is all set to implement the Marine Fishing Regulation Act. The most significant feature of the regulation is prohibition of operations of all trawlers and big boats within 22 Kms. i.e. traditional waters.

The West Bengal Fisheries Minister convened a meeting of different unions and associations of the fishworkers and boat owners to discuss WB Marine Fishing Regulation Act and modalities of its implementation. DMF participated in this meeting at the Writers' Building in Calcutta on 29th January 1997. NFF chairperson, DMF chairperson, Prof. Amal Dutta-Ex M.P., Gopinath Das, Bhakucharan Dhara, Sudhir Jana, Tridib Roy and Sukumar Bijuli were among the DMF representatives. In the face of strong opposition from the trawler lobby we succeeded in pursuing the Ministry to impose total ban on trawlers and big gillnetters within the territorial waters i. e. 22 Kms. This area is now reserved exclusively for traditional crafts and small motorized crafts using gears other than trawl nets. The Ministry also agreed to impose complete ban on mosquito nets used mainly for shrimp seed collection. Ministry agreed to zonal demarcation for different gears within territorial waters.

Coastal Padayatra

As per the discussion of the NFF General Body in Porbunder we organised a coastal Padayatra from 30th January to 16th February (18 days). It started from Digha in Midnapore district and ended at Samshernagar near Bangladesh border covering more than 200 kilometers of the three coastal districts. There were 14 women and 27 men in the core group of marchers. We printed 5000 each of 2 different posters on this occasion. Also 20,000 leaflets were printed and distributed. The main slogan was "SAVE COASTAL ZONE- SAVE COASTAL PEOPLE" and "PROTECT WATER- PROTECT COAST- PROTECT COASTAL PEOPLE ". We had many big public meetings and rallies. In all the places community leaders and local panchayats, school teachers, students and other sections of people collaborated. The main concern was implementation of supreme court verdict of 11th December 1996. But together with that from the masses spontaneous demand to restrict and resist trawling emerged during the Padayatra. We had a very big public meeting at Jaldah where Mr. Jiban Mangal, the chairman of Shankarpur Fishermen Association declared his support for the demolition of industrial aqua-farms and stringent restriction on trawling. Similar support was expressed by the chairman of Kakdwip Fishermen Association and Frazergonj Association in public meetings. We had a cultural team and a theme song for this Padayatra. It sensitized the entire coastal zone and local intelligentsia. This Padayatra was very widely covered by some daily newspapers. This was a wonderful experience for all who participated and also a great opportunity to learn and explore our own fisheries potentials. The women participants of the core group showed tremendous courage and determination to continue the Padayatra till the end- entirely on foot, taking the leading role. The NFF chairperson led the whole march.

Dharna for cancellation of licenses to foreign fishing vessels

We took part in the indefinite Dharna from 5th March at Jantar-Mantar in New Delhi demanding cancellation of all licenses given to foreign fishing vessels. This was a concurrent action with simultaneous harbour blockades in Vizagapatnam, Mumbai and Kandla. 17 leaders from West Bengal participated in this Dharna including two women. They are (1) Hiralal Das Roy, (2) Shyamal Mondal (3) Amulya Kumar Bar (4) Sita Kar (5) Jayanti Burman (6) Anil Dutta (7) Khairul Alam (8) Lakshmi Narayan Jana (9) Birendra

Nath Shyamal (10) Jatindra Nath Bera (11) Bhupati Bar (12) Atul Ch. Bar (13) Gautam Bar (14) Subhash Ch. Garu (15) Ajay Shasmal and (16) Rabindra Nath Bar and (17) Harekrishna Debnath.

Other Activities

- ◆ On 21st March 1997 we organized a deputation to the SDO and SDPO-Diamond Harbour and submitted a memorandum demanding the implementation of the Supreme Court Judgement against industrial aquaculture.
- ◆ On 22nd March 1997 similar memorandum was submitted to the SDO and SDPO - Contai, after a huge mass rally of the fisherpeople.
- ◆ We took part in the Third National Consultation on Social Clause and Labour Rights in Multinational Trade Agreements organized by the CEC in Delhi on 14th and 15th March 1997.
- ◆ On 25th March 1997 the East Coast Jeep Yatra started from West Bengal. Harekrishna Debnath led this March. The core group included Mr. Anton Gomez, Mr. Vellayudam and DMF executive member Mr. Tridib Kumar Ray. This jeep yatra reached Nagapattinam on 3rd April after covering important fishing centres in the East Coast. They participated in the Fisherpeoples' Convention on Industrial Aquaculture on 4th April, 1997.
- ◆ On 6th May we had a press conference to highlight the demands for the implementation of the Supreme Court Judgement on aquaculture and implementation of West Bengal Marine Fishing Regulations. It got a good coverage in local and Calcutta press. NFF chairperson and DMF leaders addressed this press conference.
- ◆ On 7th June 1997, we observed Fisherpeople's Demand Day and submitted memorandum and led deputation to all the block offices in the coastal districts of Midnapore and South 24 Parganas. The main demands were implementation of Supreme Court Judgement and Marine Fishing Regulations, compensations for the families of fishworkers lost at sea, and compulsory identity card for all fishworkers.
- ◆ On 26th June the State Fisheries Minister invited us for a meeting in his office to discuss the modalities of implementation of the Marine Fisheries Regulations. Some other organizations also were invited. It was agreed that the measures agreed upon by the fisherpeople's representatives and the Ministry on the 29th January will be enforced by a Gazette Notification and the results will be evaluated and reviewed for three years in similar meetings between the two parties. But till date the Gazette Notification has not been issued.

- ◆ We had many street corner meetings and group discussions during the month of July to propagate the concept of World Forum of Fish Harvesters and Fishworkers. The National Campaign Team for fund raising for the World Forum Meet was given a warm welcome in Contai, Midnapore on 23rd July. A civic reception was organized for the felicitation of Thomas Kocherry. West Bengal Fisheries Minister Shri Kiranmoy Nanda was the Chairman of the reception committee. A big public meeting was held at Contai Hall with the Fisheries Minister on the chair. The Chairman of Contai Municipality, the Chairman of the West Bengal Fisheries Development Corporation and many other dignitaries spoke on the occasion. Fisherwomen and fishermen contributed for the expenses of the World Forum Meet.
- ◆ The Central Campaign Team comprising of Sri Thomas Kocherry, Sri Harekrishna Debnath, Sri R.K.Patil and Sri Xavier Pinto was accorded a grand reception at Diamond Harbour on 24th July together with a public meeting. The new NFF office at Diamond Harbour was opened by Shri Thomas Kocherry on the same day.
- ◆ We organised several meetings along the Contai coast on 12th, 13th and 14th August for campaigning against intensive aquaculture farms. On 15th August, 1997 a big rally of fisherpeople started from Dadan Patrabar village early in the morning and reached the Jain Fisheries Farm about six kilometers away. Union flags and posters, placards and notices were pasted along the dykes of the farm demanding immediate closure. The whole campaign and march was led by veteran freedom fighters Shri Hiralal Das Roy, Sri Sudhir Kumar Chatterjee, DMF chairperson Sri Nirmalendu Das, Sri Amulya Kumar Bar and Smt. Sita Kar. About 1000 people participated including 300 fisherwomen. It was widely covered by the dailies published from Midnapore and Contai.
- ◆ On 24th October DMF and Contai Mahakuma Unnayan Samiti organised a mass rally and public meeting on ten points demands of the fisherpeople of Midnapore district. Memoranda were submitted to the Chief Minister through the SDO, Contai.

The main demands were

1. Compensation for the loss due to cyclone
2. Permanent right of the fisherpeople on the coastal transient fishing villages.
3. Road links, drinking water and regular fuel supply for the transient villages
4. Exemption of sales taxes and Panchayat taxes on dry fish production and sale.

- ◆ On 27th and 28th October we participated in the Eastern Regional Consultation on National Campaign on Labour rights at Salt Lake, Calcutta. It was organised by CEC, Delhi and was participated by 30 trade unions from both formal and informal sector. DMF was represented by Sri Nirmalendu Das, Sri Raj Kumar Panda and Sri Santosh Das.
- ◆ Between 15th and 22nd November we issued press releases on the progress of the World Forum Meet in Delhi. Several newspapers carried the news. Sri Hiralal Das Roy, Sri Ashok Mondal, Sri Shakil Ahmed, Sri Saumitra Das and Sri Tamal Sarkar attended the World Forum Meet in Delhi either as observers or volunteers.

- ◆ On 26th November, the Annual Conference of the Contai Mahakuma Khoti Matsyajibi Unnayan Samiti i.e. The Midnapore district unit of DMF was held in Jaldha. A new committee was elected.
- ◆ On 27th November, women fishworkers working in the dry fish production units in Midnapore organised a mass meeting at Dadan Patrabar and demanded increase of their wages. They submitted a Charter of demand to the leaders of the transient villages. The village leaders wanted some time to consider the demands. A favourable response is expected.

The Growth of the Union

In 1997 DMF progressed quite a lot. Specially we have succeeded in sensitizing the entire coastal area about the danger of industrial aquaculture. We succeeded in asserting our position vis a vis marine fishing regulations and obtaining the most represented union of the fishworkers. We have expanded our organisational activities in two more northern districts namely Murshidabad and Jalpaiguri and demanded to the Registrar of Trade Unions to change **the name of the union into West Bengal Fishworkers Forum**. It is in the process of verification. We have succeeded in increasing the membership. The total number of members of DMF as on 30th November is 8,648.

Conflicts and Challenges

The coastal awareness campaign during the first months of the year brought the conflict between the traditional gears of mechanised ones specially the trawlers in the forefront. The trawling lobby is trying to manipulate the big gillnetters and took an initiative to organize all boat owners in a federation of unions with a clear aim to resist and restrict the growing influence of our union. They have partially succeeded in misguiding a section of boat owners in both the districts which resulted in a temporary closure of the fishing activities imposed by the owners lobby without a prior negotiation with the unions. They took the opportunity of the cyclone in July this year which caused a loss of more than hundred lives at sea. We demanded stringent implementation of safety measures and strict compliance with weather warning but they retaliated by closure. We could not steer it to any positive conclusion. We need further consolidation of our strength in both of the coastal districts.

The rapid growth of the union also invited greater political attention from different parties. Political elements are trying to infiltrate into the union at various levels with a view to controlling it ultimately. We are faced with these new challenges.

Future Plans

The only future plan of action is to further consolidate and reinforce our bases in the coastal area through continuous struggle.

Nirmalendu Das
Chairperson, DMF

Santosh Kr. Das
General Secretary, DMF

MALWAN TALUKA SHRAMIK MACHIMAR SANGH

The general secretary attended the meeting of MAHARASHTRA MACHIMAR KRITI SAMITI in Bombay, presided over by Bhai Banderkar.

All of us agreed to form a registered trade union in Maharashtra level. It was on 12th December 1996.

We also attended the meeting of NAPM presided over by Medha Patkar in Bombay. It was to discuss on Enron agitation. We agreed to strengthen the agitation.

On 2nd January, 1997 the secretary attended the meeting of Indo-Pak Committee. Also the secretary attended the meeting on social clause organised by CEC in Delhi.

On 31st January 1997 we organised a meeting on the encroachment by fishing vessels into our fishing areas. We submitted representation to different government officials.

We joined in the national level campaign led by NFF on CRZ Notification. The main demand was to withdraw Agriculture Authority Bill and the implementation of the Supreme Court Judgement on Aquaculture.

From 5th March, 1997 to 13th March, 1997 Ramesh Dhuri and Dwaraknath Todankar participated in the agitation in Delhi supporting the fast by Thomas Kocherry in Bombay.

We attended the CRZ Notification Campaign from 29th March to 7th April, 1997.

Ramesh Dhuri attended the NAPM meeting in Pune.

Ramesh Dhuri participated in the NCL workshop from 28th April to 1st May, 1997 in Delhi.

We organised a Dharna in Malwan in front of the Taluka Office concerning the implementation of CRZ Notification.

We organised a Collection Campaign for the World Forum of Fish Harvesters and Fish Workers. We collected about Rs. 28,850. We also attended the WFF meeting in Delhi.

Ramesh Dhuri

TAMILNADU FISHWORKERS UNION (TFU)
ANNUAL REPORT - DECEMBER 1996 TO NOVEMBER 1997

We are very happy to present our annual report of Tamilnadu Fishworkers Union before the General Body of NFF. The last general body meeting of NFF inspired the TFU leaders to play an active role in strengthening the TFU. At present it has 57 cells in three districts namely Kanyakumari, Tirunelveli and Tuticorin.

Executive and General body meetings of TFU

TFU conducted 10 executive meetings and seven general body meetings during the year. The main topics discussed were the following.

- Deep sea fishing vessels,
- Coastal Regulation Zone,
- Shrimp industries,
- Industrial sand mining from the sea-shore,
- Old age pension to the fishworkers in both inland and coastal areas,
- Organisation of women in processing plants,
- Implementation of Coastal Zone Regulation Act,
- Ban on monsoon trawling,
- Releasing of our fishworkers in Sri Lankan prisons,
- Demand for a Search Boat and a Helicopter for the persons lost in the sea,
- Women Co-operative Societies,
- Problems of kerosene and diesel,
- Koodankulam nuclear plant,
- Sterlite, Tuticorin,
- Inland fishworker's problem,
- A.V.M canal,
- Fish landing centres
- Leadership.

CONSULTATION MEETINGS

Environmental issues and sand mining

On 29.12.96, a meeting was held on environmental issues and sand mining. The special invitees were Mrs. Gabriele Detrich (NAPM), Sr. Philomin Marie (NFF), Dr. Arunachalam (M.M. University), Mrs. Jesu Rethinam (SNEHA), Mr. Stanislaus Fernandes from the Boat Association of Rameswaram, Mr. Anton Gomez (Tamilnadu Fisheremen Sangam), Representatives from TRRM, Sr. Glava from Nellai, Mr. Maria James of Rural Uplift Centre and some organisations from Kanyakumari district. The decision was to conduct a token fast on 3.1.97 to stop sand mining in Perumanal and to stop establishing a five star hotel called Sylvester Beach Casa, at Kurumpanai, a coastal village of Kanyakumari district. Another decision was taken to collect a data of cancer patients due to the radiation from sand mining. This consultation was held at Nagercoil.

Deep sea fishing, Aquaculture farms and Fishermen in Sri Lankan jails

On 23.2.97, another meeting was organised by TFU in Pamban. Mr. Stanislaus Fernandes of Boat Association, Mr. N.J. Bose from Rameswaram Boat Association, Swamy Pravanantha, and many other individuals joined in the meeting. The issues of deep sea fishing, aquaculture farms and our fishermen in Sri Lankan prison were discussed. The decisions taken in this meeting were to observe a fisheries bundh on 5.3.97, to picket the train in Rameswaram, to have rallies, token fast etc. in other areas of Tamil Nadu. According to the decision more than 300 people were engaged in the activity of picketing the train and got arrested.

Sand mining from the coastal beds

On 10th September '97, another meeting took place with various groups functioning in Kanyakumari district. All agreed to the decision that the sand mining from the coastal beds and river beds must be stopped.

Change of Secretary

On 14.6.97 TFU had general body meeting the former secretary, Mr. J. Vincent Jain works in SIFFS. SIFFS asked him not to be the secretary. So he resigned from his post and Mr. S. John Alysious was elected as the secretary of TFU.

AMENDMENT OF TFU BY-LAW

On 23.11.97 the TFU General Body meeting took place. In this meeting it was decided to raise the subscription fee from paise fifty to one rupee per month. The bye-law of the state committee was changed. According to this the state committee will have a president, two Vice Presidents, General Secretary, two secretaries and a treasurer and eight executive members. The period of elected committee will be three years instead of one.

The account book will be in the name of the president, secretary and treasurer in the unit, district and in the state level. Any two among the three can have the transaction.

TFU - NFF propaganda

On 15-2--97, a hall meeting was organised in Enayam Puthenthurai. On 24-2.97, a hall meeting was held at Arockiapuram. Mr. Louis, the Panchayat President of Arockiapuram and the Panchayat President of Kanyakumari Town and Kovalam were present with TFU leaders and spoke about the demands of TFU., and the activities of NFF.

Women in fish processing plants

On 27-5-'97 a hall meeting was held for the women in fish processing plants. It was decided to gather the executive committee in order to take further decision towards some activities. Therefore, the executive was called by the TFU for a hall meeting along with some groups such as Navajyothi, Praxis K.K. Team, women's commission and labour commission Secretaries. It took place at Nagercoil on 3-6-'97. According to the

decision of this meeting, a second conference on 10th June was organised by the TFU. The main resource person was Ms. Nalini Nayak, who spoke about the Migrant Labour Act. More than 150 women and more than 40 persons from the action groups and Kottar diocese were present.

Visit of SNIRD

During the month of July, a team from the project called SNIRD came to us. TFU helped them to study the activities of the societies of fishermen and the activities of the Union. In view of this, TFU leaders went with them to visit Kanyakumari Colachel and Thuthur villages.

AGITATIONS

For the release of Indian fishermen in Sri Lankan jails

Mr. Evarin and Mr. Raj from Muttom village were lost at sea while fishing. It happened on 29.12.96. The Muttom unit of TFU informed this matter to TFU. Many telegrams, Fax messages, Petitions and letters were given immediately to the concerned authorities and Ministers in India and in Sri Lanka. We were told that some other groups were also working for it.

On 6-1-97, TFU agitated in front of the Collector's office, at Nagercoil, demanding the Government to find out where the men were. TFU pressurised the Government by saying that we will continue our agitation in large numbers till we find the persons who were lost in the sea. The Government authorities took efforts and informed that the men were in Sri Lankan prison. On 15th of January the two men were back again in their own village. They brought forty five letters from 45 fishermen in Sri Lankan prison. TFU sent these letters to their families. These persons are from Kanyakumari, Nellore, Tutucorin, Ramanathapuram and Puthukottai districts. This problem was spoken in the Legislative Assembly and Tamil Nadu Government took steps and released forty five persons gradually.

Against deep sea fishing and joint venture

On 5.3.97 while NFF blocked the harbour in Mumbai and in other places, TFU organised a Satyagraha on the same day in front of the district (Kanyakumari) collector's office and demanded for cancelling of the licences for foreign vessels and to implement the Murari Committee's recommendation. On the same day, Tutucorin end Rameawaram observed bundh and Rameawaram people blocked the railway.

Against trawling

While the Trawling Boat Association and Vallam Union of Kanyakumari district, supported by the Government authorities and the Committee for Coastal Peace and Development agreed to allow the trawling boats to operate from 16th June, TFU involved in a Satyagraha on the same day demanding the Government ban on monsoon trawling. Fr. Tom inaugurated it and more than two hundred people participated in it. TFU faced opposition from the other groups for demanding the ban.

Against aquaculture farms

On April 2, when NFF rally came to Nagercoil, the co-ordination committee of the fisherfolk and TFU collaborated together to organize an agitation in front of the Collector's Office. NFF leaders participated in it and press release was given by Fr. Thomas Kocherry, R K. Patil and Mr.Premji Bhai Kokari on the issues of aquaculture and CRZ notification. TFU leaders went with the rally to several places on 4th April. TFU members in six vans went to Nagapattanam for the public meeting and conference against deep sea fishing and shrimp industry.

On April 21a Satyagraha was organised and demanded the Government to implement the Supreme Court order to demolish all the aquaculture farms.

For inland Fisherfolk

In Kanyakumari district, there are sixty six inland fishworkers villages. The total population is sixty thousand. TFU has 27 units in the inland fishworkers area.

Three consultation meetings for inland fishworkers' problems were held. They decided in the meeting to take up the important issues of the inland fishworkers and to form units in their villages.

- There was an agitation organised by TFU on 30.7.97 in front of the collector's office. Inland fisherpeople demanded the Government to give all benefits to them as they were given to the coastal fisherfolk.
- During Pongal festival, Government gives dhoties and sarees to people through their ration-shops. In one of the inland fishworkers' villages, Karingal, people blocked the buses by sitting in the middle of the road and demanded the Government to issue free dhothies and sarees to their villagers. Memorandum was given to the Fisheries Minister and TFU got the Government order saying that the free dhothies and sarees will be given to them from 1998.
- One day Satyagraha was organised by TFU on 24.11.97 and many people participated in it from both coastal and inland areas. The main demands were that the inland fisherfolk had to get all the benefits that are given to the coastal people. Other demands were such as housing, drought relief fund, Co-operative society for women, insurance scheme, accident benefit fund. training programme for self-employment and for health centres in all the inland fishworkers' villages.

MURDER OF AROCKIA DAS

Arockia Das was a fourth year medical college student of Madras, native of Kanyakumari village. He was murdered while he was on a tour with his college students in Sikkim. On 22.9.97, TFU agitated in front of the collector's office demanding for C.B.I. enquiry and compensation. The district collector and Superintendent of Police visited the parents of Arockiadass and Rs. 50,000 was given as a part of the compensation. TFU demands from the government a C.B.I. inquiry.

WOMEN IN FISH PROCESSING PLANTS

In February, TFU visited the fish processing plant in Mandabam. After much hesitation, the authorities of the "Liberty" plant allowed us only to speak to 12 young women. They were called from their work to the entrance of the plant and we could speak to them while the supervisors were with them. We saw their residence with a poor toilet facility and many young girls were staying in a small room. We heard more than three hundred women were working in this plant.

In May, TFU visited three plants in Thondi. We could see the working condition of the women workers in the peeling sheds too. we visited the same girls when they came home for their holidays in May.

TFU went to visit forty six villages and in invited the women to come for the conference arranged for them on 10th June in Nagercoil. Some representatives of organisation and more than 150 girls and women participated in the conference. The main resource person was Ms. Nalini Nayak and she spoke about the rights of these women according to the Migrant Labour Act. When a few individuals came for this conference as supporters, we welcomed them.

At the end a decision was made to include these women with TFU and to fight for their rights. TFU succeeded to visit and give input session to these women of Kovalam. Since many girls have gone to other states for their work, we could see very few girls only in their villages. The labour inspector of Tirunelveli was contacted and she has promised us her support in favour of the workers, visiting the plants and take action in.

TRAINING PROGRAMME:

Three leadership training programmes were conducted jointly with KSMTF. Fr. Thomas Kocherry inaugurated the first training programme on 2nd May. The second training programme took place from 1st till 3rd of August. Mr. John Kurien, Mrs. Jesurethinam, Mr. Sathish Babu, Mr. Boaz and Mr. Vivekanandan were the resource persons. Seventy representatives from Kerala, Andhra and Tamilnadu were present. The third programme was taken place on 7th to 9th November. Mr. A. J. Vijayan started the session on Globalisation. Ms.Nalini Nayak spoke about "Women in Fisheries". Fr. Pierre Gillet talked about the "Fisheries in Europe". Fifty persons from Kerala and Tamilnadu participated in it.

ACTIVITIES WITH NAPM

- TFU took efforts to form a NAPM group in Kanyakumari district. This group met 10 times and discussed about the AVM canal, New Economic Policy, Environment problems, Enron, CRZ notification and Koodankulam nuclear plant. A hunger strike condemning the atrocities of the police towards the people who were against garnet sand mining was organised by NAPM, K.K. on 3.1.97.

- On 8.1.97 TFU joined with NAPM to organise a seminar on A.V.M. canal, Environment problems and New Economy Policy . More than fifty persons from different groups participated in it.
- On February 7th, a big public meeting was conducted in Neerodi, a coastal village. Medha Patker was the main guest. Fr.Thomas Kocherry, NFF, Gabriele Dietrich, NAPM and other leaders of some organisations spoke about the issues of the day. We demanded the Government to stop giving licences for the fishing vessels and to implement CRZ notification. More than four thousand people took part in it. Several cultural programmes were given.
- On 24.3.97, TFU collaborated with NAPM in the agitation against shrimp Industries in front of the Collector Office. NAPM demanded the Government to stop establishing the Sylvester Beach Casa, a five star hotel near Kurumbanai, a coastal village.
- On 7.5.97 NAPM, K.K. conducted a seminar on Enron project. TFU helped NAPM for organising this seminar and to arrange for resource person. More than 70 persons joined in it.
- On 15.5.97, along with NAPM, TFU helped: to have agitation demanding the Government to stop the Enron project. This agitation gave some knowledge or awareness about Enron to the public.
- TFU attended the second state conference of NAPM in Madurai. It took place from June 28th to 29th.
- On 14.11.97 TFU helped NAPM to organise a debate seminar on Koodankulam nuclear plant in Nagercoil. More than hundred people took part in it. The Chief Engineer of nuclear project from Chennai defended that the nuclear plant was very positive and there was nothing to fear. But people raised many questions and argued that it was very dangerous.

SOLIDARITY WITH OTHER MOVEMENTS

Coastal Action Network

On 10th January, TFU participated in the consultation meeting conducted by Coastal Action Network in Chennai. The issues on sand mining and fishermen in Sri Lankan prison were discussed.

CASI

- On 18.3.97 there was a protest campaign against shrimp industries in Madurai by CASI, TFU took part in it.

- Along with the group CASI, on July 1st, TFU leaders joined the team with the Deputy Agriculture Minister and Parliament members to visit the aquaculture farms. TFU participated in the hall meeting with the persons and scientists who are for and against aqua farms, Fisheries Minister, Fisheries Secretary, owners of the aquaculture farms and the authorities of MPEDA.
- On July 2nd, the parliamentary group along with Mrs. Jesurethinam,(SNEHA) and TFU leaders visited the aquaculture farms in Vedaranyam. Another hall meeting was arranged in Nagapattanam Collector office. The party leaders of CPI, CPI(M) and BJP were present along with the farmers and the people of the area. The people told the parliamentary group that they should stop the shrimp industries.

Bangalore Equation Team

On 18th and 19th July, Ms. Shirley and Mr. Haribabu from Bangalore Equation Team came and visited the coastal villages of Kanyakumari district. TFU leaders helped them to visit AVM canal, fish landing centre, Sylvester Beach Casa, Sanguthurai Beach, Vattakottai tourist centre, Manakudy, the places affected by sea erosion in Kovalam and Kanyakumari. They could see the buildings within CRZ notification, Thoothur and Kollencode Panchayats.

Against Sterlite

On 28.8.97, from TFU 100 people joined hands in the rally and public meeting against sterlite in Tutucorin.

Solidarity with KSMTF

On 26.9.97, TFU Secretary participated in the agitation in front of AG's office in Trivandrum organised by KSMTF demanding for draught relief cum saving scheme for women.

THE WORLD FORUM OF FISH-HARVESTERS AND FISHWORKERS (WFF)

TFU worked for the WFF with much enthusiasm. TFU engaged in door to door collection with cultural programmes, visiting the people, schools and was creating awareness among people about the WFF. On 15th TFU conducted public meetings in two places called Erayumanthurai and Enayam Puthenthurai. 5000 people participated. Fr. Thomas Kocherry, Mr. Harekrishna Debnath, Mr. R.K. Patil and Fr. Xavier Pinto were the NFF leaders who participated in the public meeting. Rs. 20,000/- was given to the WFF. All the leaders spoke about the forthcoming formation of the World Forum.

Membership Campaign

The membership campaign for TFU started with much life on 7.2.97 at Neerodi. TFU leaders and committee members went from door to door to explain the demands of TFU. We gave notices and due to our enthusiasm more than six hundred members joined in the union. It started very well and continued in a few villages. The same persons had to go to all the villages. We had not enough of persons to continue the

Padayatra. At least on 24.2.97 with the effort of the leaders the Pathayatra came to an end at Arockiapuram in a hall meeting.

"Meen Thozhilali"

TFU's news letter called 'Meen Thozhilali' is pending. We could not form a permanent cultural group.

PROBLEMS

TFU faced opposition from other groups for demanding the Government ban on monsoon trawling. There were times when there was no collaboration and understanding among the leaders and committee members. It blocked the activities of some units.

PLAN OF ACTION :

- Collaboration with NFF and WFF
- Collaboration with NAPM
- Ban on deep sea fishing vessels
- Ban on monsoon trawling
- Implementation of Marine Zone fishing regulation Act for India as a whole
- Maintaining a speed boat and helicopter for search operation whenever fishworkers are lost in the sea
- Abolishing shrimp farms
- Ban industrial sand mining from the sea-shore
- Pension and drought relief fund to men and women in both inland and coastal areas.
- Organising women in fisheries so that their rights as workers and their dignity as persons are not violated
- Implementation of Coastal Regulation Zone Act providing for the right to habitation by traditional fisher people along the coast
- Forming a cultural team for TFU
- Demanding for more Kerosene and Diesel in subsidy rate
- Collaborating for the release of fishermen in Sri Lankan prison
- For fish landing centre at Thengapatinam
- TFU's 'Meen Thozhilali' will be started soon
- Fund raising for its activities
- Conference, Public Meetings of TFU

According to its capacity TFU continues its work among the fishworkers.

Peter Das
President

Alexander
Secretary

ALL ORISSA MARINE TRADITIONAL FISHER PEOPLE'S UNION

Annual Report 1996 - 97

Introduction:

Our activities during the past year have revolved around four main agenda: (1) the formation of the Union itself; (2) Our participation in the Panchayat elections; (3) Campaign against a proposed steel plant in the Gopalpur area; (4) our participation in the campaign against intensive aquaculture. In this report, I try to give a brief account of what we have tried and what we have achieved.

1. The formation of the Forum

All Orissa Marine Traditional Fisherpeople's Union is a Forum of Kalinga Fisherpeople's Union, Nikhil Utkal Matsyajibi Sangh, and Baleswar Zilla Matsyajibi Sangh. A state-level legal body to press for the demands of the fisher people before the Government was a felt need. Accordingly, the three local organizations joined together under a Forum to strengthen the traditional fisherpeople's organization. The Forum decided to have three convenors covering from three organizations, and the convenors meet every month and the state level executive body meets quarterly.

2. Panchayat Elections in Orissa

10.01.97: A state level leaders meeting held at Youth Hostel, Gopalpur, to discuss about the participation of the leaders in the Panchayat Elections. The body decided that in every Panchayat area with a large population of fisher people, the local fishworker leaders would contest, and in those Panchayat areas with a small fisherpeople population, we would support the candidates who really identify with the fisherpeople's cause.

17.01.97. Panchayat elections were held in Orissa. The contested fishery leaders including women won the election in most places. In Nuagam, Astaranga, Brahmagiri, Konark, Puri Sandhkhud in Paradeep, candidates won the elections. In Gopalpur, Konark and Puri fisherpeople's candidates won as councillors, and in Gopalpur fisherpeople backed candidate was elected Chairperson for the first time. And also in Puri Municipality the fisherpeople supported candidate got elected as Vice-Chairman. This is the first time that the fisherpeople succeeded.

3. Campaign against steel plant by TISCO

19.02.97. In Gopalpur area, the State Government and the Central Government proposed to have a steel plant by TISCO. In fact, if the proposed steel plant takes place, 25 villages will be displaced indirectly and the people who depend solely on cultivation will lose their livelihood. Moreover, the proposed steel plant would create lot of damage to the marine ecology and coastal communities.

Gana Sangram Samithi, a people's organisation of the victims of the proposed steel plant is organised by the local farmers, who would lose their lands and livelihood. The Gana Sangrama Samithi with the support of the other environmental and intellectual groups is resisting the government officials to enter into the villages for land acquisition. The resistance continues since last one year, and even two women were killed in the police

firing where people resisted the officials of the Government and Tata for survey. Anticipating the threat to the fishing people the local fisherpeople's organisation joined with G.S.S. to fight against proposed steel plant.

A big protest was organised by G.S.S. and other supporting groups at Chamakhandi.

20.04.97. Gopalpur Day observed at Gopalpur. About 5000 affected people of the proposed steel plant under the banner of Gana Sangram Samithi and supporting groups like Gopalpur Coastal Protection Group and Gana Surakshya Samithi participated in it. The people opposed State Government's move to establish steel plant at Gopalpur, and the use of police force while surveying for land acquisition, when people blocked the Government Survey officials and TISCO officials to enter into the villages.

The meeting also condemned the police firing where two women lost their lives while protesting against the survey officials.

16.06.97. A public meeting was organised at Chamakhandi near Chatrapur by Gana Sangram Samithi and other supporting groups to protest the attempt of the State Government to survey the lands for acquisition by force for the proposed steel plant.

The meeting was addressed by noted environmentalists, the leader of Narmada Bachao Andolan, Ms. Medha Patkar and other Sarvodaya leaders from the state.

15.09.97. A public meeting organised at Surada by Jana Surakshya Samiti and Pipalpanka Farmer's Association against the decision taken by the State Government for providing water requirement to TATA's proposed steel plant at Gopalpur which will require 53 lakhs of trees to be cut and 8 villages to be displaced.

03.12.97 State Pollution Control Board published a notification for hearing of objections for proposed dam to be constructed at Pipalpanka for arranging water to proposed steel plant. Fisherpeople's Group had filed affidavits of objections by raising the damages to the sea-ecology, environment and coastal living communities.

4. Campaign against intensive aquaculture

08.04.97. Chairman with other team members visited Gopalpur in the campaign against intensive aquaculture and demanding immediate implementation of Supreme Court's decision to abolish the farms within 500 mts. The campaign also protested the Government's move to enact Aquaculture Bill. About 1000 people including women attended the meeting.

12/13.07.97. An international Symposium was organised at New Delhi by Vandana Shiva, Research Foundation, New Delhi against the intensive aquaculture and its impact on sea-ecology and environment. Delegates from Orissa attended the Symposium and the Symposium decided to observe Protest Day on 15.08.97., the Independence Day throughout the country to express and to condemn the move taken by the Central Government.

The Government of India is supporting the intensive aquaculture which was condemned by the Supreme Court by ordering the abolishment of intensive aquaculture within 500 mtrs. from the High Tide Line.

10.08.97. All Orissa Fisherpeople's Group met at Gopalpur to discuss the decisions taken at the international Symposium. The body discussed the issue and decided to observe Protest Day on 15th August, Independence Day at Gopalpur, Puri and Balasore.

15.08.97. Protest Day observed at Gopalpur by the fisherpeople's group and other supportive environmental groups. About 500 people attended.

5. Other Events:

1. Fishery Leaders Meet

12/13.06.97. A two day fishery leaders meeting was held at Visakhapatnam. Leaders and activists from Tamilnadu, Pondicherry, Andhra Pradesh, Orissa attended the meeting and shared their experiences of the coastal fishing communities.

Issues Discussed :

- Illegal trawling.
- Intensive Aquaculture & Ecological threat.
- Industrialisation in coastal areas.

Decisions :

- The leaders of the attending states decided to meet frequently to establish their solidarity.
- The leaders decided to have a common platform among the states to fight against the existing problems.

2. High Density Poly Ethyle Pipes

27.10.97. High density poly ethyle (HDPE) pipes fishing crafts with motorised engines were demonstrated at Gopalpur and Argepali Sea by Murugappa Chettiar Research Trust of Madras.

The fishermen from all parts of the state attended and suggested some modifications to make the craft feasible for the Orissa coast. This programme was also attended by the District Fisheries Officer and other officials who contributed their valuable suggestions.

S. Jagamadha Rao

For All Orissa Marine Traditional Fisher peoples Union.

The Gujarat Fishworkers' Association

Annual Report - 1997

Introduction

I am pleased to place this annual report at the NFF General Body meeting held in Vasai, Bombay. I am sure we will take some path-finding decisions at this meeting as this is the highest body of the NFF representing the different regions of our country.

WFF, Zindabad

We hail the creation of The World Forum of Fish Harvesters and Fish Workers and the fact that our ex-chairperson takes over as the Co-ordinator General of the WFF. While our Association contributed Rs. 30,000 towards the WFF meeting in New Delhi, we herewith announce our decision to gift the WFF office in India with a fax machine.

Government budget allocations for the fisheries

During this entire year the government of Gujarat was in a state of flux. As a result the activity in our union was also restricted. Seeing the inertia of the government towards the fisheries sector, we organised a big rally and dharna on September 5th and demanded budget allocations for the fisheries. As a result the government allocated Rs. 4.5 crores for the dredging of the harbours. Other allocations were also made for the asphaltting of the harbour approach roads, electrification and sanitation facilities in the harbour.

Release of Indian Fishermen jailed in Pakistan

Thanks to the South Asian Labour Forum (SALF) dialogue has been initiated on the question of imprisoned fishworkers in the Pakistani and Indian prisons. Presently seventeen Pakistani fishermen are visiting Gujarat and six Gujarati fishermen are visiting Pakistan. Due to the efforts of NFF and SALF, 197 fishermen have been released each from the Pakistani and Indian prisons. Nevertheless the boats are still held in custody and we hope these will soon be released too.

Coastal awareness tour

As the coast of Gujarat is one of the most polluted areas in the country, a coastal awareness tour was undertaken by me and Ramjibhai. Later the NFF leaders, Tom, Harekrishna and Rambhau also participated in our campaign against aquaculture.

Blockade of the Kandla port

When the coastal fishery continued to be disturbed by the foreign trawlers, we organised a blockade of the Kandla port. There was good participation of the people and I was arrested on the occasion.

Registration of the Union

We are glad to say that the procedure to register a trade union in Gujarat are underway and we hope to receive the registration in the near future.

Collaboration with NCL

We also participated actively in the NCL meeting conducted in Ahmedabad.

EU ban on Indian shrimp

Before closing I want to mention the fact that the EU ban on the import of shrimp from India has had very adverse effects on our fishing. I urge the NFF to see that steps are taken to lift this ban.

Premjibhai Khokari.

And We will keep Fishing on

We are fishers from around the world united we will be
We've gathered from around the world to protect our land and sea
We are fishers from around the world united we will be
And we will go fishing on.

Fishing, fishing in the open wide sea
Fishing, fishing united we will be
Fishing, fishing in the open wide sea
And united we will be

There are those who fish for profit and are never satisfied
There are those who fish for profit who have the power and might
There are those who fish for profit and deprive us of our rights
But we will go fishing on

There are many interests in the sea who claim priority
The giants, the greens, the MSC confuse the reality
But we who live by fishing have the greatest stake of all
For we need to keep fishing on

A code of conduct to observe for sustainability
A code of conduct to observe to conserve the land and sea
A code of conduct to observe to build our unity
And we will keep fishing on

Kerala Swathantra Malsiya Thozilali Federation (KSMTF)

Annual Report of - 1997

A brief report of the Kerala Swathantra Matsya Thozilali Federation during the period of December 1996 to November 1997 is presented before the General Body of NFF.

As representatives of KSMTF Mr. T. Peter, Mr. P. P. John, Ms. Mercy Alexander and Mr. S. James participated in the General Body Meeting of NFF held at Porbunder in Gujarat on December 6, 7 and 8, 1996. Baby Mercy from KSMTF was an invitee to the meeting.

Struggle against foreign trawlers continued.

The KSMTF actively took part in the nation-wide struggle for the cancellation of the licenses given to foreign trawlers by the Central Government for fishing in the Indian seas. 24 members of the KSMTF participated in the Mass Satyagraha held at Jantar Mantar in Delhi from 5th March, 1997. Simultaneously a wide campaign in Kerala and a Satyagraha in Thiruvananthapuram were also held.

Struggle against intensive shrimp farming.

The KSMTF participated in the country-wide struggle against intensive shrimp farming which adversely affects the fishworkers and the coastal areas. The vehicle campaign rally from Gujarat under the leadership of national leaders, Thomas Kocherry and Premjibhai Khokari came to Kerala on 31st March. On 1st April, a rally from Gujarat was escorted by the pilot vehicle arranged by the KSMTF. The rally was given a warm welcome in many centres in all the coastal districts. On the arrival of the vehicle rally in Thiruvananthapuram we joined the rally and a public meeting was held at Gandhi park Maidan. Memoranda were submitted for the implementation of the Supreme Court Order to all the coastal district headquarter authorities. Rallies from Gujarat and West Bengal arrived in Nagapattinam in Tamil Nadu on 4th April. 45 members of the KSMTF took part in the convention and a public meeting was held in Nagapattinam.

The Central Government has introduced a bill circumventing the Supreme Court Order relating to intensive shrimp farming. A nation-wide struggle was organised on 21st April. The KSMTF held a Mass Dharna in Thiruvananthapuram district.

While the entire nation was celebrating the 50th anniversary of its independence, the KSMTF was involved in heralding a new freedom struggle. A stir against the introduction of Aquaculture Authority Bill in Lokh Sabha, was held on August 15th. While other states conducted marches to shrimp farms, KSMTF held public meetings and fishworkers marched to Abad Company in Ernakulam.

Other Struggles

- ◆ The exporters and boat owners were to pay 19 crores of rupees to the Fishermen Welfare Fund, as their arrears. This order of the Supreme Court has been neglected by the Government. A struggle for the implementation of the order was organised under the leadership of KSMTF. We also demanded the Government to distribute the monthly pension for the fishermen which is due for the last 17 months. The Mass Dharnas were held in April in different districts. Following this struggle, the Government took some measures to collect the amount from the concerned parties. The fishermen were given the pension for four months. KSMTF is planning to continue the struggle till we succeed.
- ◆ KSMTF has declared a stir in May, demanding the ban on monsoon trawling on a permanent basis, and the implementation of fisheries policy etc. Mr. T. Peter, President of the KSMTF declared a hunger strike. Token Satyagrahas were held in all district centres. But with the declaration of ban on monsoon trawling by the Government for 45 days, KSMTF withdrew from the struggle. This year the Government strictly adhered to the ban period.
- ◆ A struggle was organised in many places demanding new kerosene permits and required kerosene quota to the artisanal fishermen who use outboard motors. Vehicle rallies, mass dharnas and picketings were held. Following the struggle the Government invited the union leaders for a discussion and agreed to the speedy distribution of the kerosene permit and the kerosene quota.
- ◆ The fisherwomen were left out since 1995 from the Financial Assistance Scheme (1991) by the Central Government for the fishermen during the lean months. So many struggles were organised against this gender discrimination. But now this scheme is stopped by the Central Government for all. KSMTF went on strike over this issue, and demanded the inclusion of inland fishermen and fisherwomen in this scheme. The state committee members of KSMTF and other leaders staged a fast in front of the Secretariate on 12th September, 1997. Mass dharnas were organised in different centres from September 17th to 25th. Government offices at local levels were picketed from October 15th to 22nd. As the struggle gained strength the State Government agreed to give state contributions to the fishermen leaving out fisherwomen and inland fishworkers.
- ◆ KSMTF has decided to continue the struggle till the inclusion of fisherwomen and inland fishworkers in the scheme and also for the Central Government Contribution. To strengthen the struggle a vehicle rally from Changanassery to Thiruvananthapuram was organised from November 3rd to 7th. A Mass Satyagraha (fast) was staged in many centres in Pathanamthitta, Alappuzha and Kollam districts by inland fishworkers on November 27th. Hundreds of fishworkers who took part in the Secretariate picketing in Thiruvananthapuram on November 27th were arrested. But KSMTF has decided to continue the struggle.

World Forum of Fish-harvesters and Fishworkers

During an international meeting in Delhi, November 17 -21, of small-scale fishworkers from 35 countries, the World Forum of Fish-harvesters and Fishworkers (WFF) came into being. KSMTF printed posters and notices and distributed all over the villages for publicity of the World Forum. Money was collected from the entire state from June 12th to July 12th. From the collected amount 50% i.e. Rs. 30,000 was given to NFF leaders Harekrishna Debnath, R. K. Patil, Thomas Kocherry and Xavier Pinto at a public meeting in Vizhinjam fishing village on 14th July. 25% of the collected amount was given to the state and 25% to the districts. Mr. T. Peter participated as observer in the World Forum Meet. 15 members from KSMTF attended the concluding session. A warm welcome was given to Father Thomas Kocherry who is elected as the General Co-ordinator of WFF. Public meetings were held in Ernakulam, Pathanamithitta, Kollam and Thiruvananthapuram. During the public meetings Thomas Kocherry explained the rationale behind the World Forum and also explained why he rejected the prestigious PEW Foundation Award.

OTHER ACTIVITIES

◆ Membership Campaign

Attempts were made to increase the number of members in KSMTF. More than 2000 new members have already joined the Federation. In certain districts efforts are being continued to increase the membership.

◆ Training

KSMTF and TFU together have arranged three leadership training programmes for the union leaders. KSMTF actively took part in these programmes. We are recommending this type of training to the other states.

NAPM

The state-wise and district-wise conventions and public meetings held by National Alliance of People's Movements were well attended by KSMTF. We also participated in the struggles organised by the NAPM.

CRZ

A Commission was appointed by the Central Government to study the amendments to be made in the CRZ for Kerala. Jerome Fernandez of KSMTF was one of the members of this Commission. The stand of KSMTF in CRZ issue was made clear before the Commission by him. The Commission could not arrive at a consensus as Jerome Fernandez gave a dissent note.

Panchayat Raj

Mr. T. Peter, Mercy Alexander and A. J. Vijayan from KSMTF were invited to the Panchayat Raj meetings organised to discuss the problems of fisheries.

IRE Struggle

KSMTF took part in the struggle organised by the locals against illegal soil mining in the coastal areas of Chavara in Kollam. This is a case of CRZ violation.

Memoranda given to Central and State Governments

- 1. To implement CRZ without preventing the privilege of fishworkers to construct houses.**
- 2. To safeguard the rights of women workers in fish processing plants.**
- 3. To include fisherwomen and inland fishworkers in the Financial Assistance Scheme during the lean months.**
- 4. To provide basic facilities in the fish-markets for women.**
- 5. To improve the transportation facilities for the fish vending women.**
- 6. To give due consideration to fishworkers while implementing the Panchayat Raj.**
- 7. To distribute Matsyafed benefits to all fishworkers irrespective of political party affiliations.**
- 8. Permanent ban on monsoon trawling and implementation of fisheries policy.**
- 9. To consider various demands given by the inland fishworkers.**

ALAKAL

The publication of KSMTF "**ALAKAL**", a fortnightly news paper in Malayalam is in search of more subscribers.

We conclude this report with a request to NFF to take a leading role for the formation of a Ministry of Fisheries in the Central Government.

P. P. John
General Secretary



**Destructive Fishing Gears
Coastal Industrial Pollution
Coastal Industrial Aquaculture**

Save Fishing Communities

THE MAHARASHTRA MACHHIMAR KRITI SAMITI

Annual Report - 1997

I have the pleasure of presenting this report of the Maharashtra Machhimar Kirti Samiti to the General Body Meeting of the National Fishworkers' Forum being held here at Bassein in Maharashtra. Our Union has been very active right through the year safeguarding the interests of the traditional fisher people. In thi report, I dwell on some of the salient features of our involements and struggles.

Monsoon Trawling:

The State Government of Maharashtra, like last year, imposed a ban on monsoon trawling for the period from 10th June to 15th August 1997. As a result this year also, the traditional fishermen experienced a good catch during this season. There is every reason for them to be happy on this score. On the other hand, however, the trawlers are a disgruntled lot for the reason that their catch, especially of prawns, dwindled considerably. They claim that if the prawns are not caught during the monsoon, they migrate from our seas to the coastal area of Pakistan. Other fishermen, however, claim that due to the ban on monsoon trawling, their catch of prawns at the close of monsoon season has been on the increase. The State Government of Maharashtra has also affirmed that the ban on monsoon trawling has resulted in the increase in the fish-catch. In a related development , the High Court of Judicature, Mumbai, set aside the ban on monsoon trawling on technical grounds. The State Government of Maharashtra appealed against the High Court Order. The Maharashtra Machhimar Koli Samiti extended its timely help and requisite know-how to the State Government in sorting out the technical issues. The result was that the High Court allowed the ban on monsoon trawling to continue.

Commercial Development of Harbours:

Maharashtra has 720 km. long coastal stretch. The Government of Maharashtra has planned a programme of development of 48 harbours and has announced that the development of eight harbours out of these will be taken up immediately. This includes development of harbour at Vadhavan in Dahanu Taluka of Thane district which is to be of a very gigantic size involving the outlay of Rs. 3,600 crores for construction of 30 large platforms. The construction work has since been awarded to a private contractor.

The Maharashtra Machhimar Koli Samiti has opposed the development of this project at Vadhavan on the ground that it would uproot the local traditional fisher people from their means of livelihood because of encroachment on their fishing grounds by huge vessels, apart from creating pollution in the sea waters. Written representations in this regard have been given to the State Government of Maharashtra. On behalf of the Samiti and with the active participation of the local people, agitations and demonstrations were organized thrice at the location of the construction work. A morcha was also led to the Tehsil Office at Dahanu to demand the scrapping of the project. Wide Press publicity was given to these agitations.

Thermal Power Project at Kelve-Mahim Taluka Palghar, District Thane

The State Government of Maharashtra has sanctioned the setting up of a thermal power project at Kelve-Mahim by the Bombay Suburban Electric Supply Company. The project is to be of the capacity of 500 M.W. The Local Action Committee organized morchas to oppose the move for setting up of this thermal power project. A large number of fishworkers participated in the morchas at the instance of the Maharashtra Machhimar Kriti Samiti. This project, if implemented, would adversely affect the environment and also the means of livelihood of local fishers and agricultural labour. The agitations organised and pressures exerted are expected to produce salutary effect, in that the project is now likely to be shifted to another location.

Enron Project

In Maharashtra, the movement for scrapping the Enron Project is in full swing. The National Alliance of the People's Movement had organised a dharna in Mumbai with a view to intensifying the opposition to this project. The Maharashtra Machhimar Kriti Samiti participated in this dharna.

Seven-Star Hotel in the Mumbai Harbour

The State Government of Maharashtra is considering a proposal from a private entrepreneur for constructing a seven-star hotel off Mumbai harbour in the neighbouring area of Cuffe Parade. The Hotel is to cover an area of 14 acres. The Maharashtra Machhimar Kriti Samiti has strongly opposed this project because it would involve breach of CRZ Regulations. Written representations in this regard have been sent to the Chief Minister and the Fisheries Minister of the State Government. The delegation of the Kriti Samiti also called on the State Minister for Fisheries and the State Commissioner of Fisheries to register the protest.

Abandoned Vessels carrying Sulphur/Oil in the Coast of Mumbai

Five vessels carrying sulphur/oil have been left to sink off the coast of Mumbai which has proved to be hazardous to the Marine Environment because of spill. Nothing has been done either to salvage them or sell them for scrap by authorities concerned viz. Director General of Shipping, Coast Guard, the Commissioner of Customs and the District Collector. The abandoned vessels have been causing hindrance to the movement of the boats of the fishermen. The Authorities concerned, however, have done nothing to get the abandoned vessels removed. The environmentalists have been complaining against the indifferent attitude of the authorities. On behalf of the Maharashtra Machhimar Kriti Samiti, the delegation consisting of the leaders of the Samiti called on the State Commissioner of Fisheries in October 1997 and complained to him about the apathy of the authorities concerned. The matter is being pursued.

Cancellation of Licences issued to Joint Ventures in Deep Sea Fishing

The NFF launched a campaign throughout the country to register a protest against the apathy shown by the Environment Ministry of the Government of India in implementing the assurance given by it in regard to cancellation of licenses issued to joint ventures in deep sea fishing. This campaign was undertaken by Maharashtra Machhimar Kriti Samiti, as a member unit of the NFF. As a part of the campaign, meetings were organised in the

villages inhabited by fisher people on the entire coastal belt of Maharashtra, during the period from 7th to 28th February 1997. A self-contained circular was prepared giving the entire background of the campaign for the information and guidance of the fisher-folk. Printed copies of the circular were distributed to them during the campaign. A significant feature of this campaign was that the local leaders of the fisher-folk from different regions enthusiastically participated in this campaign. The campaign culminated at Cuffe Parade in Mumbai on 28th February, 1997, where a mammoth meeting was held. This was a measure of awareness inspired by the vigorous campaign. The meeting was addressed by the leaders of the Samiti including Shri Bhai Banderkar who took pains to attend this important meeting despite his ill health. The speakers also included Shri Kapil Patil and Environmentalist Shri. Bittu Sahgal.

As a part of the campaign, a gherao of the Mumbai harbour by boats of fishermen was organized on 5th March 1997. A large number of boats and thousands of fishermen participated in this programme. Despite heavy police arrangement, these boats stalled the movement of cargo ships, thus achieving the purpose for which the gherao was undertaken. The gherao was lifted in the evening wherefore Shri Bhai Banderkar who had come down to Sassoon Dock in Mumbai, in spite of his ill health addressed a large gathering of fishermen. Wide publicity was given by the Press to these agitations.

Aquaculture Projects and Government of India's Move to relax CRZ Notification:

On behalf of Maharashtra Machhimar Kriti Samiti, a written representation has been sent to the Government of Maharashtra demanding expeditious demolition of aquaculture projects on the coastal belt of Maharashtra in accordance with the Supreme Court Order. Also, when an enquiry committee appointed by the Central Government visited Mumbai, the move to afford protection to these aquaculture projects was opposed while presenting the case to this enquiry committee on behalf of the Maharashtra Machhimar Kriti Samiti.

In the Symposium of the owners of aquaculture projects organised at Mumbai with the initiative taken by Shri Satish Pradhan, MP, the Maharashtra Machhimar Kriti Samiti strongly opposed and deprecated the move for giving protection to the aquaculture projects and pressed for demolition of these projects as per the directives of the Supreme Court of India.

The NFF launched a countrywide agitation against the aquaculture farms in the CRZ areas, during the period from 21st March 1997 to 4th April 1997. The agitation was necessitated to stall the move by the Environment Ministry of the Government of India to amend the CRZ Notification by circumventing the Supreme Court Order. As a part of this agitational programme, meetings were held at Palghar, Versova, Alibag, Ratnagiri and Malvan in the coastal districts of Maharashtra which were addressed by Shri Thomas Kocherry, Shri Premjibhai Khokari, Shri Rambhau Patil, local leaders of fishermen and also by Ms. Purnima Meher and Shri Narendra Patil. There was a tremendous response from the fisher people to these meetings. A circular in Marathi was prepared giving full background about the damage being caused by the aquaculture projects. Printed copies of the circulars were widely distributed. The circular served its purpose well. The campaign started off on 21st March 1997 from Diamond Harbour in West Bengal and from Kandla Harbour in Gujarat on 25th March 1997 and culminated at Nagapattinam in Tamil Nadu on 4th April 1997 where it

was converted into a mammoth meeting which was addressed by NFF leaders. The meeting at Nagapattinam was organised by CASI. Wide publicity in the Press was given to the programmes of agitations.

On 15th August 1997, a morcha was organised at Dativare in Thane District to lodge a strong protest against the aquaculture projects that have come up there. The local fishermen participated in this morcha in large number.

World Forum of Fish Harvesters and Fish Workers (WFF)

In connection with the founding of the World Forum of Fish-harvesters and Fishworkers, a meeting of the fisherfolk from Maharashtra was held in May 1997, at Cuffe Parade, Mumbai at the instance of the NFF. To raise funds for meeting expenses on the foreign delegates participating in the meet of the WFF at New Delhi, the leaders of the NFF undertook extensive tours from Porbunder to Kanyakumari and from Kanyakumari to Calcutta. In Maharashtra, on behalf of the Maharashtra Machhimar Kriti Samiti, meetings were held for this purpose at Palghar, Bassein, Versova, Alibag, Chiplun, Veldur, Malvan, Deogad which were attended by Shri Thomas Kocherry, Shri Harekrishna Debnath and the leaders of the Samiti. The response at that time from the fishermen and the fisheries societies was rather lukewarm as the fishing session was almost at standstill. However, assurances for extending financial help in substantial measure were given by them. They fulfilled their assurances after the fishing season was resumed.

Nearly 100 delegates of fishermen from 32 coastal countries met at New Delhi from 17th to 21st November 1997. 41 delegates visited Mumbai on 19th November 1997 to have a glimpse of the conditions, culture and lifestyle of the traditional fisher-folk and to get to know their problems in general. The delegates paid visit to Versova village first. They were greeted with enthusiasm in the traditional style by the fisherwomen and the fisherfolk of the village. The delegates were overwhelmed by the welcome they received from the local traditional fisher people. So much so that they joined the local fishermen in the traditional dance they performed to the tunes of the bands from the area. The local Versova Nakhwa Sangha took lead in making all the arrangements regarding the visit of the delegates. Later on, the delegates visited Uttan where also they were given rousing and tumultuous reception by the local traditional fisher people. The delegates enjoyed the lunch arranged by the local fisher people. Gifts were also presented to them by way of souvenirs. The delegates on their part extended their sincere thanks to the local fisher people of both the villages. Due to the constraint of time and the traffic problem, the delegates could not pay visit in the evening to Cuffe Parade where fisherfolk from the area assembled in large numbers waiting to welcome the delegates. Dance troupes from the locality as also from Kelve-Mahim performed on the well-decorated and lighted stage entertaining the gathering. The fisherfolk gathered at the venue were, however, disappointed when the news came about the inability of the delegates to come down to the venue because of the risk of missing the plane by which they were to fly back to Delhi. There was a good coverage in the Press regarding the visit of the foreign delegates.

Rambhau Patil
Secretary

The Samudratheera Matsyakarimukula Union

ANDHRA PRADESH

Report of Activities: April - November 1997

The Samudratheera Matsyakarimukula Union was Registered on 31st March 1996. Though it was formed in September 1996 there were a few hitches raised by the Labour Department, hence the delay. But the intervening period was used to visit all the villages of Prakasham District and Nellore District. Totally there are approximately 200 fishing villages and hamlets with a population of about 1.5 lakh. The fisherfolk of these districts being two main castes, namely Pattapurajulu and Agnikula-Kshatriyas or Pallikaras. The Pattapu fisherfolk originally migrated to Andhra from Tamilnadu. They speak a form of crude Tamil mixed with Telegu.

The Pallikars can be found all over Andhra, but are in comparatively less numbers in Prakasham and Nellore. During the visit to each village, the role of the union was discussed with the village elders. The villagers were told to collect the membership fee of Rs.2/- and annual subscription of Rs.12 i.e. Rs.1/- per month. To date a sum of Rs. 53,000/- has been collected and deposited in the Federal Bank A/c No. 920. To date no withdrawals have been made from this account, but most expenses have been met with donations from well-wishers.

Given below is a month by month account of the activities of the union this year.

April 97:

The Trade Union President Mr.Ramalingam attended a conference organised by the NFF at Nagapatnam. The call to campaign against Industrial Shrimp Culture was given in this meeting and it was decided to observe April 21 as All India Bandh, Mr. Harekrishna Debnath visited Ongole on the 6th of April and in a Press Conerence announced that a nation-wide Dharna would be observed by the fisherfolk

1500 posters were printed by well-wishers of the union and dispatched to different centres. These posters highlighted the dangers posed by the Aqua Culture Farms.

The union president and others toured Prakasham and Nellore Districts and covered 19 mandals (a total distance of about 3000 Km.). The people were exhorted to participate in the Bandh.

A mass meeting was organized at the town hall, Nellore to acquaint the fisherfolk community leaders of the need to implement the CRZ restrictions imposed by the Supreme Court. In spite of the hectic campaign, many people were unable to participate in the Bandh because of two reasons. First of all, The Road Transport Corporation all over the state gave a call for a lightning strike, paralysing transport. This prevented many participants from reaching Nellore. Secondly, a voluntary organization working in

the two districts took away many village leaders to Delhi to participate in a Dharna organized there. In spite of the hurdles about 100 persons participated in the Dharna. They paraded silently through the streets of Nellore holding aloft placards with slogans. They finally met the district collector and submitted a memorandum calling upon the authorities to implement the Supreme Court Decision.

May 97:

The Trade Union Executive Body met at Nellore to plan for the activities to be undertaken in the month. The main thrust was to collect the membership fee. The President also informed the others about the meeting to be held by the NFF at Delhi on the 24th, 25th at Malviya Nagar. The President and another member participated in the meeting. Mr. Thomas Kocherry informed the participants of the decision to form the World Forum of Fish-harvesters and Fishworkers in the month of November. He called upon the various unions to raise contributions from the fisherfolk to meet the expenditures. It was decided that the NFF leaders would visit Ongole in July.

JUNE 97:

As planned for in the month of May, leaders of the union and other federations of fisherfolk sanghas participated in an exposure visit to Kerala and Tamilnadu. They visited Chennai, Kanyakumari, Manakudi, Kovalam, Thuthoor, Thiruvananthapuram etc. They met leaders of the unions and societies there. They discussed various matters there. Later they met at Nellore to elect the executive body of 5 representatives to the NFF. The following five persons were elected.

1. Mr. P. Ramalingam, Madanuru Pedapattapupalem, Madanuru p.o., Kothapatnam Mandal, Prakasam District.
2. Mr.P. Ramulu. Ootukuri Subbaiahpalem. Vetapalem P.O. & Mandal Prakasam District.
3. Mr.V. Chitti Babu, Ramachandrapuram, Ponnepudi Peda Palem P.O., Vidavaluru Mandal, Nellore District.
4. Mr. V. Musalaiah Ramachandrapuram, Ameena Nagar, Chinnaganjam P.O. & Mandal, Prakasam District.
5. Mr. Sheru Ramanaiah, Kudithipalem Pallipalem, Kudithipalem P.O., Indukuripeta Mandal, Nellore District.

On 21.6.97 the Chief Minister of A.P. visited Ongole. Leaders of the Trade Union & PDCCF met him and submitted a memorandum calling upon him to impose to CRZ Act, the Marine Regulation Act of A.P. and also to include the fisherfolk community in the list of Scheduled Tribes.

During this month leaders of the union visited villages in Ongole, Naguluppapadu, Chinaganjam, Vetapalem, Chirala Mandals and after appointing village secretaries issued receipt books asking them to collect the membership fee.

JULY 97:

Since the NFF leaders would be visiting the area in this month, the union leaders visited the fisherfolk villages all over the two districts. From village to village they held discussion about the various problems faced by the fisher community. Pamphlets describing the existing conditions all over the world and the need for the World Forum were distributed in every village. They were asked to donate Rs. 100/- per village or whatever they could gather. They were also instructed to bring whatever membership collected to Ongole on the 20th. Fr. Thomas Kocherry, Mr. Pinto, Mr. Patel and Mr. Debnath came to Ongole on the 20th. Nearly 1000 fisherfolk leaders and members of Mahila Sangams gathered at the IMA Hall, Ongole. They participated enthusiastically in the meeting. They donated Rs. 5000/- as their share to meet the expenses of the WFF. Many women members joined the union and promised to participate in all the struggles of the union. Many village leaders who had been " sitting on the fence " decided to join the union.

A press conference was addressed by the NFF and union leaders. The call to observe August 15 as a Anti Aqua Day was given by the NFF leaders. They said that they would resort to direct action if the Government did not implement the Supreme Court decision.

AUGUST 97:

The President, General Secretary and others decided to start the Anti Aqua Campaign, Direct Action Programme by planting of the National Flag around the Aqua farms and destroying the bunds. They choose to implement this action at Pottisubbaiahpalem in Vetapalem Mandal. The fishermen of Katarivaripalem and a few leaders of other fisherfolk villages marched on the Aqua farms and shouting slogans they planted National Flags around the farm and destroyed a few bunds. Somehow the Press did not highlight these happenings and even the Police did not take any notice.

SEPTEMBER 97:

This was relatively dull month. The President and others had a few personal commitments to attend to. The only activity of note was that one person went over to Kerala to observe the working of South Indian Federation of Fishermen Societies (SIFFS). Training camps were organised by SIFFS, an NGO, working with the fisherfolk and issues relating to the M.R. Act, CRZ Act etc. were dealt with in this training.

OCTOBER 97:

The leaders of the union met in this month. The main problem of Andhra fisherfolk is the non implementation of the M. R. Act by the Government. This lacuna has led to the indiscriminate fishing by small and large trawlers. They trawl the sea just 100 metres from the shoreline, destroying the fishing grounds. They operate night and day. This has caused much loss of crafts and gears of traditional fishermen. Many fisherfolk questioned how the trawler owners who are destroying the marine resources could be permitted to have membership in the NFF. To add insult to injury trawlers from Tamil Nadu who are not permitted to fish there during the monsoon season descend on the Andhra coasts and wreck havoc here.

Deciding to put a halt to such wanton desecration of the Andhra coast, the leaders of the union convened a training programme. The Marine Regulation Act was formulated in 1995 and the gazette was released in 1996. The Act is yet to be implemented.

A training session was organised and many union leaders from Nellore and Prakasam districts attended this programme. Detailed classes were conducted to explain the various implications. After elaborate discussions the union members decided to prepare separate memoranda to the Chief Minister, Agriculture Minister, MLAs, MPs, opposition leaders and Revenue Department Officials. It was also decided to call for a Press Conference. On the 25th of October a Press Conference was arranged. The President, Vice President, General Secretary and other Executive Body members addressed this conference. They explained about the depletion of marine resources, loss of livelihood, displacement of people etc. The Government's step-motherly way of neglecting a sector which brings in many crores of foreign exchange was highlighted. The Press was called upon to give wide publicity to these issues. The local 'Siti Cable' unit gave a very detailed coverage on the TV. The memoranda were sent by Registered Post to the various ministers and MPs etc. The union leaders met the local officials and the memoranda were handed over to them. The Assistant Director of Fisheries promised to forward the memorandum to the Commissioner of Fisheries. He also assured the leaders that the Government would respond very favourably.

NOVEMBER 97:

The Andhra Pradesh Assembly was scheduled to meet in Hyderabad on the 17th of November for the winter sessions. During the discussion of the union leaders in October it was decided that a group of leaders should go over to Hyderabad, meet the opposition party members and impress upon them the need for immediate implementation of the M. R. Act and to prevail upon them to table the motion in the forthcoming session. Mr. Ramalingam, Mr. P. Ramulu and Mr. V. Musalaiah were deputed to go. They went to Hyderabad on 12th November. They met many BJP and other opposition party leaders. Mr. Ch. Vidyasagar Rao, the floor leader assured the team that they would definitely introduce this during the session. The Kandukur MLA, Mr. Sivaram personally met the CM and handed over the memorandum to him.

The union President Mr. Ramalingam addressed a Press Conference at Kothapatnam. He narrated how the factory trawlers were pushing the ordinary fisherfolk out of the sea, while industrial aquaculture was denying them place on the land. The greed for quick gains was destroying nature. He described how it was necessary for fisherfolk all over the world to unite and fight this threat.

Mr. Ramalingam who was invited as a delegate to the WFF partook in the meeting from 18th to 21st of November. He has prepared a detailed report and it has been circulated to all the villages.

Ramalingam
President

Report of the work with women in fisheries in Maharashtra

1. Work among the women fish vendors Survey:

As the follow-up of the workshop on the issues of the women fish-vendors, we could finish the survey only in 15 villages of Palghar Taluka. However we have not yet sent it to SEWA-Ahmedabad. It will be sent shortly.

2. Group formation of the fish-vendors:

During the reporting year we could form a ten member committee to look after the various problems like marketing, harassment from police and railway authority. The group approached the chief executive officer of district Thane and informed about their problems in writing also requesting to construct more market places in the major neo-urban areas. We approached Railway authorities at Thane with R .K. Patil which helped in changing their attitude towards fish-vendors.

3. Awareness campaign for women in fisheries:

Various meetings were organised specially for explaining Coastal Zone Regulation Act and struggle against aquaculture industry and its effects on fishing communities.

4. Dharna against aquaculture fish farms:

On the 21st April, 1997 a Dharna was organised by Maharashtra Machimar Kriti Samiti against aquaculture farms in support of the agitation launched by NFF. Some of the women vendors participated in it.

5. Satyagraha against aquaculture industry on 15th August, 1997:

About five thousand people gathered and marched to the aquaculture farms in the Dativane village in Palghar Taluka where about two thousand acres of land were occupied. Nearly three thousand of them were women. A public meeting was held. Shri R .K. Patil, Prabha Choudhury and Purnima Meher spoke in the meeting.

6. Dr. Venu Gopalcherry Study Committee:

Dr. Venu Gopalcherry Study Committee on Aquaculture Bill met in Bombay on 10th July, 1997 to listen to the difficulties of those who are affected by aquaculture. Purnima Meher presented some of the grievances of women fishworkers catching fish in small-scale being affected by aquaculture.

7. Work with women in fish processing units in Bombay:

The two day session on the Migrant Labour Act was very much helpful to work with fish processing units. We approached the office of the Labour Commissioner in Bombay and a letter from Nalini Nayak was given to him to look after the various problems faced by the women in the processing units. The letter was given to him in May, 1997 but so far we did not get any response from him.

8. Plans:

We had discussions with some of the workers of NAPM in Thane. In future they will co-operate to proceed the work with women in processing units in Vashi (New Mumbai) and Wagle Estate in Thane.

Purnima Meher

INDIAN FISHERIES OVER 50 YEARS

Thomas Kocherry

Introduction

From time immemorial, the fisher people in India have been the defenders and the protectors of the coastal territories from foreign invasions and other external threats. Nature has created them generally very strong and they lead a very risky life. They are great fish hunters. They are capable of capturing huge sharks from the deep sea.

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.

In this paper I try to narrate briefly the changes that have taken place in the Indian fisheries during the past 50 years - the Government's attempts at development and their effects, particularly on the fishing communities. In the first part I deal with the changes and the challenges faced in marine fisheries and in the second part I briefly review the impact of Coastal Industrial Aquaculture.

1. MARINE FISHERIES

1.1. The Traditional Scenario

The fishing communities are generally very poor and have low social status and very little clout. 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 education of fisher people and the consequent job-seeking in other departments of life is of recent origin.

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. Each community generally resides in a compact geographical area. There are a few exceptions where Christians, Hindus and Muslims live in the same colony. All these communities are defined by their religious adherence which gives them their identity. Each community is socially stratified on caste and class basis; however, the caste factor is less visible than the class stratification.

Though fisher people belong to different religions, in the past, incidents of communal clashes among them over fishing rights were very rare. Generally there have been well demarcated areas and times of fishing for the various communities and they have carried on their work and life in peace and harmony.

Over the centuries they have amassed a vast fund of knowledge about resources in their immediate vicinity and developed a variety of technologies tailored to the specific ecological niches along the coast. This accounts for the lack of a single maritime fishing tradition in India and hence for the immense diversity of artisanal fishing techniques in the country, the hall mark of which has been their ecological sophistication, rather than technoeconomic efficiency.

The women play an active role in the fishing community, as they do in all subsistence economies. There is no evidence to show that women participated at any time in actual marine fishing operations, although women are involved in fish harvesting in the inland waters and exhibit exemplary skills when engaged in shrimp picking. They also pick shell fish from rocky sea banks. They have always been involved in fish processing, distribution and marketing.

1.2. The Modernization Process

1.2.1. The Indo-Norwegian Project

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, to a certain extent achieved. The quantum of fish catch considerably increased.

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.

But the real reason for the failure of the Indo-Norwegian project is that it did not involve the local and traditional fisher people in the process. For the first time in the history of India, fishing activity was looked upon as an industry, in which anyone with the capital could enter into. This was a qualitative and quantitative change in the Indian fisheries with far reaching consequences.

1.2.2. Bottom Trawling

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 is found that this particular method of bottom trawling causes much destruction affecting the whole of fisheries sector. Bottom trawling has the capacity to catch everything. It destroys the small fish and kills all other species as well. 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 number of bottom trawlers in India was about 23,000.

1.2.3. Charter Policy and Mexican Trawlers.

All the fisheries development policies were framed with a view to exploiting deep sea fish resources. The Indo-Norwegian Project ended up in fishing in the territorial waters and marginalizing the traditional fisher people. In the same Charter policy was introduced in the eighties with a view to exploit deep sea fish resources and transfer of technology. This also ended up in fishing in the territorial waters. Not a single Indian acquired any charter vessel within 5 years. Finally the whole policy was scrapped, because it was a total failure.

Then the GOI introduced another scheme to supply Mexican trawlers with a view to exploit shrimp from the deep sea. This was introduced from Vishakapattinam harbour. In the beginning it was a big success. Very soon about 186 trawlers were distributed through SCICI. They ended up with a constant clash between traditional gears off the sand-heads near West Bengal. This too ended up in total failure. Most of them are sunk in the harbour. About 200 crores Rupees are the total debt. The GOI appointed an FAO committee to study the deep sea fishing in India. M. Gudicelli conducted the study in 1992. He came to the conclusion that India has very little scope for deep sea fishing. Only 164000 tonnes of fish that are commercially valuable are available in the deep sea.

1.2.4. The Private Mechanized Sector

The 1960s and 70s saw a gradual build up of the infrastructure for marketing and this helped the growth of the private mechanized sector. While the majority of the artisanal fisher people languished in poverty and became poorer and poorer, the private mechanized sector cornered disproportionate profits. The benefits went to the outsiders. Modern technological inputs have enabled concentration of wealth in the hands of a few.

The government had set apart the inshore waters up to a depth of 20 meters exclusively for the traditional fishworkers. But the trawlers never kept 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. Such indiscriminate fishing destroyed the fish wealth of the sea and affected the marine ecology.

1.3. Mechanization and its Impact

1.3.1. Increase in Production! ...Increase in Poverty?

The compulsions of the international market where the demand for prawns started increasing rapidly the efforts of the Indo-Norwegian project which showed that it was possible to exploit our coastal prawn resources more efficiently by using small mechanized boats fitted with more powerful engines and bottom trawl nets. The acute foreign exchange crisis faced by the government of India, and the keenness on the part of the Government to promote any activity which would earn foreign exchange, were factors which combined to provide a new thrust to fisheries development.

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. 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 emphasis was on increasing production and foreign exchange earnings by the rapid introduction of new technologies. The impact of the mechanized sector began to be felt by the people. This the trawlers achieved by making inroads into the fishing inshore water territory of traditional fish workers. The trawlers created havoc to the traditional fish workers' country boats and their nets. They became restless. In order to increase the production for earning more foreign exchange purse-seiners were introduced. In the name of production and development the State Governments' support to the traditional methods was withdrawn. They paid more attention to mechanization and to techniques like freezing and canning. This only added to the woes of the traditional fishworkers. The whole fishing scenario became export oriented. The middle men and merchants, the traditional exploiters of the fisher people, became the owners of bottom trawlers. The traditional fisher people were the victims.

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."

1.3.2. Conflicts between Trawlers and Traditional Fishers

The conflicts between the trawler crews and the kattumaram fishermen grew in intensity in the 1960s and 1970s. These conflicts had a basis in the harm the professional trawlers were effecting in the livelihood of thousands of kattumaram fishermen. The operations of trawlers potentially cause two kinds of harm to other 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.

Trawler crews and kattumaram fishermen 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 catches of Kattumaram fishermen.

The trawlers and purse-seiners continue to prowl the seas unimpeded. They have increased their catch by 196 % in the 1969-82 period. This was at the expense of the small scale fishermen who experienced a fall of over 50% in their catch. At the same time, the number of traditional fishermen has gone up substantially. The over exploitation of the shallow seas has caused a depletion of resources resulting in a 50% fall in the over all production. During the period of 1973 - 82, the number of trawlers had reached over 3000 and the purse-seiners over 100. The increase in the traditional crafts in the same period was 14%. No wonder the fish resources are depleted so substantially. Apart from the threat of exploitation by middlemen and the greedy overkill of mechanized sector, the fishermen are now faced with a new threat.

The mechanization of the traditional crafts by the use of outboard engines, produced by such multinationals as Yamaha, Johnson, Lombardin, Suzuki, etc., has resulted in the total dependence of the hitherto independent fishermen on these greedy multinationals. The companies charge exorbitant prices for the machines and their spares. The kerosene and diesel are in short supply. Nor can fishermen afford the fuels unless they are subsidized, which the Government does not do.

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: Kattumaram fishermen would carry out operations only beyond this limit. 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.

1.4. 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 Swathantra Malsya Thozhilali Federation (KSMTF), The Tamil Nadu Fishworkers' Union (TFU) etc. are the result of such trends. These organizations cut across castes, religions and creeds and are registered as Trade Unions without political affiliations. Apart from trade unions we also had the emergence of welfare and developmental schemes and Co-operatives taken up by Non Governmental Organization and by the fisher people themselves.

1.4.1. National Fishworkers Forum (NFF)

The trade unions, particularly when they began to fight the menace of the trawlers, felt the need for a nation-wide link up and as the result of it the National Fishworkers Forum (NFF) was founded in 1979. The NFF 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 forced the governments to bring about zonal regulations for the mechanized boats, night trawling ban, purs-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. In all the struggles the entire community participates. The National Fishworkers' Forum also gave the leadership in the struggles in the land, sea and the courts. 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.

Production alone cannot determine Public interest - Supreme Court

In 1993, when the Kerala Government had imposed a ban on trawling during the monsoon season in order to protect the marine species during their breeding season, the association of trawler owners challenged the ban in the Supreme Court arguing that the country was losing a big amount of fish that could be caught during this particular season. Giving its verdict, the Supreme Court had this to say:

"We are also of the opinion that the Government of Kerala is perfectly justified in adopting the attitude that the public interest cannot be determined only by looking at the quantum of fish caught in a year. In other words, production alone cannot be the basis for determining public interest. The Government is perfectly justified in saying that it is under an obligation to protect the economic interest of the traditional fishermen and to ensure that they are not deprived of their slender means of livelihood. Whether one call it distributive justice or development with a human face, the ultimate truth is that object of all development is the human being. There can be no development for the sake of development. Priorities ought not to be inverted nor the true perspective be lost in the quest for more production."

1.5. Joint-Ventures in Deep Sea Fishing - 1991

With the New Economic Policy of the Government of India which opened up the Indian market and the Indian labour to the Multi National Companies, there was yet another so called reform in the fisheries policy. This was spelt out in a new Deep Sea fishing Policy which was announced in March 1991. Under this policy the Government of India opened the Indian seas to huge foreign fishing vessels under the name of Joint Ventures. It involved in leasing of foreign vessels for operation in the Indian Exclusive Economic Zone, test fishing by engaging foreign Processing and marketing.

The new policy allowed foreign fishing vessels into Indian waters beyond 12 nautical miles (18 kms) of the coast. Apart from allowing the duty free import of vessels, the government of India decided to permit the sale of diesel at international prices. Also the vessels can transfer the catch on the high seas and bunker the foreign vessels under the guise of fishing were carrying away all valuable fish from the Indian seas.

When the Deep Sea Fishing Policy was introduced, there were already about 35,000 small mechanised boats and about 2 million artisanal crafts with a wide range of diversified gears suited to the tropical waters with mullet-species all in small quantities. The annual MSY is about 3.7 million tonnes of fish, out of which 2.7 is already caught. So the planners said that there was still 1 million t of fish to be caught. Hence the new fishing policy. Unfortunately the Government India forgot the fact that the catch per vessel had gone down in all the sectors. The catch in all the coastal states had gone down alarmingly. Further the study of M. Gudicelli, the FAO consultant categorically said that there was only 164000 t fish available in the deep sea that is commercially available and this can be caught by the existing fleets if they are diversified.

1.5.1. Factory Trawlers in other oceans

All oceans were depleted by the huge industrial fishing fleets as a result the deep sea fishing was banned in many countries of the world. Canada is taking stringent action against this violation. The USA is in the process of enacting a law banning factory trawlers. Factory trawlers have played havoc with the traditional fishers elsewhere in South Asia. In Bangladesh, fish availability has declined from 33 gms. per day per person in 1962-63 to about 21 gms. today. The Maldives archipelago has been protecting its marine wealth with strict rules on fishing.

The Food and Agriculture Organization (FAO) report 1995, on world fisheries, says that 75 percent of world fish production are affected by the industrial fleets. If huge fleets depleted big fisheries like the

Atlantic and the Pacific, then the Indian fishery will be depleted in no time. India cannot afford to take such a big risk when 80 lakh fish workers with their families are involved in fishing for livelihood.

1.6. The Struggle against Joint-Ventures

1.6.1. 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 Government of India (GOI) announced in the Parliament that it was suspending the issuing of licences and appointed the Sudarsan Committee to study the problem.

Sudarsan submitted a report upholding the 1991 Fisheries policy. So the NFACAJV organised another All India Fisheries Strike on 23-24 November 1994. This led to the appointment of another committee called the Murari Committee. However this committee was composed of Government officials only.

The NFACAJV organised yet another agitation. The national Convenor of NFACAJV, Thomas Kocherry went on an Indefinite Hunger strike in Porbunder in May 1995. The Murari High Power committee was expanded by including 16 Parliament Members and 6 representatives from the Fisheries sector.

1.6.2. Murari High Power committee

The Murari Committee was composed of 41 members. It was divided into 5 groups and went around all the coastal states and took evidences from all sections of the Fisheries Sector. All the 5 groups unanimously recommended the cancellation of all the Joint / Lease Fishing vessels. however they delayed the process. So the NFACAJV organised the 3rd All India Fisheries Strike on 18th January 1996. The Murari Committee came with 21 recommendations including cancellation of all the licences. The Committee gave 6 months time for GOI to take a decision on this.

Recommendations of the Murari Committee

The 41 member panel - consisting of diverse assembly of bureaucrats, experts, politicians and activists have made 21 recommendations in all, the important among them being as follows:

- All permits issued for fishing by joint ventures / chartered / lease / test should immediately be cancelled subject to legal processes as may be required.
- No renewal / extension of licenses / permits be issued in future for fishing by joint ventures / charter / lease / test fishing vessels.
- All licenses / permits for fishing may be made public documents and copy of thereof be made available for inspection in the office of the registered authority.
- The areas already being exploited by fishermen operating traditional crafts or mechanised vessels below 20 meters size or areas which may be exploited in the medium term future should not be permitted for exploitation by vessels above 20 meters length except for Indian owned vessels currently in operation, who may be given three years time to move out.
- Deep Sea Fishing Regulations should be enacted by the Parliament after consulting the fishing community.
- Coast Guards should be strengthened, expanded and upgraded technically with the state of the art system of navigation, surveillance and weaponry and properly tasked to prevent poaching by foreign vessels and observance of zone restrictions.
- All types of marine fisheries should come under one ministry.
- Fishermen and women need to be trained in handling new equipment's, larger vessels and new fishing techniques besides fish handling and processing aspects. This may be given priority by the Government in a new Deep Sea Fishing Policy.
- This new policy should be reviewed / evaluated from time to time (three to five years).
- Government should take decisions on the recommendations of the Committee within six months.

1.6.3. Struggles for Implementation

August 1996. The stipulated 6 months time was over. The GOI did not take any decision on the recommendations of the Murari Committee. The NFACAJV again launched an agitation, with Thomas Kocherry going on an

indefinite fast in Mumbai and the fisher people and their supporters all over India demonstrating their support in various ways. The fast and the agitation was called off when the GOI intervened and promised to take action. On 25th September, 1996 the GOI did take the important step of accepting the recommendations of the Murari committee. However the implementation wasn't coming forth.

March 1997. Yet another agitation; this time in the form of harbour blockade of Mumbai, Visakapattinam and Kandla, demanding that the GOI implement its own decisions. Implement it did, finally. The Joint Venture Lease policy was rescinded. All the licenses were cancelled, except the ones in operation. There are 31 of such vessels. GOI also transferred all matters of deep sea Fishing from the ministry for Food processing Industry to the ministry for Animal husbandry.

A committee was appointed from the NFACAJV to work with the GOI to watch over the implementation of all the recommendations of Murari Committee.

The struggle of NFF / NFACAJV against foreign fishing vessels Chronology of Events

September, 1993

National Fishworkers Forum (NFF), a Federation of Fishworkers trade unions in India, organized a seminar for the small-scale mechanized and non-mechanized and other sectors to discuss the new deep sea fishing policy and its impact on the fishworkers.

October, 1993

National Fishworker's Forum and Small Mechanized Boat Operator's of India submitted its memorandum to the Prime Minister of India, requesting to revoke all new licenses issued to joint ventures and also enact a deep sea fishing regulation act which should encourage harvesting resources in the deep seas on a sustainable basis.

February, 1994

The NFF and 31 other organizations and trade unions of nine maritime states gave a call for a one-day All India Fisheries Bandh. The small mechanized sector and the artisanal sector did not go to sea on 4 February. The main Fisheries Harbours and fish markets were also affected.

July, 1994

Non-mechanized, mechanized and other fishing interests drowned their differences, came together as the National Fisheries Action Committee Against Joint Ventures (NFACAJV), to confront a larger, common foe. In July, the committee called for a Black Day and fishworkers in several coastal areas hoisted black flags on their boats, staged marches and demonstrations.

November, 1994

On November 23 and 24, 1994, the fishworkers struck work and fishing in the maritime states came to a virtual standstill. It is estimated that about one million persons stood off from work at sea, processing plants and markets as a mark of protest.

May, 1995

Fishworkers' leader and Convenor of NFACAJV, Thomas Kocherry launched an eight-day fast in front of the birthplace of Mahatma Gandhi in the coastal state of Gujarat, while across India there were several supportive actions.

November, 1995

All the major central trade unions in the country - AITUC, BMS, HMS, INTUC, NFF organized a national convention of fishworkers against anti-National Foreign Fishing in Cochin, Kerala and called for an All India Fisheries strike on January 18, 1996. The NFACAJV called for the blocking of the harbours on the same day.

January, 1996

The Central Trade Unions and NFACAJV jointly organized a one day successful All India Fisheries strike on January 18.

August, 1996

Indefinite hunger strike by Thomas Kocherry in Mumbai. The Central Minister of the Food Processing Industry came to Mumbai for talks with the Fisheries Leaders to find a solution.

September 1996

The Central Cabinet accepts the recommendations of the Murari High Power Committee.

February 1997

The Ministry for Food Processing Industry rescinded the Joint venture deep sea fishing policy and takes actions to cancel the licenses except those of the existing vessels in operation (31) of them.

March 1997

The Government appoints the NFACAJV committee to monitor the implementations of the Murari Committee recommendations.

September 1997

The Government of India transfers the Deep Sea fishing matters from the ministry of Food Processing Industry to the Ministry for Animal Husbandry. All fisheries matter comes under this ministry.

1.7. The Present State of Joint-Ventures

The implementation of 21 recommendations is still a big question. The new government has not shown any interest in it. Even the NFACAJV Committee that has been closely working with the GOI is dismantled. There are still about 40 foreign vessels operating in the Indian waters. Their licenses are life long, we are told. No such facility exists for Indian fishermen; they have to renew their licenses every year. The struggle continues.

1.8. What went Wrong in the planning

The planners failed to take into account the traditional skills of the fisher people when they introduced mechanization in fisheries. They wanted short term gains rather than sustained growth. The planners followed a kind of development which has been export oriented, which led to the development of a few at the expense of the majority and lack of fish for the internal market. Since sea is a common property, it became anybody's property. The people with the sole motive of profit invested capital and used destructive and over-fishing gears. The production went up along with the increase of production cost. The sea became a place of bitter competition. On the one hand a group investing capital for quick return with highly efficient gears and on the other the vast majority struggling to survive by competing with the rich. Thus fishing became a sea of greed rather than a mother that protects the millions and supply protein for the masses, The women of the fishing communities have become the worst victims in this struggle to survive.

2. COASTAL INDUSTRIAL AQUACULTURE

2.1. The Coastal Regulation Zone Notification (CRZ)

When Shrimati Indira Gandhi was the Prime Minister she wrote to all the chief ministers asking them to protect the coastal zone ranging from 0-500 m area of the coast from sea. In 19-2-1991 the GOI issued a Notification called CRZ Notification under section 3(1) and section 3(2)(V) of the Environment (Protection) Act, 1986. For the first time it recognized the traditional and customary right of traditional fisher people over the coast. There were 13 prohibitions in this zone like Industrial pollution, dredging, constructions etc. Though in the beginning GOI did not see the implications, later it wanted different amendments because of the pressure from the Hotel and Industrial lobbies. But the fisher people resisted this move and the SC insisted upon the strict implementation of CRZ Notification without

diluting it.

2.1.1. Industrial Aquaculture - CRZ violation

On the one hand the Government of India came out with a law like the Coastal Zone Regulation Act, but on the other hand it was also encouraging activities which went right against its own law. The Marine Products Export Development Authority (MPEDA) with the Ministry of Commerce took the lead in promoting the shrimp industries violating all the protections to the coastline enshrined in the CRZ. The economic policy of the Government of India, which was desperately looking for foreign exchange through any means, apart from opening our seas to the huge foreign fishing vessels, also invited multinational corporations and other capitalists to establish industrial aquaculture all along the coastline, with the sole purpose of exporting. Now aquaculture has become a big business not only in India but in many countries of Asia and in many other developing countries.

2.1.2. The "Rape and run" approach

India has an estimated area of 1.19 million hectares of brackish water, of which 8,25,000 hectares are now under shrimp culture. According to official reports about 6,046 prawn ponds covering about 10,860.93 hectares of coastal land were used for shrimp culture by October 1994. But as per non-official estimate, more than 20,000 hectares of coastal land came under shrimp culture. The "rape and run" approach of the MNCs had no qualms in acquiring prime agricultural lands which were converted into intensive shrimp ponds which have maximum life of only 5 to ten years. Abandoned farms can no longer be used for shrimp farming or for agriculture. The shrimp industries then move on to other areas, continually leaving behind them people and lands devastated.

2.1.3. Development for whom?

Aquaculture has been hailed as holding "much promise for meeting increasing food demands" and as providing "important economic and nutritional benefits to many regions of the developing world". The questions that need to be asked are:

1. For whose nutrition is the food produced?
2. Who benefits from the sale of the produce?
3. How does it satisfy the hunger of the starving millions of the producing nations?
4. How does it affect agriculture and marine fisheries?
5. What are the ecological hazards encountered? and,

How are human rights, particularly the rights of the poor and the powerless (small farmers and fisher people) upheld or violated.

Answers to these questions will help us arriving at a conclusion whether aquaculture is a sustainable development or not.

2.2. Ecological Degradations

2.2.1. Salination of ground water

One ha. of Industrial shrimp farm requires 120,000 cubic meters of sea water annually. This 12 meters of saline water over and above the water in coastal ecosystems creates serious problems of ground water salination, resulting in drinking water famine. Women are forced to walk long distances to secure drinking water. Since peoples' livelihoods are being destroyed as a result of the destruction of the coastal ecosystems, this additional burden is becoming economically unsustainable and families are migrating out of coastal villages. A study carried out by the Central Institute of Brackish. Aquaculture (CIBA) in 1995, in Nellore district, found the salinity figures to range from 410 to 4900 PPM.

2.2.2. Salination of land

The seepage from the aqua farms creates salination and water logging of neighbouring agricultural farms. The 1995. CIBA's study had stated:

"Salination of land is significant with salt content (electrical conductivity) values of 2.1 to 4.8 M

MHOS/CM upto about 50 M from the aquaculture farm. A salt content value of above 40 M MHOS/CM is considered unsuitable for agriculture."

Nellore is named after "nello" which means rice in Telugu. This rice bowl is now totally destroyed through the impact of shrimp farms. The Cauvery delta is another fertile area in which agricultural land is being converted into shrimp farms.

2.2.3. Pollution: Destruction of Mangroves and Coastal Forests

Factory farming of shrimp requires 4-6 tons, per hectare, of artificial feed. Only 16.7% of this feed is converted into shrimp biomass. The rest is converted into pollution, which deteriorates water quality inside the pond and in the ecosystem.

It is this build of pollution that is responsible for the collapse of shrimp production in a short period and for the destruction of the productivity of estuarine and coastal waters. The pollution from the shrimp industry is not merely the difference in inlet and outlet at an instance of time. It is the cumulative pollution over a production cycle.

Mangroves are the nurseries of marine life. Shrimp farms destroy the mangrove ecosystems, not only by the waste being sent into the sea but also by direct conversion of mangroves into shrimp farms. The destruction of mangroves increases the risk of cyclones and floods.

2.2.4. Depletion of Marine Fisheries

Marine fisheries are destroyed in three ways by industrial shrimp farms;

1. Wild fry is the major source of seed in shrimp farms. For every single fry of commercially desirable *P. Monodon* caught, more than 1000 other marine species are wasted as "fry by catch" leading to species loss and extinction.
2. Fish caught at sea is a major source of shrimp feed. Each ton of industrial shrimp requires ten times its weight in marine fish for conversion to feed.
3. The pollution from shrimp farms, also kills fish life and destroys marine resources.

2.3. Human Rights Violations

2.3.1. Displacement of traditional fisher people, small farmers and agricultural labourers

People have a right to work and live in their own place. While they also have a right to migrate where they want to, they should not be forced to do so. For centuries the small fisherfolk, farmers and agricultural labourers have been living in harmony with nature while at the same time providing food for themselves and for others. They are skilled people by their own right. They should be helped to develop appropriate technology to improve their work and life. Instead, industrial aquaculture has created conditions by which they can no longer survive in their own place. They are forced to leave their homes and hire themselves out as unskilled labourers.

2.3.2. Creation of unemployment

Aquaculture can provide direct employment to only 2 persons per hectare and 110 man days per hectare for initial construction.

The World Bank Aqua Project in India with a 3 billion Rupee outlay creates employment for only 14,000 people. Most of these jobs go to outsiders (skilled persons), leaving the bulk of the local people unemployed.

The PUCL report, released to the nation on 10th July 1997 showed that the Balaji Biotech Farm of 1,200 acres in Nellore, owned by ex-M.P. Magunta Subbaramireddy, generates employment of 400, of which 350 employees are from outside. 1,100 Dalit families are unemployed on account of salination of land and water.

More than 20 million jobs of coastal people will be destroyed if industrial aquaculture factories are not closed down.

Aquaculture not only has not and cannot provide employment to the coastal people (both fisher people and agriculturists), but it actually makes them loose their employment and creates unemployment. Thus, the right to work and to live with human dignity is denied.

2.3.3. The prior rights of coastal people

Survival of the fittest is the law of the jungle; but this seems to be the law enacted by the powerful in order to stay in power and in order to oppress and suppress the poor at whose cost alone they can stay in power - both economic power and political power. Everything that the shrimp farmers do is in accordance with the law, or at least, generally so. Their purchase of land, from whomsoever, is legal; the law allows them to do whatever they want in their own land; anybody and any body is free to buy land anywhere and encouragement is given to start business which will bring in foreign exchange. The shrimp farmers have everything and everybody that matters, with them; they have money power, they have the power of the politicians and bureaucrats, they have the police with them and they seem to have the law with them. Only a careful interpretation of the law in the true spirit (as the Supreme Court has done), enactment of new laws in the same spirit, and rejecting laws that are against the poor and the powerless, can change the situation. In this process, the prior rights of the common people should be discerned and respected.

Coastal village people complain:

- That they have no place now to graze their cattle,
- That they have lost their right of way due to shrimp farms,
- That small land owners had no choice but to sell their land, having been surrounded by shrimp farms; (of course, they were still free to sell or not to!),
- That they have now nowhere to pick their fire-wood from,
- That women who traditionally used tree and shrub cover to relieve themselves, and water from the creeks and lakes to have a bath, are obstructed from using these because of the farms.
- That their privacy and life-style is pried into.
- That the unity of the village is destroyed by the creation of a lobby within the village to support the aquaculturists, by allowing them fringe benefits.

Are the people justified in making these complaints? In their own place village people have a prior right to work and live peacefully and with dignity. Any law or any law enforcing agency which does not recognize these prior rights of the village people, is committing a violation of human rights.

2.4. The Struggles against Coastal Industrial Aquaculture

The people who were affected by the shrimp culture came together and protested. The movement got strengthened by many organizations like Campaign Against Shrimp Industries, PREPARE, PROFAM, the Orissa Krushak Mahasangh and many others, both at the grassroot level and at the level of scientific research and legal aids. They waged a war both in the land and in the court. Finally the Supreme Court in its land mark judgement in December 1996 ordered to demolish all the Aquaculture farms because it was a violation of CRZ notification of 1991.

The Supreme Court Judgement of 11 December 1996

Some of the salient features of the judgement

- **Government of India shall constitute an Authority under the Environment Protection Act, 1986. The Authority shall be conferred with all powers necessary to protect the ecologically fragile coastal areas, sea shore, water front etc. and the Authority should be constituted before January 15, 1997. The Authority so constituted shall implement the "precautionary procedure" and the "polluter pays" principle.**
- **No shrimp culture farm can be set up within the Coastal Regulation Zone (CRZ) as per the CRZ Notification dated 19th February 1991 issued by the Ministry of Environment and Forests. This direction is not applicable to traditional and improved traditional type of aquaculture farms which have been defined.**
- **Aquaculture farms which do not meet the criteria of traditional and improved traditional shall be closed and demolished before 31st March 1997 and compliance should be communicated to the court before 15th April 1997**
- **Workers employed in the aquaculture farms that are to be shut down or demolished shall be deemed to have been retrenched with effect from 30th April 1997 and shall be paid 6 years wages as compensation.**
- **Outside the CRZ zone, no shrimp culture is to be allowed on mangroves, wet lands, forest lands, agricultural lands, salt pans, village common lands etc.**
- **No shrimp culture is permitted within 1000 metres of the Chilika lake and Pulicat Lake, including bird sanctuaries namely Yadurappattu and Nelappattu.**

2.4.1. The Aquaculture Authority Bill

Instead of carrying out these directions of the Supreme Court, the Agriculture Ministry drafted an Aquaculture Authority Bill (AAB). This Bill was tabled in the Rajya Sabha on 19th March 1997 and passed at its last session on 20th March 1997 without keeping in mind the judgement of the Supreme Court. Members did not get an opportunity to even read the Bill because had they done so, it would have become obvious that what they had before them instead was a Shrimp Aquaculture Industry Promotion Bill and the intent of the Bill was actually meant not only to undermine the judgement of the Supreme Court but its authority as well.

Some of the salient features of the Aquaculture Authority Bill (ABB)

- **It seeks to amend and relax the CRZ Notification dated 19th February 1991. The objective of issuing the 1991 CRZ Notification is to protect the coastal systems. This bill, especially Sec. 24, seeks to destroy the 1991 Notification and also the coastal ecology. Sec. 24 seeks to treat aquaculture as agriculture activity and not as an industrial activity thereby creating an exemption for Industrial Shrimp Aquaculture**
- **To treat aquaculture as a permissible activity with retrospective effect since February 1991 (the date of the CRZ Notification). The Bill in fact legislates that after it is passed all decisions of Courts, tribunals etc. in relation to aquaculture farms are deemed to be nullified.**
- **All shrimp culture industries will continue, provided they apply for a license within six months of the enactment of the law to the authority created by it. As per the Bill they will continue the activities so long as the license which they have sought for has not been refused. The license can be renewed every five years.**
- **The protection given by the Supreme Court judgement to the Chilika and Pulicat Lakes has been removed.**

The Aquaculture Authority Bill is one of the most anti-people legislation ever introduced in the Indian Parliament. It is contrary to the Environment Protection Act, and to the Environment Policy of the Central Government reflected in the CRZ Notification. It is also contrary to the welfare of the rural population living in the coastal areas.

It is an act of gross injustice as it seeks to protect the documented, judicially recognized, ecologically disruptive effects of present day shrimp industries owned by industrial and trade houses and others propertied interests. Whether the Shrimp industrial aquaculture farm is large or small, the livelihood of more than a 100 million people living in the coastal areas and who were given protection by the Supreme Court judgement will be adversely affected by the introduction of Aquaculture Authority enactment.

2.4.2. 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.**

2.5. Misleading "Success Stories"

Often the industrial and export oriented fisheries and related sector publish their "Success Stories" with impressive figures. For example the Marine Products Export Development Authority (MPEDA) has reported its achievement of having crossed US \$ 1 billion mark for the fourth consecutive year. It further says that in 1972-73, the year of its inception, the total volume of marine products exported from India was 38, 903 tonnes valued at Rs. 59.72 crores which have by 1997-98 touched 3, 85,818 tonnes valued at Rs. 4,697. 48 crores.

What is suppressed under these 'achievements' is the plight of the workers mostly women engaged in the Sea Food Export Industry. Around 1 lakh women, mostly contract and migrant workers are enslaved in these processing industries. Most of them are unmarried young girls who are forced by economic and financial restraints in their families to take up these jobs, lured by false promises by contractors and are thrown in the culture of migrant labour confinement. Confined 24 hours in the unhygienic congested quarters of the companies or premises of the fish factories, forced to have a 12/13/14 hour working day in freezing climate without adequate protection they are virtually reduced to bonded labour and at times victims of sexual exploitations. Under the tight system of control these women are secluded from the outer world and are prevented from joining unions. The employers keep this captive labour force and exploit work from them even at odd hours whenever the crop comes in. Their extremely strenuous and hazardous work conditions violate all Labour laws. And this maximization of work-time combined with meagre cost of maintenance of the confined migrant labour force, goes to form the "success story" of MPEDA.

In the by-laws of MPEDA there is no conscious room for the interest of the workers. Its objectives are totally industry oriented and meant to promote the interests of the exporters, entrepreneurs, deep sea fishing vessels operators and commercial shrimp farms. MPEDA has about ten departments to promote the mission and interest of the Sea Food Export Industry, but it does not feel any necessity to have a Labour Welfare Wing to protect the rights of its workers. While promoting the quality and health safety of its products to the global standards, ironically MPEDA fails to show least concern about the workers.

2.6. True Development and Progress

True development, progress or success story should include the following factors:

- It should lead to fulfilling the basic needs of the poorest.
- The prior rights of the local (fisher) people and their natural technical knowledge should be respected and built upon.
- The developmental activity should involve the people who are already traditionally engaged in and are dependent upon it for their livelihood.
- It should be sustainable.
- It should respect the environment and eco-balance.
- There should be no cultural invasion by the outsiders.

3. 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 in or verging on a state of 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 Fishing Communities all over the world are under the threat of extinction.

So 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 WFF has declared November 21, the foundation day of the WFF, as World Fisheries Day. On this day, every year, all over the world actions, campaigns, studies etc will be organized with the view to protecting the fish resources, and the fishing communities through a sustainable small fisheries and to evoke public awareness.

Conclusion - The Challenges before us

We need to continue our struggles against all kinds of destructive gears and methods of fishing in order to conserve the fish resources. We need to step up struggles against Coastal Industrial Aquaculture and against all kinds of coastal pollution. We need to see that the fisher people who are solely depending on fishing should own the sea and the water bodies and gears. By legislation we should bring about this change. Only the skilled and small fisheries will be sustainable. The ocean is a living organism. The ocean is like the duck that lays golden eggs; but only one egg for a day. If you try to get all the eggs from the duck, the consequences are disastrous. The life of the planet and the dependent health and welfare of humanity must not be sacrificed to the greed of the few.



Novemer 21



World Fisheries day

**JUDGEMENT OF THE HON'BLE SUPREME COURT OF INDIA
IN THE CASE RELATED TO AQUACULTURE**

Ref: Writ Petition (Civil) No. 561/1994

Date of Judgement: 11.12.1996

**IN THE SUPREME COURT OF INDIA
CIVIL ORIGINAL JURISDICTION
WRIT PETITION (CIVIL) NO. 561 OF 1994**

S. Jagannath

... Petitioner

Versus

Union of India & Ors.

... Respondents

JUDGEMENT

Kuldip Singh J.

Shrimp (Prawn) Culture Industry is taking roots in India. Since long the fishermen in India have been following the traditional rice/shrimp rotating aquaculture system. Rice is grown during part of the year and shrimp and other fish species are cultured during the rest of the year. However, during the last decade the traditional system which, apart from producing rice, produced 140 kgs. of shrimp per hectare of land began to give way to more intensive methods of shrimp culture which could produce thousands of kilograms per hectare. A large number of private companies and multi-national corporations have started investing in the shrimp farms. In the last few years more than eighty thousand hectares of land have been converted to shrimp farming. India's Marine export weighed in at 70,000 tonnes in 1993 and these exports are projected to reach 200 thousand tonnes by the year 2000. The shrimp farming advocates regard aquaculture as potential saviour of developing countries because it is a short-duration crop that provides a high investment return and enjoys an expanding market. The said expectation is sought to be achieved by replacing the environmentally benign traditional mode of culture by semi-intensive and intensive methods. More and more areas are being brought under semi-intensive and intensive modes of shrimp farming. The environmental impact of shrimp culture essentially depends on the mode of culture adopted in the shrimp farming. Indeed, the new trend of more intensified shrimp farming in certain parts of the country - without much control of feeds, seeds and other inputs and water management practices - has brought to the fore a serious threat to the environment and ecology which has been highlighted before us.

This petition under Article 32 of the Constitution of India - in public interest - has been filed by S. Jagannathan, Chairman, Gram Swaraj Movement, a voluntary organisation working for the upliftment of the weaker section of society. The petitioner has sought the enforcement of Coastal Zone Regulation Notification dated February 19, 1991 issued by the Government of India, stoppage of intensive and semi-intensive type of prawn farming in the ecologically fragile coastal areas, prohibition from using the waste lands/wet lands for Prawn farming and the constitution of a National Coastal Management Authority to safeguard the marine life and coastal areas. Various other prayers have been made in the writ petition. This Court issued notice by the order dated October 3, 1994. On December 12, 1994, this Court passed the following order :-

'Ministry of Environment and Forests, Govt. of India issued a Notification dated February 19, 1991, under Clause (d) of Sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986 wherein it was declared that the coastal stretches of seas, bays, estuaries, creeks, rivers and backwater which are influenced by the tidal action (in the landward side) up to 500 metres from the High Tide Line (HTL) and the land between the Low Tide Line (LTL) and the HTL are Coastal Regulation Zone. The Central Govt. has imposed various restrictions in the said Notification. Mr. Mehta, learned advocate appearing for the petitioners states that despite the issue of the Notification unauthorised industries and other construction is being permitted by various States within the area which has been declared as Coastal

Regulation Zone. Meanwhile we direct all the respondent States not to permit the setting up of any Industry or the construction of any type on the area at least upto 500 metres from the sea water at the maximum High Tide. The above said area i.e. from the High Tide Level up to 500 metres shall be kept free from all construction of any type.

The Union of India and States/Union Territories of Gujarat, Maharashtra, Orissa, Kerala, Tamil Nadu, West Bengal, Goa, Pondicherry, Daman/Deu, Andaman/Nicobar and Lakshadweep have filed replies to the writ petitions. This Court on March 27, 1995 passed the following order:-

"This Public interest petition is directed against the setting up of Prawn farms on the coastal areas of Andhra Pradesh, Tamil Nadu & other coastal states. It is alleged that the coastal States are allowing big business houses to develop prawn farms on a large scale in the Ecologically fragile coastal areas of the States concerned in violation of Environment Protection Act, 1986 and the rules framed thereunder and various other provisions of law. It is also alleged that establishment of prawn farms on rural cultivable lands is creating serious environmental, social and economic problems for the rural people living along with the coastal bed specially in the east coast. Meanwhile, we direct NEERI, Nagpur through its Director to appoint an investigating team to visit the coastal areas of the States of Andhra Pradesh and Tamil Nadu and give its report to this Court regarding the various farms which are being set up in the said area. In case the investigating team finds that the ecologically fragile area is being environmentally degraded then it shall suggest the remedial measures in that respect. The NEERI team shall keep in view the Notification dated February 19, 1991 of the Ministry of Environment and Forests, Govt. of India, issued under the Environment Protection Act, 1986 and also the provisions of the Tamil Nadu Agriculture (Regulation) Act, 1995. The NEERI shall submit its report before April 30, 1995".

Pursuant to the above quoted order the National Environmental Engineering Research Institute, Nagpur (NEERI) submitted its report dated April 23, 1995 before this Court. This Court further directed NEERI to send an expert team to the coastal areas in other States and file its report within two months. The report was filed in this Court within the specified time. This Court on May 9, 1995 passed the following order:-

"This matter be listed for final hearing on 4th August, 1995. Meanwhile we direct that no part of agricultural lands and salt farms be converted into commercial aquaculture farms hereinafter. We further direct that no ground water withdrawal, be allowed for aquaculture purposes to any of the industries whether already existing or in the process of being set up. No further shrimp farms or any aquaculture farms be permitted to be set up in the areas in dispute hereinafter.

We direct the respective State Governments (the Collector concerned or any other Officer appointed by the Government) to provide free access through aquaculture units to the sea coast to the fishermen/tourists after hearing the parties concerned.

Mr. Mehta has contented that due to these farms occupying the most of the coastal areas it has become difficult for the villagers to search for fresh water. The State Govt. may examine this aspect and provide water by way of tankers wherever it is necessary. So far as the farmers in the State of Tamil Nadu are concerned they are all represented through Kapil Sibal and his team. We direct the State of A.P. to send a copy of the order of this Court, to all the aquaculture farms in the State of A.P. informing them that the matter shall be taken up by this Court for final hearing on 4th August, 1995. This may be done by the State of A.P. by the end of June, 1995.

We direct the Pondicherry Administration to send a copy of the order of this Court to all the aquaculture farms in Pondicherry informing them that the matter shall be taken up by this Court for final hearing on 4th August, 1995. This may be done by the Pondicherry Admn. by the end of June 1995.

We further direct the Superintendent of Police and the Collector of the areas concerned to see that the order of this Court specially the directions given are meticulously complied with by all the farms."

Before finally hearing this matter, this Court passed the following order on August 24, 1995:-

"We are of the view that it would be in the interest of justice to have full representation before us so far individual aqua-farms in various States/Union Territories are concerned. We, therefore, adjourn the hearing to October 17, 1995. Meanwhile, we direct the coastal States/Union Territory Governments through their learned counsel who are present in the Court, to issue individual notices to all the aqua-farms which are located in their respective territories. It may be stated in the notices that the same are being issued under the direction of this Court. It should also be specifically mentioned that if they want to be heard in these matters by this Court, they be present through their counsel/representatives in the Court, on the next date of hearing, which is October 17, 1995. We also direct the Marine Products Export Development Authority (MPEDA), through its counsel Mr. Harish N. Salve, to do the same exercise at its level also. Apart from that, we further direct all the State Governments/Union Territories to issue public notices in this respect in daily newspapers which have circulation in the coastal areas, informing the aqua-farms regarding the hearing of these matters in this Court, on October 17, 1995. This may be done on two consecutive days.

Notices and publication be completed within 3 weeks from today. Meanwhile, we direct all the State Governments/Union Territories not to give fresh licences/permission for setting up/establishment of any aqua-farm in their respective Territories till further orders."

Coastal Pollution, universally, is an emerging problem. So far as India is concerned it has already become a serious environmental problem. Besides direct dumping of waste materials in the seas, discharge through marine outfalls, large volumes of untreated or semi-treated wastes generated in various land-based sources/activities ultimately find way to the seas. The coastal waters directly receive the inland waters, by way of surface run-off and land-drainage, ladden with myriad of refuse materials - the rejects or wastes of the civilisation. Apart from inputs from rivers and effluent-outfalls, the coastal areas are subject to intensive fishing, navigational activities, recreations, ports, industrial discharge and harbours which are causative factors of water quality degradation to varying degrees. Contrary to the open sea, the changes in the quality of coastal waters, are much greater due to river discharges under tidal conditions.

With noticeable increase in marine pollution and the consequential decline in marine resources, serious concern was expressed in the United Nations' Conference on Human Environments in Stockholm (1972) attracting global attention towards the urgent need of identifying the critically polluted areas of the marine environments, specially in coastal waters, for urgent remedial actions. The Conference unanimously resolved that the littoral States should take early action at their National level for assessment and control of marine pollution from all sources and carry out systematic monitoring to ascertain the efficacy of the pollution regulatory actions taken by them. In the background of the Stockholm Conference and in view of 1982 Convention on the "Law of the Sea" defining jurisdiction of territorial waters, a model comprehensive Action Plan has been evolved under the United Nations' Environment Programme (UNEP). Keeping with the international commitments and in greater National Interest, the Government of India and the Governments of the coastal States are under a legal obligation to control marine pollution and protect the coastal-environments.

According to the facts placed on record by the Central Pollution Control Board (the Board) the coast line of India's mainland is about 6000 km long. Out of the total landmass of about 3.28 million sq. kms. nearly 0.13 million sq. kms of coastal land-belt (considering 25 km landward distance) girdles three sides of the Country's sea front which in turn underlays about 0.13 million sq. km sea-bed upto the territorial limit. The country being riverine, has 14 major, 44 medium and 55 minor rivers which discharge annually about 1986 thousand million cubic meters of water through land drainage into the seas transporting a wide range of pollutants generated by land-based activities. Nine out of fourteen major rivers meet the sea in the east coast (Brahmaputra through Bangladesh) and the remaining five in the west coast (Indus through Pakistan).

Besides land drainage, there are large number of marine coastal outfalls discharging directly or indirectly industrial and municipal effluents into the seas. Uncontrolled disposal of land-based waste into the seas, through rivers and effluent outfalls, is a major cause of pollution of coastal waters. There are nine coastal States and one Union

Territory (UT) in India namely, Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry (UT), Andhra Pradesh, Orissa and West Bengal. More than one-fourth of the total population of the country is settled in the coastal areas. The Board in its report regarding "Pollution Potential of Industries in Coastal Areas of India" dated November, 1995 gives the following data regarding aquaculture farms.

"The effluent generation from aquaculture farms in the east coast only, in absence of data on west coast farms, is to the tune of 2.37 million cubic meters per day out of which Andhra Pradesh has the lion share of about 2.12 million cubic meters per day. It may be noted that in all the States, in most cases the effluent discharge is indirect (through estuaries, creeks, canals, harbours). It may also be noteworthy that the effluents from aquaculture farms are discharged directly/indirectly to the coastal water practically without any treatment. For disposal of solid waste, on the other hand open dumping and land filling is a common practice.

In marine pollution control utmost importance has to be given to the beaches. The beaches and other areas of special interest are to be maintained aesthetically and at permissible levels of enteric bacteria. Protection of ecologically sensitive areas and land-sea interface resource areas is equally important. The Central Board for the Prevention and Control of Water Pollution (Central Board) in its report "coastal pollution control series COPOCS/1/1982" recommended as under:

"- the mangrove forest at Pichavaram, the bird sanctuary and forest areas at Point Calimere and Coral reef at Mandapam are ecologically sensitive areas warranting special watch and preservation.

- recreational coastal portions of some sectors of the stretch under investigation such as Marina and Elliot beaches at Madras, Mahabalipuram, Pondicherry beach at Pondicherry and Poompuhar at the confluence of the river Cauvery with the sea are to be maintained at appropriate quality level.

- Continuous monitoring of the coastal waters especially heavy metals and pesticides in the biota should be carried out to detect possible biomagnification of some toxic chemicals and to provide early warning."

The Central Board in its report "Coastal Pollution Control Series COPOCS/5/1986-8/" sought protection of the ecologically fragile areas in the following terms:-

"The mangrove forest and the wildlife sanctuary in Coringa Island, the Pulicat lake and the bird sanctuary at Nelapattu are the ecologically sensitive areas warranting special attention and protection. No industrial activity which may pose a danger to the ecosystem in these areas should be permitted.

At Pulicat Lake Area, Machilipatnam, Naupada and Ichapuram, salt pan irrigation is practised. No water polluting industry should be allowed nearby..

The domestic sewage and the industrial effluents entering the Kollem Lake through various drains be properly treated so that no pollutants enter the coastal waters through Upputeru drain,;

Shrimps are basically marine. Shrimps are also called Prawns. In commercial jargon, marine prawns are referred to as shrimps and freshwater ones as prawns. Prawns and shrimps are invertebrates and are decapod crustaceans. Sea is their home and they grow to adulthood and breed in the sea. The progeny start their life by drifting into estuaries and such other brackishwater areas for feeding. In about 4-6 months the larvae grow into adolescence and go back to their real home of birth, the sea.

Aquaculture has been practised for many centuries by small farmers and fisherfolk in Asia to improve their living conditions. However, there is a vast difference between the traditional methods and the new commercialised system. The traditional aquaculture, including shrimp, is usually small-scale, using low inputs and relies on natural tidal action for water exchange. In some countries, such as India, Bangladesh and Thailand, there is a tradition of rice/shrimp rotating, with rice grown part of the year and shrimp and other fish species cultured the rest of the year.

Chemicals, antibiotics and processed feeds are not used in the traditional method. In this low yield, natural method, the harvest is small but sustainable over long periods. It has no adverse effect on the environment and ecology. The modern method, on the other hand, is larger in scale and intensive or semi-intensive in nature. It is owned and operated by commercial and often foreign-owned companies which mainly export the shrimp. In intensive aquaculture, selected species are bred using a dense stocking rate. To maintain the very crowded shrimp population and attain higher production efficiency, artificial feed, chemical additives and antibiotics are used.

The Food and Agriculture Organisation (FAO) - an organ of United Nations Organisation (UNO) - published a report in April, 1995 on a Regional Study and Workshop on the Environmental Assessment and Management on Aquaculture Development. Copy of the report has been placed on record by Mr. Santosh Hegde learned counsel for the State of Karnataka. India was one of the 16 countries participated in the workshop. Dr. K. Alagarwami, Director, Central Institute of Brackishwater Aquaculture, Madras presented a paper titled "the current status of aquaculture in India, the present phase of development and future growth potential". (hereinafter called Alagarwami report). It has been published as an Annexure to the workshop-report published by the EAO. Para 5.1.2. of Alagarwami report gives various types of technologies adopted by the aquaculture industry in India. It would be useful to reproduce the same hereunder:-

"5.1.2. Types of technology - changes in technology with time

Traditional : Practised in West Bengal, Kerala, Karnataka and Goa, also adopted in some areas of Orissa. Coastal low-lying areas with tidal effects along estuaries, creeks and canals; impoundments of vast areas ranging from 2-200 ha in size. Characteristics: fully tidally-fed; salinity variations according to monsoon regime; seed resource of mixed species from the adjoining creeks and canals by autostocking; dependent on natural food; water intake and draining managed through sluice gates depending on local tidal effect; no feeding, periodic harvesting during full and new moon periods; collection at sluice gates by traps and by bag nets; seasonal fields alternating paddy (monsoon) crop with shrimp/fish crop (inter monsoon); fields called locally as bheries, pokkali fields and khazan lands.

Improved traditional : System as above but with stock entry control; supplementary stocking with desired species of shrimp seed (*P. monodon* or *P. indicus*); practised in ponds of smaller area 2-5 ha.

Extensive: New pond Systems ; 1-2 ha ponds; tidally fed; no water exchange, stocking with seed; local feeds such as clams, snails and pond-side prepared feed with fishmeal, soya, oilcake, cereal flour etc.; wet dough ball form; stocking density around 20,000/ha.

Modified Extensive : System as above; pond preparation with tilling, liming and fertilisation; some water exchange with pumpsets; pellet feeds indigenous or imported; stocking density around 50,000/ha.

Semi-intensive : New pond systems; ponds 0.25 to 1.0 ha in size; elevated ground with supply and drainage canals; pond preparation methods carefully followed; regular and periodic water exchange as required; pond aerators (paddle wheel) at 5 per ha; generally imported feed with FCR better than 1:1.5 or high energy indigenous feeds; application of drugs and chemicals when need arises; regular monitoring and management stocking density 15-25/m².

Intensive : Ponds 0.25-0.50 ha in size; management practices as above; 4 aerators in each pond; salinity manipulation as possible, Central drainage system to remove accumulated sludge; imported feed; drugs and chemicals used as prophylactic measures; strict control and management; stocking density 20-35/m².

Changes in technology: As already indicated, the initial concept and practice was to develop tide-fed systems, this slowly gave way to a pump-fed systems. Presently, the emphasis is on seawater based farming systems for *P. monodon* with a water intake system extending far into the sea with submerged pipelines, pier system and gravity flow. From sandy clay soils to the present coastal farms are located in sandy soils also with pre-page control provisions.

Alagarwami report further states as under:-

"The Ministry of Environment and Forests, Government of India, issued a Notification S.D. No.114(E) in 1991, under "The Environment (Protection) Act, 1986" declaring coastal stretches as Coastal Regulation Zones (CRZ) and regulating activities in the CRZ. This Notification has implications for coastal aquaculture particularly those activities within 500 m from the High Tide Line. No regulations to control the use of chemicals and drugs exist. Pollution Control Board general regulations on effluent discharges include hazardous substances, but they are not specific to aquaculture. In some regions, there is indiscriminate use of chemicals and pesticides, particularly in shrimp farms. Under the Notification of Union Ministry of Environment and Forests, each maritime State is expected to have its own coastal zone management plan, which would consider aquaculture zonation requirements along with shoreline development. The zone up to 500 metres from the waterline along the sea is restricted against any construction activity."

Alagarwamy report high lights various environmental and social problems created by the Coastal Aquaculture. The relevant part of the report is as under:-

Physical factors

Shrimp farming along the coastal area of the whole country is developing at a rapid rate. Huge cyclone protection dykes and peripheral dyke are constructed by the shrimp farmers. In many cases as in Kandleru creek (Andhra Pradesh), the farm areas are the natural drainage areas for floods. Due to physical obstruction caused by the dykes, the natural drain is blocked and flood water accumulates in the hinterland villages. Protests are being made by people in some of the villages against such dykes. The ponds are constructed right on the bank of the creeks without leaving any area for draining of flood water.

Right of passage of coastal fishermen

The shrimp farms do not provide access to the beach for traditional fishermen who have to reach the sea from their villages. As farms are located and entry is restricted, the fishermen have to take a longer route to the sea for their operations. This is being objected to by traditional fishermen.

Drinking water problems

The Corporate sector has purchased vast areas adjoining the villages which, in some cases, include drinking water public wells of the villages. The villagers cannot use these wells anymore as they are located in private land owned by the farmers. This is causing social problems.

Salinisation

It is reported that salinisation of land is spreading further landwards and the wells yield only saline water. In Tamil Nadu and Andhra Pradesh protests have been voiced against salinisation. Some of the socially conscious shrimp farm operators are providing drinking water to the affected villages by laying a pipeline from their own freshwater source wherever available. Apart from wells, the agricultural farms adjoining the shrimp farms are reported to be affected. However, there is increasing conversion of paddy fields as in the Bhimavaram area of Andhra Pradesh and even on the fringes of Chilka Lake into shrimp farms.

Mangrove areas

The status report on mangroves of India published by the Ministry of Environment and Forests (001, 1987) is shown in Table 5. In the earlier years, vast areas of mangrove were destroyed for agriculture, aquaculture and other uses. In the more recent years, the mangroves have been protected by law.

However, the satellite imagery pictures show destruction of mangroves in Krishna and Guntur Districts of Andhra Pradesh for construction of shrimp farms. Gujarat State is planning major shrimp culture programmes in the Narmada region adjoining Gulf of Cambay. Protection of mangroves should receive attention".

Alagaraswami report further indicates that the demand for shrimp seed is growing with the expansion of shrimp culture and hatchery production is unable to meet it. Exploitation of natural seed resources is growing unabated, particularly in West Bengal, Orissa and Andhra Pradesh. Large quantity of fry by-catch are discarded by the fry collectors because their value is insignificant. The report states elimination of fry in the fry by-catch is not only detrimental to the predators thriving on them, but it also creates an ecological imbalance".

Agitations by the environmentally conscious people of the coastal areas against polluting aquaculture technologies has been noticed by Alagaraswamy report as under:-

People's awareness

People in general have become aware of the environmental issues related to aquaculture. A current case in point is the agitation against large commercial farm coming up in Chilka Lake (Orissa). People have demanded an EIA of the project. People in Nellore District in Andhra Pradesh have raised environmental issues and called for adoption of environmentally-friendly technologies and rejection of "imported" technologies from regions which have suffered environmental damage. Protests have been voiced by the local people in Tuticorin area in Tamil Nadu. Both print and visual media take up environmental issues with a great deal of zeal. This appears to augur well for regulating coastal shrimp farming with eco-friendliness".

The intensive farming technique and the pollutants generated by such farming have been noticed by Alagaraswamy in the following words:

"In intensive farming, stocking densities are on the increase. In one instance, *P. indicus* was stocked at 70 post larvae/m², almost reaching the levels of Taiwan before the disease outbreak in 1988. This necessitates heavy inputs of high energy feeds, the use of drugs and chemicals and good water exchange. The organic load and accumulation of metabolites in the water drained into the sea should be very high as could be seen from the dark-brown colour and consistency of the drain water."

The Alagaraswamy report further states that paddy fields are being converted to shrimp farms, as in some parts of Andhra Pradesh (e.g. Bhimavaram). Some paddy lands along the fringe of Chilka lake have been used for shrimp farming.

The report suggests future management strategies - quoted hereunder - for farms and Government in resolving any conflicts or environmental problems:-

"As shrimp farming is developing fast, the following strategies have been developed for avoiding problems which have arisen in other countries (or reducing their impact):

1. India needs to boost production of shrimp through aquaculture with environment and development as a unified motto.
2. Since the area available is vast, this can be achieved by application of environmentally- friendly technologies for optimal production rates against maximum production rates.
3. Sustainable development Of shrimp aquaculture should be guided by the principles of social equity, nutritional security, environmental protection and economic development with a holistic approach to achieve long-term benefits.
4. New definitions and parameters of extensive, semi-intensive and intensive culture systems as suited to Indian conditions and Government policies rather than copying models of other countries (particularly those which have rushed and suffered) and the development of guidelines thereof.
5. Diversification of species among shrimps and to integrate fish wherever possible to suit the different agro-climatic and aquatic zones of the country.

6. Careful development of Coastal Zone Management Plans under CRZ to meet the requirements of coastal aquaculture development plans with some flexibility (as required) for specific areas.
7. Identification of aquaculture zones or careful consideration and provision of buffer zones against possible impact on other land uses also intermediate buffer zones within aquaculture zones.
8. Consideration of the living, social and vocational needs of local people in villages/towns in aquaculture plans in order to avoid conflicts.
9. Development of sets of regulations on use/ban of drugs and chemicals, including antibiotics, in hatcheries and farms; on abstraction of groundwater and salinisation problems.
10. Development of standards for effluent discharge as applicable to local conditions.
11. Development of viable technologies for secondary aquaculture to gainfully utilise nutrient enriched farm effluents and encourage farmers to adopt such technologies with the necessary support.
12. In view of the fact that coastal farms are located generally in remote areas and cannot be monitored by external agencies on a reasonably effective basis farmers/group of farmers should equip themselves with facilities to monitor possible important parameters at periodic intervals and maintain such records for their own benefits and for production to inspecting agencies.
13. Brackishwater Fish Farmer Development Agencies to be strengthened in all respects including environmental management and disease diagnosis, prevention and control, through appropriate training and setting up district level laboratories for essential analytical and diagnostic work.
14. Manpower development at managerial and technical level.
15. Research-extension-farmer group meet for appropriate technologies and feedback.
16. Effective monitoring and enforcement of regulations, use of nets and fishing in any specified water for a period not exceeding two years. Thus, legal provisions were made on fisheries matters in India nearly a century ago.

Alagarwami's report identifies salinisation of land, salinisation of drinking water wells, obstruction of natural drainage of flood water, passage of access to sea by fishermen and public, self-pollution of ponds, pollution of source water, destruction of mangroves, land subsidence and pressure on wild seed resources and consequences thereof as environmental issues in shrimp culture. Para 6.2. of the report lists the following preventive measures:-

"6.2. PREVENTION

- (i) Aquaculture units causing harmful changes to the environment and
 - (ii) Non-aquaculturists from modifying the environment to the detriment of aquaculture production units.
1. Enforcement of legal provisions under the relevant Acts of the Government.
 2. CRZ regulations to consider specific needs of aquaculture as an expanding production activity and the Coastal Zone Management Plans of the States/Union Territories to carefully plan taking into consideration present situation and future needs.
 3. Early development of regulations on permissible levels of most significant parameters of water quality keeping in view the limited intervention of aquaculture for promoting growth of stock in the medium.
 4. Environment Impact Assessment (EIA) and Environmental Monitoring Plan (EMP) to be insisted upon for larger units and self assessment/monitoring for smaller units, subject to verification at inspection.
 5. Zonations and appropriate siting of farms; not to proliferate indiscriminately but to develop in a planned manner for sustaining production (Alagarwami, 1991).
 6. More hatcheries to be encouraged and supported to meet seed demand to reduce pressure on wild seed resources.
 7. Feed mills to maintain quality of feeds and to ensure water stability as required; sell external inspection mechanism to be introduced to maintain specific standards.
 8. Mangrove forests not to be touched for aquaculture purposes."

The FAO report - based on Alagarwami report states the impact of aquaculture on the environment in India, as under:-

"The impact of aquaculture on the environment are as follows:

By shrimp culture : Loss of agricultural land and mangroves, obstruction of natural drains, salinisation, destruction of natural seed resources, use of drugs and chemicals and extraction of groundwater, Social conflicts have arisen."

Alagarwami report - quoted by us extensively is an authentic document relating to the functioning of shrimp culture industry in India. It has rightly been suggested in the report that sustainable development should be the guiding principle for the shrimp aquaculture. The industry must develop under the unified motto of Environment and Development. Environmentally-friendly-technologies are to be adopted with a view to achieve optimal production. The report calls for a ban on the use of drugs, chemicals and antibiotics in the shrimp culture farms. The report clearly indicates that except the traditional and improved traditional, the other methods of shrimp aquaculture are polluting and as such may have an adverse impact on the environment.

Mr. M.C. Mehta, learned counsel for the petitioner, has taken us through the NEERI reports and other voluminous material on the record. He has vehemently contended that the modern other than traditional - techniques of shrimp farming are highly polluting and are detrimental to the coastal environment and marine ecology. According to him only the traditional and improved traditional systems of shrimp farming which are environmentally friendly should be permitted. Mr. Mehta has taken us through the Notification dated February 19, 1991 issued by the Government of India under Section 3 of the Environment (Protection) Act, 1986 (the Act) (CRZ Notification) and has vehemently contended that setting up of shrimp farms on the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters upto 500 meters from the High Tide Line (HTL) and the line between the Low Tide Line (LTL) and the HTL is totally prohibited under Para 2 of the said notification. The relevant part of the notification is as under:

"2. Prohibited Activities:

"The following activities are declared as prohibited within the Coastal Regulations Zone, namely:

- (i) Setting up of new industries and expansion of existing industries, except those directly related to water front or directly needing fore-shore facilities.
- (ii) Manufacture or handling of storage or disposal of hazardous substances as specified in the Notifications of the Government of India in the Ministry of Environment & Forests No. S. O.59.1(E) dated 28th July, 1989, S. O.966(E) dated 27th November, 1989 and GSR 1037 (E) dated 5th December, 1989;
- (iii) Setting up and expansion of fish processing units including warehousing (excluding hatchery and natural fish drying in permitted areas)
- (v) Discharge of untreated wastes and effluent from industries cities settlements. Schemes shall be implemented by the concerned authorities phasing out the existing practices, if and within a reasonable time period not exceeding three years from the date of this notification.
- (viii) land reclamation, bunding or disturbing natural course of sea water with similar obstructions, except those required for control of coastal erosion and maintenance clearing of waterways, channels and for prevention of sandbars and all except for tidal regulators. Storm water drains and structures for prevention of salinity ingress and for sweet water recharge.
- (x) harvesting or drawal of ground water and construction of mechanisms therefore with 200 m of HTL; in the 200 m to 500 m zone it shall be permitted only when done manually through ordinary wells for draining, horticulture, agriculture and fishing."

According to Mr. Mehta the shrimp culture industry is neither "directly related to water front" nor "directly needing fore-shore facility" and as such is a prohibited activity under Para 2(1) of the CRZ Notification. Mr. Kapil Sibal on the other hand has argued that a shrimp farm is an industry which is directly related to water front and cannot exist without fore-shore facilities. Relying upon Oxford English Dictionary Mr. Sibal contended that "water front" means land abutting on the sea, that part of a town which fronts on a body of water. According to him "Foreshore" in terms

of the said dictionary means the part of the shore that lies between the High Tide and the Low Tide. According to Webster Comprehensive Dictionary, International Edition the expression "foreshore" means "that part of a shore uncovered at low tide".

It is, thus, clear that the part of the shore which remains covered with water at the High Tide and gets uncovered and become visible at the Low Tide is called "foreshore". It is not possible to set up a shrimp culture farm in the said area because it would completely sub-merge in water at the High Tide. It is, therefore, obvious that, foreshore facilities are neither directly nor indirectly needed in the setting up of a shrimp farm. So far as "water front" is concerned it is no doubt correct that a shrimp farm may have some relation to the water front in the sense that the farm is dependent on brackishwater which can be drawn from the sea. But on a close scrutiny, we are of the view that shrimp culture farming has no relation or connection with the 'water front' though it has relation with brackish water which is available from various water-bodies including sea. What is required is the "brackish water" and not the 'water front'. The material on record shows that the shrimp ponds constructed by the farms draw water from the sea by pipes, jetties etc. It is not the 'water front' which is needed by the industry. What is required is the brackish water which can be drawn from any source including sea and carried to any distance by pipes etc. The purpose of CRZ notification is to protect the ecological fragile coastal areas and to safe guard the aesthetic qualities and uses of the sea coast. The setting up of modem shrimp aquaculture farms right on the sea coast and construction of ponds and other infrastructure thereon is per se hazardous and is bound to degrade the marine ecology, coastal environment and the aesthetic uses of the sea coast. We have, therefore, no hesitation in holding that the shrimp culture industry is neither "directly related to water front" nor "directly needing foreshore facilities". The setting up of shrimp culture farms within the prohibited areas under the CRZ notification cannot be permitted.

Para 2(viii) of the CRZ Notification quoted above, prohibits the bunding or disturbing the natural course of seawater with similar obstructions. A bund is an embankment or dyke. Alagarwami report in para 4.3.2 (quoted above) has specifically mentioned that huge cyclone protection dykes and peripheral dykes are constructed by the shrimp farmers. The report further states that due to physical obstruction caused by the dykes the natural drain is blocked and flood water accumulated in the hinterland villages. The report notices that the shrimp ponds are constructed right on the bank of the creeks without leaving any area for draining of flood waters. A shrimp farm on the coastal area; by itself operates as a dyke or a bund and leaves no area for draining of the flood waters. The construction of the shrimp farms, therefore, violate clause (viii) of para 2 of the CRZ Notification. In view of the findings by the Alagarwami report it may be usehil to hold an inquiry/investigation to find out the extent of loss occurred, if any, to the villages during the recent cyclone in the State of Andhra Pradesh because of the dykes constructed by the shrimp farmers.

Annexure-I to the CRZ Notification contains regulations regarding Coastal Area Classification and Development. The coastal stretches within 500 m or HTL of the landward side are classified into four categories, namely, CRZ-I, CRZ-II, CRZ-III and CRZ IV. Para 6(2) of the CRZ Notification lays down the norms for the development or construction activities in different categories of CRZ areas. In CRZ-III Zone agriculture, horticulture, gardens, pastures, parks, playfields, forestry, and salt manufacture from sea level may be permitted upto 200 m from the high tide lint. The aquaculture or shrimp farming has not been included as a permissible use and as such as prohibited even in this zone. A relevant point arises at this stage. Salt manufacturing process like the shrimp culture industry depends on sea water. Salt manufacturers can also raise the argument that since they are wholly dependent on sea-water theirs is an industry "directly related to water front" or "directly needing fore-shore facilities". The argument stands negatived by inclusion of the salt manufacturing industry in CRZ-III Zone under para 6(2) of the CRZ notification. Otherwise it was not necessary to include the industry therein because it could be set-up any where in the coastal regulation zone in terms of para 2(1) of the CRZ Notification. It is, thus obvious that an industry dependent on sea water cannot by itself is an industry, "directly related to water front" or "directly needing fore-shore facilities". The shrimp culture industry, therefore, cannot be permitted to be set up any where in the coastal regulation zone under the CRZ notification.

We may examine the issue from another angle. Sea coast and beaches are a gift of the nature to the mankind. The aesthetic qualities and recreational utility of the said area has to be maintained. Any activity which has the affect of degrading the environment cannot be permitted. Apart from that the right of the fishermen and farmers living in the coastal areas to have their living by way of fishing and farming cannot be denied to them. Alagarwami report

states that "the shrimp farms do not provide access to the beach for traditional fishermen who have to reach the sea from the villages. As farms are located and entry is restricted the fishermen have to take a longer route to the sea for their operation. This is being objected by traditional fishermen".

The Alagarwami report further highlights drinking water problem, salinisation and destruction of mangrove by the shrimp culture industry. The relevant paragraphs have already been quoted above. The increase of stocking densities, heavy inputs of high energy feeds, use of drugs and chemicals result in the discharge of highly polluted effluent into the sea, creeks etc. and on the sea coast by the shrimp farms. It is, therefore, not possible to agree with Mr. Sibal that commercial shrimp farming has no adverse affect on environment and coastal ecology.

We may at this stage refer to the two investigation reports dated April 23, 1995 and July 10, 1995 by NEERI regarding the Ecological Fragile coastal areas of India.

The report dated April 23, 1995 states that a 13 member team of scientists, lead by Dr. A. S. Bal and Dr. S. K. Kaul inspected the shrimp farms situated on the ecological fragile coastal areas in the States of Andhra Pradesh and Tamil Nadu between April 10 and April 19, 1995. It is further stated that the coastal areas in the Union Territory of Pondicherry were also inspected by the team. Regarding the CRZ Notification, the report states as under:-

"The MEF's notification dated February 19, 1995 stipulates that the aquaculture farms on the coastal areas should not be constructed within 500 m from the high tide line (HTL) of the seas. The hatcheries, however, may be constructed between 250 and 500 m from HTL of the sea.

The inspection team observed during field investigations that the MEF's norms for location of aquaculture and hatcheries have been violated in the States of Andhra Pradesh, Tamil Nadu and the Union Territory of Pondicherry. There is an urgent need to ensure scrupulous implementation of the provisions made in the MEF's notification dated February 19, 1991 in the States and Union Territory inspected by the team. In addition, the damage caused to the land and water ecosystems by coastal aquaculture activity, as detailed in the report, must be restored to its original ecological State. The case for eco-restoration of the coastal fragile area must be borne by individual entrepreneurs of the coastal aquaculture farms in keeping with the Polluter-Pays principle. Further, no activity of commercial coastal aquaculture should be undertaken even beyond 500 m HTL unless a comprehensive and scientific Environmental Impact Assessment (FIA) Study has been conducted by the entrepreneur, and the Environmental Management Plan approved by the respective State Department of Environment, Pollution Control Board, Shore Development Authority, and also by the Ministry of Environment and Forests. Appropriate terms of reference for FIA have been incorporated in the report."

Regarding the socio-economic assessment of aquaculture in the area, the report gives the following finding:-

"A socio-economic assessment of aquaculture in the ecologically fragile coastal areas in the States of AP and TN has been conducted by the NEERI team. This assessment, detailed in the report, indicates that the cost of ecological and social damage far exceeds the benefits that accrue out of coastal aquaculture activities."

The adverse impacts of aquaculture farming on the environment and the ecologically fragile areas in the States of Andhra Pradesh, Tamil Nadu and Union Territory of Pondicherry have been stated in the report as under:-

"3.0 Observations on the Impacts of Aquaculture Farming on Ecologically Fragile Areas in States of AP, TN and Union Territory of Pondicherry.

Coastal aquaculture units are situated within 500 m of High Tide Line of the sea. This is not in consonance with the MEF's notification dated February 19, 1991.

It is a common practice to convert agricultural land, and land under salt production, into coastal aquaculture units which infringes the fundamental rights to life and livelihood.

Conversion of agricultural farms and salt making lands into commercial aquaculture farms is rampant in the fragile coastal areas of Andhra Pradesh, Tamil Nadu and Union Territory of Pondicherry.

Brackish aquaculture units have been installed in deltaic regions which is an ecologically unsound practice.

Natural saline canals which travel from sea to the mainland are being used for brackish aquaculture farming. The flow of the natural saline canals is being obstructed due to prawn farming activity which has resulted in the spread of brackish water over agricultural farms resulting in loss of agricultural lands, and potable water.

Villages situated along the sea coast, deltaic regions, and natural saline canals are under threat due to diversion of land to aquaculture farms.

Traditional fishermen have lost their landing grounds for fish catch.

Coastal aquaculture has resulted in loss of mangrove eco-systems which provide protection against cyclones and other natural hazards and which provide natural habitats for spawning of marine biota. Indiscriminate destruction of mangrove areas in and around the creeks, estuaries, and sea has resulted in loss of natural breeding grounds for shrimps.

Natural Casuarina plantations have also been destroyed. This may result in increasing damage from cyclones and intrusion of saline water into mainland.

Coastal aquaculture farms have not been scientifically designed and located, resulting in excessive ecological damages.

No proper peripheral drainage has been provided around the aquaculture farms.

The saline water intake and effluent discharge points from aquaculture farms are located in close vicinity, resulting in contamination of feed water to the aquaculture units threatening their productivity.

Three types of saline water supply Systems are in vogue for the aquaculture farming, viz.

- direct pumping from the sea, creek, and estuary
- direct pumping from deep sea with jetties
- using high tides of sea for carrying saline water through excavated canals.

These activities for feed water supply to the aquaculture ponds have resulted in

- loss of fish catch (except in the case of feed water supply through sea canal system)
- loss due to damage of fishing nets
- degradation of fragile coastal land,

Large commercial aquaculture farms have installed fencing in and around the farms resulting in blockage of free access for the fishermen to the sea shore.

The wastewater discharge from the aquaculture farms released into the creeks is not properly flushed out of the creek during low tides thereby leads in the accumulation of pollutants in the creek, affecting the quality of intake water to aquaculture farm with concomitant loss in productivity, and damage to creek ecosystem.

Disappearance of the native fish species due to increase in salinity of the creek water has been observed by the team, and reported by the fishermen. Increase in salinity has also reduced the ingress of shrimp seedlings in the creek.

Indiscriminate catch of natural shrimp seedlings from the coastal waters, creeks and estuaries has resulted in reduction of their availability which in turn has forced the commercial aquaculture farmers to import the seeds.

Unscientific management practices adopted by the commercial aquaculture farmers, and improper design of aquaculture farms including inadequate drainage systems have resulted in skin, eye, and water borne diseases in the contiguous population.

Commercial aquaculture farm owners have not contributed to any social infrastructure facilities for the villagers.

Employment avenues of the contiguous population have considerably reduced due to the commercial aquaculture farming. The unemployed villagers are seeking employment in nearby towns and cities.

Owners of the commercial aquaculture farms are using various means to encroach upon the Government lands and also forcing the agricultural land owners/salt making villagers to sell their lands. In addition, the fishermen are also being forced to migrate to other coastal areas.

Regarding the socio-economic status of the ecologically fragile coastal areas in the States of Andhra Pradesh and Tamil Nadu, the report states as under:

"During the inspection of the aquaculture units located on the Ecologically Fragile Coastal Areas of AP and TN, the inspection team collected data and information, and discussed the issues related, to socio-economic status of the affected people with the farmers, fishermen, NGOs, and Government officials. The basic socio-economic issues are presented in Table 4.1 which also lists the parametric values in the assessment of the damage caused by the aquaculture units located in the Ecologically Fragile Coastal Areas. Tables 4.2 and 4.3 present the socio-economic assessment of aquaculture in the Ecologically Fragile Coastal Area of the States of AP and TN. Tables 4.2 and 4.3 bring forth that the damage caused to ecology and economics by the aquaculture farming is higher than the earnings from the sale of coastal aquaculture produce."

The NEERI has, thus, given a positive finding that the damage caused to ecology and economics by the aquaculture farming is higher than the earnings from the sale of coastal aquaculture produce. The finding is based on the assessment keeping in view fourteen parameters listed in Tables 4.2 & 4.3 regarding the States of Andhra Pradesh and Tamil Nadu respectively. The parameters taken into consideration are land, equivalent wages for the farmers to be earned, equivalent amount of agricultural produce (rice, husk), loss due to cutting of casuarina in terms of fuel loss in terms of grazing grounds, loss involving diseases, loss caused by cyclones due to cutting of casuarina forests, loss due to desertification of land, loss in terms of potable water, total loss due to mangrove destruction, loss in fishing income, loss due to damage of fishing nets and man-days, lost due to non-approachability to seacoast. These losses are computed in money and are then compared with the total earnings from the sale of coastal aquaculture produce. On the basis of the assessment of socio-economic status of aquaculture in a systematic manner the NEERI has reached the conclusion that the damage caused to ecology and economics by the aquaculture farming is higher than the earnings from the sale of coastal aquaculture produce.

Paras 6.1, 6.2 and 6.3 of the report clearly show the environmental degradation caused by the shrimp culture farming by its adverse impact on surface water, contamination of soil and ground water and destruction of mangrove vegetation. The said paragraphs are reproduced hereunder:-

"6.1 Impact on Surface Waters

Mangrove vegetation is important in protecting marine and terrestrial ecosystem. This vegetation is also important as it removes the pollutants like carbon, nitrogen, phosphate and other nutrients, as also certain

toxic compounds. The importance of mangrove plants especially *Vetiveria zizanioides* is known in reducing the impact of pollution due to discharge of aquaculture pond effluents, and the Cavay Delta Farmers are now propagating the cultivation of this species in estuaries. Mangrove vegetation also acts as a barrier of floods, and provides spawning grounds and nesting places for fishes; it also supports avian fauna (birds) thus maintaining the natural ecosystem.

The observations on the water quality in the aquaculture ponds show that the pond water harbours a dense algal bloom compared to the water in estuaries, creeks or sea indicating eutrophic nature of pond effluent. When water in large volumes, from the ponds is discharged during flushing of ponds, in a creek or estuary, the pollutants remain stagnated in the estuary or near-sea coast due to the typical tidal activity in creeks. As a result, the raw water source to the ponds gets contaminated in course of time. The wastewater discharge from the ponds warrant proper treatment before discharge. Uncontrolled discharge of wastewater triggers a series of deleterious impacts, e.g.

- With the increase to eutrophication levels, there is a shifting in dominance of phytoplankton flora in pond effluent from diatoms to blue-green algae. Decomposition of dead blue-green algae may lead to the generation of toxic substances, e.g. ammonia, hydrogen sulphide etc. Further, some of the blue-greens also excrete biotoxins in large quantities which are toxic to aquatic animals, i.e. prawns in ponds or fishes in estuaries or coastal waters. Large amount of blue-green algae was recorded by the inspection team in Sirkali area (e.g. S & S Industries & Enterprises Ltd.; High Tide Sea farms) and Killai area (Aqua Gold Shrimp Farm; MRV Aqua Farm; Mohi Aqua Farm). The presence of *Oscillatoria*, *Microcystis* and some other filamentous blue-green algae is undesirable in the pond effluent as they clog the gills of fish.

- The suspended solids released from the ponds are laden with unconsumed food and other organic contaminants, Accumulation of these organics in the intake water creates problems in the intake water quality when the intake and discharge ponds are in close proximity.

6.2. Contamination of soil and ground water

The shrimp farms are constructed well above the ground levels. Seepage of pond effluent to the surrounding fields was noted by the Inspection team in a number of farms. Seepage of pond culture deteriorate the soil quality of the adjoining aquaculture fields. This has also contaminated potable water in surrounding villages.

Deterioration of ground water quality in villages that over one km away from the pond Sites was not noticed. This observation is based on analysis of bore well water at three sites by the inspection team. This observation justified the locational constraints on aquaculture farms in coastal areas.

6.3. Destruction of Mangrove vegetation

The inspection team noticed destruction of mangrove vegetation at most of the prawn farming Sites for the development of shrimp farms.

Significant destruction of mangrove forest was observed near the Aqua Gold shrimp farm at village Vellar in Killai Taluk of South Arcot district similarly on Pichavarum estuary in village Pichavaram in Killai Taluk of South Arcot district of TN, the shrimps farms are constructed by clearing mangrove vegetation. Mangrove vegetation in Kuchipalam village is also facing threat due to the expansion of prawn farming activity.

The final conclusion and recommendations are in para 6 of the NEERI report which is as under.-

"8.0 Conclusions and Recommendations on the attenuation of the Impact of Aquaculture farm on Ecologically Fragile Areas in States of AP, TN and Union Territory of Pondicherry.

Socio-economic assessment of aquaculture in the ecologically fragile areas in the States of AP and TN reveals that the cost of ecological and social damage far exceed the benefits that accrue out of the coastal aquaculture activities.

The MEF's norms for location of aquaculture and hatcheries have been violated in the States of AP, TN., and Union Territory of Pondicherry.

The current practice of installation of coastal aquaculture farms within 500 m HTL violates the fundamental rights and livelihood of people in the States AP and TN and the Union Territory of Pondicherry.

The State of AP has adopted twenty point guidelines as adhoc measures for management of aquaculture in the district of Nellore. These guidelines have not been made mandatory in the State of AP as a whole. Also, these guidelines do not address all socio-economic, and ecological impacts on coastal habitats.

The State Government of TN has enacted a Bill to provide for the regulation of coastal aquaculture on April 10, 1995, This Bill is not in consonance with the MEF's notification dared 19, 1991 as it allows the construction of aquaculture units within 500 m of HTL of the sea.

The cost of eco-restoration of the coastal fragile area must be borne by the individual entrepreneur of the commercial aquaculture farms in keeping with the polluter-pays principle.

No commercial coastal aquaculture activity should be undertaken even beyond 500 m HTL unless a comprehensive and scientific environmental impact assessment (EIA) study has been conducted by the entrepreneur, and the environment management plan (EMP) approved by the respective State Department of Environment, Pollution Control Board, Shore Development Authority, and also by the Ministry of Environment and Forests.

Agricultural lands are being converted into commercial aquaculture farms, which causes unemployment to the landless labourers and also in loss of cultivable land.

Commercial aquaculture farms are being installed near the cultivated lands and the salt water from the farms damages the productivity of the adjoining lands.

Groundwater also gets contaminated due to seepage of impounded water from the aquaculture ponds.

Desertification of cultivable land is on the increase due to salinity intrusion. Due to commercial aquaculture farms, there is a loss of

- mangrove ecosystems
- casuarina plantations
- grazing grounds for cattle
- potable water to contiguous population
- fish catch
- fishing nets
- agricultural produce
- manpower loss due to non-approachability of fishermen to sea shore directly.

There is a perceptible increase in the diseases of skin and eye, and water borne diseases in the contagious population.

The designs of the aquaculture farms are inadequate. No provision has been made for wastewater treatment facility enabling recycling and re-use of wastewater.

Prohibition on conversion of agricultural lands and salt farms into commercial aquaculture farms must be enforced with immediate effect.

No groundwater withdrawal must be allowed for aquaculture purposes.

Free access through aquaculture unit to the sea coast must be provided to the traditional fishermen.

No aquaculture farm based on brackish water should be installed on inland brackish water bodies.

Wild seed collection from creek and sea must be prohibited. Seed must be procured from hatcheries. If seed collection is noticed it must immediately be seized and dumped back into the creek.

An eco-restoration fund must be created by collecting the stipulated fees from the owners of aquaculture farms. In addition, one per cent of total export earnings per annum must also be collected from commercial aquaculture farm owners and used for rejuvenation of coastal eco-system with special reference to plantation of mangroves and common ecologically sensitive zones. The wastewater treatment system with reuse and recycle must be installed by all units. The smaller units can form a co-operative and treat their water through common effluent treatment plant. The aquaculture units must be closed down if the wastewater treatment system is not functioning to its design efficiency.

The second NEERI report dated July 10, 1995 states that a 19 member team of scientists led by Dr. A. S. Ball and Dr. S. N. Kaul inspected the shrimp farms situated on the ecologically fragile coastal areas in the States of West Bengal, Orissa, Kerala, Karnataka, Goa, Maharashtra and Gujarat during May 20 and June 10, 1995. The summary of salient comments in the report regarding aqua-farming in the State of West Bengal is as under:-

- organic pollution in creeks and estuaries with respect to BOD
- microbiological deterioration of water quality
- accumulation of organic carbon and heavy metals in the sediments of shrimp farms
- Shannon Weaver index values less than 3 indicate organic contamination
- borewell water characteristics near M/s. Index Port Ltd., Sarberia, Basanti, North 24-Paraganas, show intrusion of salinity in drinking water source
- conversion of land and traditional fish farm at M/s. Index Port Ltd., North 24-Parganas
- conversion of land, traditional fish farm, and mangrove plantation at M/s. Sundarban Aquatics, South 24-Parganas
- violation of CRZ regulations regarding high tide line (HTL) has taken place at M/s. Sundarban Aquatics, South 24-Paraganas. In addition, violations of CRZ for setting up the aquafarm on creeks have taken place at the following places:
 - - M/s. Index Port Ltd., North 24-Parganas
 - - M/s. Sundarban Aquatics, South 24-Paraganas
- All shrimp farms developed by BWFD at Ramnagar, Midnapore."

The comments regarding the aqua-farming in the State of Orissa by the NEERI team are as under:

- "Organic pollution in creeks and estuaries with respect to BOD
- deterioration of microbiological water quality
- accumulation of organic carbon and heavy metals in the sediments of shrimp farms
- Shannon Weaver index values less than 3 indicate organic contamination
- characteristics of borewell water samples near M/s. Sundeep Aquatics, District Bhadrak and M/s. Suryo Udyog Pvt. Ltd., District Balasore, show intrusion of salinity into drinking water
- conversion of cultivable land for the establishment of aquafarms-hatcheries in all districts-
- violation of CRZ regulations by all aquafarms on creeks in the districts of Balasore and Bhadrak. Hatcheries have been constructed/under construction within 200 m of high tide line (HTL) in contravention of CRZ regulations."

The status of aqua-farming in the State of Kerala as indicated in the NEERI report is as under:-

"The comments on aquafarming in the State of Kerala are presented in the footnotes of Tables 2.2.1.2 through 2.2.1.7. Summary of the salient comments is given hereunder:

- organic pollution in river, creeks and estuaries
- deterioration of microbiological water quality
- accumulation of organic carbon and heavy metals in the sediments of shrimp farms
- Shanon Weaver index values less than 3 indicate organic contamination
- well water characteristics in the vicinity of M/s. Agalapuzha Aquafarm, Kozhikode show the intrusion of salinity in drinking water source
- conversion of land and traditional fish farm by MIs. Vasu Aquafarms at Kozhikode
- conversion of land, traditional fish farm, and mangrove plantation by MIs. West Coast Aquafarms Irinavu, Kannur
- violation of CRZ regulations regarding the location of aquafarms on creeks has taken place at the following sites
 - M/s. Consolidated Aquafarm, Poyya, Trissur
 - M/s. Jaladhi Aquafarm, Cherchi
 - M/s. Keetodiyal Aquafarm, Arookutty, Alleppey
 - M/s. Mejovi Fisheries, Iranavu, Kannur.

The report further indicates the status of aqua-culture in the State of Karnataka as under:

- Organic pollution in river, creeks and estuaries.
- Shanon Weaver index values less than 3 indicate organic contamination.
- well water characteristics in vicinity of M/s. Raja Ram Bhat Aquafarm, Hanmay, Kumta show the intrusion of salinity in drinking water source.
- conversion of agricultural land into shrimp farms was observed at
 - M/s. Popular Aquafarm, Iallur, Kundapur
 - M/s. Raja Ram Bhat Aquafarm, Hanmay, Kumta
 - M/s. Shri Arya Durga Aquafarm, Karwar
- destruction of mangrove vegetation by M/s. Popular Aquafarm, Iallur, Kundapur was observed by the inspection team
- violation of CRZ regulations by aquafarms situated on the creek of Kazadi river at Kundapur, Hanmay creek at Kumta, and Aganashini creeks were noted by the inspection team."

The comments of NEERI report regarding aqua farms in the State of Goa are as under:

- "organic pollution in river, estuary and discharges from ponds
- Shanon Weaver index values less than 3 indicate organic contamination
- well water characteristics in vicinity of M/s. Govt. Prawn Farm, Choraho indicate salinity intrusion
- conversion of agricultural land into shrimp farm was observed by the inspection team at M/s. Sky Pak Aquafarm Ltd., Pahyam, Goa
- violation of CRZ regulations by all the aquafarms on the creeks, viz. Masem creek at Kankun, and Chahora at Pernem were observed by the inspection team."

Summary of the salient comments on aquaculture in the State of Maharashtra is as under:

- "organic pollution in river, estuary and discharges from ponds
- microbiological deterioration of water quality
- accumulation of organic carbon and heavy metals in the sediments of shrimp farms
- Shanon Weaver index values less than 3 indicate organic contamination
- conversion of agricultural land into shrimp farms
- violation of CRZ regulations regarding location of shrimp farm on creeks, viz. Dharamtar, Satpati, and Dahanu."

The comments regarding the State of Gujarat are as under:-

- "organic pollution in river, estuary and discharges from ponds
- destruction of mangrove and shrubs in the marine zone by M/s. GFCCA, Onjal and M/s. Sea Crest Pvt. Ltd., Mendha
- violation of CRZ regulations for setting up the shrimp farms on the creeks, viz. Kanai, Ambika and Puma."

Para 3 of the NEERI report dated July 10, 1995 gives in detail the impact of aquaculture farming on ecologically fragile coastal areas of India:-

"3.0 Observations on the Impacts of Aquaculture Farming on Ecologically Fragile Coastal Areas of India

3.1 East Coast

- The shrimp farms at Ramnagar, Midnapur district are located right on the creek, and therefore, are not in consonance with the CRZ regulations
 - No wastewater/sediment treatment facilities exist at any of the aquaculture farms
 - No direct withdrawal of water from creek/estuary
 - No conversion of land has taken place except in cases of M/s. Index Port Ltd., North 24-Parganas and M/s. Sundarban Aquatic Farms Ltd., South 24-Parganas
 - wild shrimp seedling collection by villagers including children is a common practice
 - M/s. Index Port Ltd., North 24-Parganas has created the following problems:
 - design of aquaculture farm is not proper and no wastewater/sediment treatment facility exists in this shrimp farm
 - intensive mode of operation creates wastewater problems. Presently, there is no treatment facility existing for reuse and recycle of treated wastewater
 - deposition of clay in the intake water reservoir and no proper mechanism exists for its disposal
 - seepage from the bunds create additional problems around the farm
 - inspection team observed that groundwater in the vicinity of this, aquaculture farm has become saline
 - conversion of agricultural land and traditional fishing farm
 - barbed wire fencing along the periphery of the farm has resulted in restriction to free access for the farmers, fishermen and cattle to the creek
-
- M/s. Sundarban Aquatic Farms Ltd., South 24-Parganas has created the following problems:
 - conversion of agricultural land, traditional fish farming, and mangrove plantation
 - the aquafarm is located below ground level, therefore, it is difficult to assess the seepages from this farm unless peizometers are installed around the aquafarm
 - a well designed sedimentation tank is being used as a wastewater treatment system. However, it is not adequate. Necessary arrangement have to be made for recycle and reuse of wastewater
 - no provision exists for treatment of sediments
 - the location of the aqua-farm is not as per MEF notification dated February 19, 1991, keeping in view high tide line, and minimum distance from the creek.

The important areas of environmental concern regarding shrimp farming in the State of Orissa are:

World Bank Aided Projects

- Narendrapur, Bhadrak District

World Bank aided project comes within the national park area. Therefore, it is desirable that this project proposal must be dropped. It was also informed to the inspection team that two private shrimp farms are in

operation at present near the proposed World Bank Aided Project which must be closed immediately, in view of proximity of the national park.

- Beidipur, Bhadrak District.

There are plans to construct large shrimp farms. It is necessary to mention that this area is profusely covered with wild sea weeds, which has direct relationship with the ology of the marine biota. Keeping this aspect in view, a detailed EIA is required before finalizing the development of shrimp farms in the area which must include private farms in the region.

In addition, there is a salt dyke which prevents the flow of sea water into the agricultural lands. It is worth mentioning that more than 50 shrimp farms, 1 ha, each have come up in this area. This leads to conversion of fertile agricultural lands into brackishwater based shrimp farming resulting salinity, intrusion and desertification of land.

- Jaagatjore - Banapada, Kendrapara District.

Construction work of shrimp farm is in progress. Mechanised systems for excavation, and construction are being used. In addition, inhabitants are prosecuted. There is a signpost "Trespassers will be prosecuted". It was informed to the inspection team by the nearby villagers that this place was used for agriculture. Farmers, fishermen, and cattle had less access to the nearby creeks. Now it has been limited to a large extent. In addition, the inspection team was informed about indiscriminate cutting of mangrove bushes around the area. This project must be reviewed critically keeping Bhitarkanika Wild Life Sanctuary in view.

Local entrepreneurs have started small shrimp farms of about 1 ha each. This will cause water logging problems in the area. Finally, the high tide line (HTL) just touches the saline dyke. Therefore, world bank project proposal and other shrimp farms fall within 500 m of HTL, and do not conform to the MEF's notification dated February 19, 1991.

* Chilka Lagoon

The silt carried by two main rivers, viz. Daya and Bhargabi gets deposited in the lagoon. There is little exchange of water from the sea because the mouth of the lagoon (35 km long) has been blocked by three factors, viz.

- silt
- improper mixing, and
- large clusters of shrimp farms hinder the passage of water into/out of the lagoon.

The bird sanctuary at Nalaban has also been affected by siltation and shrimp farming activities. 85 km of the canal mouth of the lagoon needs immediate attention, because the exchange of sea water into and from the lagoon is vital from ecological considerations. In addition, deposited silt has to be removed. Shrimp farms must be closed down immediately to restore the Chilka lagoon, to its original ecological condition by application of scientific management practices.

* Subarnarekha Mouth

A large number of shrimp farms have come up on both sides of the lower reaches of the Subarnarekha river to utilise the tidal brackish water as observed by the inspection team. It was reported to the inspection team by local people that this has resulted in water logging in upper reaches of Subarnarekha river.

- The inspection team observed that the shrimp farming is at least three times more than what has been presented by the State Govt. of Orissa.
- All the shrimp farms do not observe the MEF notification dated February 19, 1991. The creek/estuarine water based shrimp farms are also not observing the CRZ guidelines of MEF.

Agricultural land is being converted to shrimp farming because of Land Reform Act of Govt. of Orissa.

- Artificial creeks are being constructed to allow high tides of creek/estuarine water into the large reservoir. In addition, this factor must result in flooding of low lying areas.

- Reservoirs act as a setting cum concentration basin. Therefore, it is necessary sometimes for the shrimp farmers to dilute this water by withdrawing groundwater, resulting in depletion of groundwater resources in nearby villages. In addition, groundwater has become saline. This is confirmed by the situation in Adhuan village in Bhadrak district.
- The shrimp farming has resulted in several social problems viz.
 - denial of free access to fishermen
 - denial of job opportunities
 - conversion of agricultural land to shrimp farming
 - social displacement
 - salination of groundwater
 - reduction in grazing ground of cattle, and free access to creek/estuarine water.
- Wild shrimp seedling collection is still in practice. This will have detrimental effect on the ecology of the sea, creek, and estuarine waterbodies.
- Direct pumping from one creek/estuarine water system is being practiced. This results in reduction of fish catch and must be stopped immediately.
- No shrimp farm had any type of wastewater and sediment treatment systems including hatcheries.
- All hatcheries are located within 200 m of the HTL in contrivance of the MEF's notification dated February 19, 1991. It is necessary to stop the commissioning of all new hatcheries which are not being constructed as per CRZ regulations.
- Intake points and wastewater discharge channels of the prawn farms are nearby. This is not a scientific water management of shrimp farms.
- It has been observed by the inspection team that some shrimp farms have barbed wires along the periphery of project site, e.g.
 - M/s Deep Sun Culture Pvt. Ltd.
 - M/s Surya Udyog Pvt. Ltd.
 - M/s Manas Prawn Farm

Therefore, there is no free access to creek and estuarine water for the fishermen and cattle.

3.2. West Coast

- The shrimp farming activity in the west coast is mostly confined to the traditional extensive type of farming. Limited number of commercial shrimp farms having areas more than 5 ha, working on the semi-intensive type have been installed in the coastal areas since last 3 years.
- Though in limited numbers, prawn farms working on the semi-intensive type specifically in the States of Karnataka, Maharashtra and Gujarat are situated within 500m of high tide line of the sea, which is not in Consonance with MEF's notification dated February 19, 1991.
- Incidence of conversion of agricultural land into coastal aquaculture units, which infringes the fundamental right to life and livelihood, could be noticed in States of Karnataka (Kumta taluk), Maharashtra (Ratnagiri district, and Paighar taluk) and in Oujarat (Valsad district).

- In States situated on the west coast of India brackish water aquaculture units have been mainly installed along the estuaries and river banks, where impounded backwater is being used for shrimp farming. Such practices of extensive type of farming may not have significant adverse impact on environment due to the fact that limited quantities of brackish water are required for recharging these ponds, and the wastewater generation is negligible. However this practice of utilisation of backwaters will prove to be Unsound if carried out for large scale farms using semi-intensive type of farming.
- Villages situated along the sea coast, and backwater zones, specifically at Gunda, Kumta and Karwar (Karnataka), Paighar and Dahanu (Maharashtra), and Valsad (Gujarat) are under threat due to conversion of land into aquaculture farms.
- In the State of Karnataka, the inspecting team observed that M/s Murudeshwar Food and Export Ltd. prawn aquafarm units are located within 100 m of HTL.
- The intake and discharge points of M/s Samudra Aquafarms and M/s Skyline Biotechnologies Pvt. Ltd., Kagil, Kumta are very close to each other which may create problems of contamination in the ponds. The prawns grown in these farms were reported to be affected by viral infection. Disposal of sediments from the ponds was also observed to be carried out on the side of the river.
- It was also observed by the inspecting team in the State of Karnataka that aquafarm of M/s Rajaram Bhat Pvt. Ltd. at Honnavar in Kumta taluk has been installed on the periphery of the village. The bunds constructed for making the ponds have obstructed the free flow of storm water, and domestic wastewater from the village to sea and this has created health hazards for the villagers. Intrusion of saline water in the soil was also observed, and reports on the damage to coconut plantation in nearby areas were also received. Contamination of drinking water sources due to saline water intrusion was observed.
- In the State of Karnataka, M/s Agnasana Aquafarm Pvt. Ltd. has come up adjacent to a school in village Gunda, and the constructed bund of the pond touches the compound of the school. Seepage of the saline water from the bund and subsequent damage to the foundation of the school building, and damage to coconut plants in nearby areas was observed. Such practices of allowing the ponds to come up near residential and public utility places must be stopped immediately.
- Coastal aquaculture may result in loss of mangrove ecosystems to a limited extent on the west coast. However, significant destruction of mangrove could be noticed in the coastal areas of the districts of Karwar & Kumta (Karnataka), Palghar & Shrivardhan (Maharashtra), and Valsad (Gujarat). Since the mangrove ecosystems provide natural habitat for spawning of marine biota, the practice of indiscriminate destruction of mangrove ecosystem due to installation of shrimp farms must be stopped.
- No proper peripheral drainage has been provided around the aquaculture ponds following semi-intensive mode of farming in the States of Kerala, Karnataka & Maharashtra and the wastewater from the ponds was observed to be discharged into the receiving bodies without treatment
- The brackish water intake and effluent discharge points for the ponds are located in close vicinity, resulting in contamination of feed water of the aquaculture units. The situation is predominant at Kumta (Karnataka), Palghar (Maharashtra) and Valsad (Gujarat) where a large number of medium and large aquafarms have been installed.
- Since large number of medium and big farms have been installed on the coastal areas at places mentioned above, the wastewater discharged into the creeks and back water zones is not properly flushed out during low tide, thereby, affecting the intake water quality of aquaculture farms.
- The situation in the state of Goa has not reached such an alarming situation as yet due to limited number of farms, and abundant quantities of backwater available in the riverine zones of Zuari and Mandovi rivers.

However, future expansion of the shrimp farming practices warrant careful control in view of tourism potential of the state.

- Shrimp farming activity in the state of Gujarat is presently confined to the coastal areas on Valsad, Bharuch, and Surat. Two large commercial shrimp farms are proposed to be installed in the Jamnagar district where salt farms are being operated currently. Sanctions for such installations warrant careful consideration to avoid damages to the highly ecosensitive coral reef zones near this coast.

The conclusions and recommendations as given in para of the NEERI report are as under:-

7.0 Conclusions and Recommendations on the attenuation of adverse Impacts of Aquaculture Farming on Ecologically Fragile Coastal Areas.

7.1 East Coast

- The shrimp farming activity in east coast is mostly confined to the traditional and extensive mode. However, a large number of commercial shrimp farms have started functioning in modified extensive, semi-intensive modes since last three years.
- The large scale shrimp farms and hatcheries have violated CRZ notification of MEF dated February 19, 1991 in the States of West Bengal and Orissa.
- Incidence of conversion of agricultural land into coastal aquaculture units which infringe upon the fundamental rights to life and livelihood were noticed particularly in the State of Orissa.
- It is desirable to establish aquaculture farms on modified extensive mode. Semi-intensive and intensive mode of aquaculture must not be adopted in the States of West Bengal and Orissa.
- Maintenance of quality of the feed, and stocking of healthy seed from the government approved hatcheries associated with appropriate water management practices warrants proper attention in the prawn farming activities of the coastal areas.
- The proposed guidelines for shrimp farming in the State of West Bengal do not address all socio-economic, and ecological status of coastal habitats.
- The State of Orissa has not formulated any guidelines related to aquaculture practices.
- The cost of Eco-restoration of the coastal fragile area must be borne by the individual entrepreneurs of the commercial farms in keeping with the polluter pays principle with specific reference to:
 - Sunderban Mangrove/Littoral Forest, West Bengal
 - Chilka Lagoon, Orissa
 - Bhitarkanika Wild Life Sanctuary, Orissa
 - National Park, Orissa
 - Subarnarekha Mouth, Orissa
- No Commercial coastal aquaculture activity should be undertaken even beyond 500 MHTL unless a comprehensive and scientific environmental impact assessment (EIA) study has been made by the entrepreneur and the environment management plan (EMP) approved by the respective State Department of Environment, Pollution Control Board, and also by MEF.
- Agricultural lands are being converted into commercial aquaculture, which causes unemployment to the landless labourers and also in loss of cultivable land.

- Groundwater also gets contaminated due to seepage of impounded water from aquaculture farms.

Due to commercial aquaculture farms, there is a loss of

- mangrove ecosystem
 - grazing grounds for cattle
 - potable water to contiguous population
 - fish catch
 - agricultural produce
 - economic loss due to non-approachability of fishermen to creek, estuary and sea directly.
- The designs of the aquaculture farms are inadequate. No provision has been made for wastewater treatment facility enabling recycling and re-use of wastewater in shrimp farms and hatcheries to minimise water exchange. In addition, there is a necessity to treat deposited sediments from the shrimp farms. Sediments can be converted into manure for land application after proper treatment.
 - Prohibition on conversion of agricultural land must be enforced with immediate effect.
 - Wild seed collection from creek, estuary, and sea must be prohibited. Seed must be procured from hatcheries.
 - An eco-restoration fund must be created by collecting the stipulated fees from the owners of aquaculture farms. In addition, one percent of total export earnings per annum must also be collected from commercial aquaculture farm owners, and used for rejuvenation of coastal eco-system. The wastewater treatment system including sediment control with reuse and recycle must be installed by all units. The smaller units can form a co-operative, and treat water through common effluent treatment plant. The aquaculture units must be closed down if the wastewater treatment system including sediment control is not functioning to its design efficiency.
 - A strict vigilance by the State Departments of Fisheries and Pollution Control Board is required to keep a check on pollution abatement measures. It may be mentioned that even a small change in shrimp farm can be tailored to function on any mode of production i.e. modified extensive semi-intensive, and intensive. Therefore, strong control measure for production and pollution (wastewater and sediments) are essential.
 - Cultivable lands must not be converted for aquaculture. There is a perceptible difference between cultivable and non cultivated land. Thus, even if aquaculturists buys agricultural land and keep them fallow for say 2 or 3 years that does not mean that the land has become non-cultivable. Currently almost all the farms that exist are cultivable lands except those in Midnapur district (7 aquafarms in wastelands). Even those farmers who do not sell their prawn farm owners, are affected due to lack of drainage from paddy fields which in turn cause flood in the crop during rainy season.
 - The location of shrimp farms in Midnapur district on wasteland developed by the Department of Fisheries, Govt. of West Bengal fulfills all scientific conditions except.
- CRZ guidelines for creeks
 - Wastewater & sediment management practices, and
 - Mode of operation which is mostly semi-intensive and intensive
- There are two commercial aquaculture units in the State of West Bengal, viz. M/s Sundarban Aquatic Farm Ltd., and M/s Index Port Ltd., which are violating CRZ regulations of MEF dated February 19, 1991 as discussed hereunder.

- M/s Sundarban Aquatic farms Ltd.; Conversion of agricultural land & traditional fish farm, and destruction of mangrove plantation have taken place. In addition, this farm falls within 500 m from 11Th. Further, CRZ regulations for location of aquaculture farm near the creek have also been violated.
- M/s Index Port Ltd.; Conversion of agricultural land & traditional fish farm have taken place, Groundwater has become saline around the farm. Shrimp farms are not well designed resulting in seepage. Barbed wire fencing has restricted free access to farmers, fishermen and cattle to the creek. In addition CRZ regulations for location of aquaculture farm near the creek have also been violated.

No treatment facilities have been provided by both the farms.

- It is necessary to review the World Bank aided projects and commercial shrimp farms in and around Chilka Lagoon, keeping in view the MEF norms dated February 19, 1991 in the State of Orissa, viz.
 - Narendrapur project must be abandoned as it is within the National Park. Also the existing commercial farms in operation must be closed down.
 - Bidenpur project requires EIA studies. Several farms have come up on the other side of the saline dyke which must also be included for evaluation in the EIA studies.
 - Jagatjaore-sanaspada project is within 500 m 11Th. Farmers, fishermen and cattle earlier had free access to the nearby creek, which has been limited to a great extent due to the commercial shrimp farming activity. Also indiscriminate cutting of mangrove bushes has been reported.

This project must, therefore, be reviewed critically keeping Bhitarkanika Wild Life Sanctuary in view.

- The commercial shrimp farms in Chilka Lagoon must be abandoned keeping in view the ecological condition of the lagoon and also the location of National Bird Sanctuary.

7.2. West Coast

- MEF's norms for location of aquaculture farms and hatcheries have been violated at many places in the States situated on west coast of India.
- The current practices of installation of coastal aquaculture farms within 500 m HTL violates the fundamental right and livelihood of people in the coastal States.
- The States of Kerala, Karnataka, Maharashtra and Gujarat have neither formulated nor adopted any guidelines in consonance with CRZ-notification; Ministry of Environment & Forests (MEF), Govt. of India for scientific control and management of the shrimp farms in the respective States. These States must formulate and adopt legislative Acts for proper management and, regulation of existing shrimp farms in the respective States.
- The State Government of Goa has enacted a bill dated November 17, 1994 in order to regulate, promote and manage the shrimp farms in this State, in a scientific manner. However, this bill is not in consonance with the MEF notification dated February 19, 1991 as it allows the construction of aquaculture units within 500 m of HTL of the sea. The bill is limited to the guidelines pertaining to the allotment of lands for the entrepreneurs.
- The cost of eco-restoration of the coastal fragile area must be borne by the individual entrepreneur of the commercial aquaculture farms in keeping with the polluter pays principle.
- No commercial coastal aquaculture activity should be undertaken even beyond 500 m HTL unless a comprehensive and scientific environmental impact assessment (EIA) study has been conducted by the entrepreneur and the environment management plan (EMP) approved by the respective State Department of

Environment, Pollution Control Board, Shore Development Authority, and also be the Ministry of Environment and Forests.

- Commercial aquaculture farm are planned to be installed near the cultivated lands in all the States of west coast. Salt water from the farms results in damage to the productivity of the adjoining lands.
- Groundwater, also gets contaminated due to seepage of impounded water from the aquaculture ponds.
- Desertification of cultivable land can result in increased saline intrusion on west coast.

Due to commercial aquaculture farms, there is, loss of

- mangrove ecosystems
 - casuarina plantations
 - grazing grounds for cattle
 - potable water to contiguous population
 - fish catch
 - fishing nets
 - agricultural produce
 - economic loss due to non-approachability of fishermen to sea shore directly.
- The designs of the aquaculture farms are inadequate. No provision has been made for wastewater treatment facility enabling recycling and re-use of wastewater.
 - Prohibition on conversion of agricultural lands and salt farms into commercial aquaculture farms must be enforced with immediate effect.
 - Wild seed collection from creek and sea must be prohibited. Seed must be procured from hatcheries.
 - An eco-restoration fund must be created by collecting, the stipulated fees from the owners of aquaculture farms. In addition, one percent of total export earnings per annum must also be collected from commercial aquaculture farm owners and used for rejuvenation of coastal eco-system with special reference to plantation of mangroves and common ecosensitive zones. The wastewater treatment system with reuse and recycle must be installed by all units. The smaller units can form a co-operative and treat their water through common effluent treatment plant. The aquaculture units must be closed down if the wastewater treatment system is not functioning to its design efficiency.
 - Drainage canals must be constructed around the existing ponds to collect seepage from the pond which will prevent the intrusion of saline water into the adjoining agricultural fields and residential areas. The design and construction of the drainage canal must be undertaken scientifically based on the topographical features of the area. This will avoid the flooding of the area with saline water, and will help in restoration of hygienic & sanitary conditions in the nearby residential areas.

The two NEERI reports clearly indicate that due to commercial aquaculture farming there is, considerable degradation of the Mangrove eco-systems, depletion of Casuarina plantations, pollution of potable water, reduction in fish catch and blockage of direct approach to the sea-shore. Agriculture lands and salt farms are being converted into commercial aquaculture farms. The ground water has got contaminated due to seepage of impounded water from the aquaculture farms. Highly polluted effluents are discharged by the shrimp farms into the sea and on the seacoast.

A report titled "Expert Committee Report on Impact of Shrimp Farms Along The Coast of Tamil Nadu and Pondicherry" has been placed on the record. Justice M. Suresh, a retired judge of the Bombay High Court, and A. Sreenivasan, Joint Director of Fisheries (retd.), Dr. A.G.K. Menon, an Ichthyologist, Mr. V. Karuppan I.A.S. (retd.), Dr. M. Annachalam, Lecturer, Centre for Environmental Sciences, Manonmaniatri Sundaranar University, Tamil

Nadu and Dr. K. Dakshinamoorthy, a medical surgeon constituted the "expert committee" (Suresh Committee). Although the investigation by the Suresh Committee was done at the instance of "complaint against shrimp industries" but keeping in view the status of the committee members and the factual data collected and relied upon by the committee it would be useful to examine the same. The Suresh Committee visited various villages in Tamil Nadu and Pondicherry and gave its findings based on the evidence collected by the Committee. Some of the findings of Suresh Committee are as under:

"The farmers of Perunthottam told us that they have sold nearly 140 acres of their own lands to the Bask company and 40 acres to the Bismi company. Evidence was also given to us showing in the lands purchased by Bask Farms, where three or two crops were being cultivated. It also revealed that the percentage of yield was as much as 60%. Details regarding this are found in Annexure 15. The Bismi company has erected a pipe line till the boundary of the farm for draining, sea water. It is yet to be connected to the sea.

The Bask company is situated at a distance of 150 m from the scheduled caste households. Bask Aqua Farm is situated within 500 m from the sea and the distance of Bismi Aqua farms is just 25 m from the sea. During our visit, we found Bask farms engaged in construction of Prawn farms on agricultural lands that had been purchased (Photo No. 23 & 24). Representative of Perunthottam village also shared before the Expert team that the yield obtained from the fields adjacent to prawn farms were affected. Moreover the villagers have lost their access to potable water as the water tables have become alkaline due to the seepage of sea water from the prawn farms. Bask farms have been using ground water for nearly two years crop. The Managing Director confirmed this before the Expert team."

The Committee visited Pichavaram Vedaranyam on July 13th/15th, 1995 and observed as under:

"It was observed that the palmyrah trees in this area which is the most drought resistant tree has dried after the onset of prawn farms in this area. Majority of the coconut trees have dried up and few remaining have stopped yielding fruits.

The unanimous opinion of the people is that most of the mangrove species are on the decline. These mangroves serve as a source of fuel wood for domestic purposes, grazing ground for animals, water-way for locals and tourists and an important habitat for fisheries, are increasingly polluted because of the effluent discharged by the shrimp farms. They also brought to our notice the greater value of the mangrove as a stabiliser of the coast and how, because of this being disturbed by the destruction of the palmyrah, coconut and casuarina grooves, coastal erosion has become common".

Regarding visit to Pudhupettai, the Committee started as under:-

"We visited Pudhupettai on 14th July in order to get a first hand knowledge about the impact of Farisha Aqua Farm details of which was narrated by the Pudhupettai representative to the expert team on 13th July at Nagai. We saw the pucca construction of the Farisha farm's Jetti into the sea to enable the pumping of the sea water. This clearly is acting as a hindrance for the free mobility of the fishermen community and their access to sea and land. All these three farms are situated within 25 m from the sea. Further these farms are closely situated to the dwelling houses also. Coastal Enterprises is situated at a distance of 20m, the Farisha Aqua farm at a distance of 250 m and Blue Base Aqua farm at 20 m from the dwellings of Perumalpettai the next fishing village from Pudhupettai. There is a fourth enterprise namely Abbirami Aqua farms which owns about 150 acres of wet land has not commenced work as yet ,Pipes have been laid to discharge effluent either to the sea, or adjoining dry lands belonging to the village or to the water channel used by villages for bathing. Effluent is also being discharged close to the dwelling houses. In particular, "effluent is being collected right in front of my house" said Kalvikarasi a resident of Pudupettai village who made a representation to the Expert team on July 13th. She said that "Drinking water in the village is now turning salty. The advantage of shore seine net fishing is the abundant catch of "Anchovy" fish which has commercially viable market. The construction of permanent jetties has eliminated the shore seine net fishing. Shore seine net fishing needs uninterrupted coastline and it has become an impossibility in Pudhupettai. About 10 shore seine nets are idle in the village. The construction of pipe to discharge effluent is a permanent one. By construction of the permanent jetties, the natural sand dunes in the village were destroyed. These sand dunes are a natural cyclone barriers. Hence a threat of cyclone is imminent since these natural cyclone barriers are destroyed.

The construction of pipes lines ending in the sea for pumping in sea water has damaged nearly 10 nets worth Rs. 60,000/-. Details of nets damaged is given in Annexure 19. The Coastal Enterprises Ltd has encroached the burial ground of Pudahupettai and Blue Base Aqua Farms has encroached the burial ground of Perumalpetta.

The Committee visited the Pulicat lake area on July 19, 1995. The findings of the Committee are as under.

"Ecologically the Tamil Nadu part of the Pulicat lake is important since it has the only opening of the lake into the sea thus functioning as the migratory route of these spawning animals like prawns, fish and mud crabs. The mud flats of Pulicat lake harbours a number of winter migratory birds. We were told that the water fowl sanctuary at Pulicat is slowly being destroyed..... We observed that Prawn farms are located all round the wet land. In the northern region of the lake prawn farms are situated even in the lake-bed. Maheshwari Export India Ltd. is constructing a Prawn Farm across the Pulicat lake bed clearly violative of the Tamil Nadu Aquaculture Regulation Act. We also noticed water being pumped out from the lake into the Prawn farms.

According to Dr. Sanjeeva Raj, Pulicat lake has two bird sanctuaries namely Yedurapattu and Nelapattu. It is estimated that nearly 10-15 thousand of flamingoes and other rare birds visit the Pulicat lake for four months only for feeding all the way from Rann of Kutch. Other water birds like pelicans, Cormorants, Egrets and Herons breed at Neiapattu and feed at this Pulicat lake. At Yedurapattu, Painted Storks, Pelicans, and Open Bills also feed here. In 1993 it was estimated that there was 10000 to 15000 Flamingoes. By 1994 this has been reduced to less than 1000. The reason for this can be attributed to the effluent from prawn farms which kills the organisms on which the Flamingoes feed. The depletion of natural feed could have caused this reduction.....The Tamil Nadu forest Department is establishing a third sanctuary in the southern tip of Pulicat lake. We were told that due to the noise of oil engines, bulldozers and other disturbances by the prawn farms many birds especially painted storks have deserted this lake.

Dr. Sanjeeva Raj also states that Pulicat is ecologically very sensitive and fragile. The east coast is vulnerable to cyclones. With the hundreds of prawn farms along the coast excavating sand along the coastline every possibility existed for inviting the sea to enter and destroy the water table. Further, prawn farms destroy sand dunes and vegetations and in times of tidal waves sea water could enter in a big way.

Further, Dr. Sanjeeva Raj said that Pulicat lake is fairly shallow with an average depth of about 1.5 m. It can be described as a saucer. The pumping of water by aquafarms will result in an artificial drying up of the lake. Added to this the road, from Sulurpet that has been constructed for reaching the Shriharikotta rocket launching site through the lake has obstructed free flow of water. It is generally claimed by the prawn farm owners that the land on the eastern side of the road is not the part of Pulicat lake and hence prawn farms can be constructed. This is false as all this land area is part of the Pulicat lake. The tragedy is that if prawn farms are erected on the higher side of the lake, the effluent from the prawn farms will flow back into the lake causing serious damage to marine and estuarine biota. Pasiapuram Rajiv Gandhi Nagar has a dalit hamlet Edamani. This hamlet had a water tank which provided water to the nearby 35 villages. The source of water was the village ground water. But due to the impact of the adjoining farm the water became saline making it unsuitable for consumption.

An eminent danger by the prawn companies is to the village called Jamila Badh. This village has 150 Muslim families (risher). They were originally living in the land on which the Shriharikotta Space Research Station is built. These families were relocated by the Government promising jobs and providing free housing site near the Pulicat lake. They built their own huts at the cost of Rs. 5000 each. These huts today face serious flood threat since on both sides of the village two prawn enterprises have obstructed the Ponneri lake water to flow in to the sea. This obstruction due to the construction of prawn farms floods the village. From 1991 till date every year water reaches the boundary of the village and before it could enter inside, nearly 2000 village people manually divert the water to the sea. Though the village people have made representation and protested to the owners, they use their economic and political power to scare the fishing people and make them live in a permanent state of fear. People also told us that they are affected by itching, scabies and fever which could be due to the discharge of effluent".

The Committees observations regarding Karaikal district Pondicherry are as under:

"As quoted by the Pondicherry Science Forum, Karaikal region has only 20 kms of coastal stretch. This coastal stretch is of environmental significance as the area and its environs have creeks and lagoons, beaches with dunes, coastal plains, natural reeves, flood plain and is also the tail end of the Cauvery river basin. Karaikal is considered as the granary of Pondicherry and has main irrigation canals like Nini kattalai Pidari Kattalai and Arasapurain."

The ground water reserves of Karaikal is frightfully meagre, but for the only sweet water aquifer at about 10 to 20 ft deep there is no other potable aquifer. This water source cannot be exploited continuously since it takes time to recharge and poses. danger of sea water intrusion. Only manual hand pumps are being used to tap this water at present.

It is in this context Karaikal is posed with-the serious danger of loosing this sweet water aquifer as most of the small prawn farms are in the process of deriving water during the high tides from the rivers like Mullaiyar, Thirumalai rayananaar, Arasalar Nandalar and Pravidayanar and also use ground water for shrimp culture. This continuous withdrawal of fresh water will alter surface water resources. So, there is no possibility for the recharging mechanisms as the wet lands near these river basins are converted to aquafarms and these wet lands have lost their function of absorbing rain water and recharging the aquifer zones."

The conclusion reached by the Suresh Committee under various headings indicating the impact of shrimp culture farming on environment are reproduced here under.

(a) "Effluent Pollution

As Shrimp Culture using high protein feeds is a highly polluting activity. Presently-78,000 tonnes feed is used in India in Shrimp Culture. This is bio-degradable, if properly treated. It leaves behind resuspended solids (organic) and the decomposition liberates inorganic N and P. 77.5% of N and 86% of P from the feed are worked and enter the pond environment. 1 ton of *P. monodon* production results in a pollution load of 56.348.1 kg N and 13.0-244 Kg P. (Phillips et.al 1993. ICLARM. Conf. Proc. 31, 171-198)

Excess amounts of P and N are detrimental to environment Rumseg 1994 Sacmonid XVII (4): 10-14). These lead to 'hyper eutrophication" resulting in massive algal blooms and oxygen depletion which are harmful to aquatic life. These blooms such as "Red tide" cause fish mortality. The effluent quality during harvesting the shrimp pond is: total nitrogen 1900-2000 ppm total 40-110 ppm. and organic carbon 7.3-13.7 ppm. The impact of this is the reduced oxygen, hyper nitrification, alteration of community structure, sedimentation, changes in benthic communities etc (Phillips et al 1993).

Further 'Self pollution' results from feed wasted, which becomes unmanageable (Imre Csavas 1994. Shrimp News, International, March-April 1994). Organic wastes, solid matter, dissolved metabolites like ammonia, Carbon-dioxide are produced. Decomposing. organic matter depletes oxygen from water. Admittedly being biodegradable the effluents consume oxygen and so denude the water of its oxygen. When there is oxygen deficit, fish avoid such low oxygen zones and move further away to oxygen saturated zones and when there is oxygen depletion fish die en-masse. Fishing village near whose coast shrimp ponds have come up - Fish have become scarce and the artisanal fishermen have to go further away from shore to catch fish. Population of fish and their diversity decrease.....With regard to farm effluents being treated and discharged into the sea and other water bodies. We did not see or hear about any such scientific process of effluent treatment having been setup by prawn farms. In M/s. Bask farms we were shown two partially dry sedimentation tanks. We saw untreated effluents from M/s. Amalgam shrimp farm being discharged into the beach (not even into the sea causing degradation of the sea shore with dark brown, foul smelling organic matter, which is a health hazard. The Joint Director, MPEDA itself has stated that "most of the farms have not set up effluent treatment systems.

(b) Salinisation

The dominant species of Shrimp cultured is *Penaeus monodon* the tiger prawn and next comes the white prawn. *P. indicus*. Both are marine prawns. *P. monodon* grows best at salinities of 10-20 p.pt (20%) but tolerate slightly higher or tower salinities. *P. indicus* requires higher salinity 20-30 ppt, Thus seawater is the primary medium of

growth. Seawater is of salinity 35-36 ppt is taken into the ponds. The growing period ranges from 120-150 days. Sea water is periodically replaced. Sea water remaining in the pond for a long period seeps into neighbouring areas where agriculture is practiced and salinises the soils which therefore lose their productivity for crops, and become unfit for agriculture. Even assuring that the 500 m zonation is enforced it will not solve the problem of salination. Agriculture lands, inwards (towards inland) of shrimp ponds, will become saline and the chain reaction will continue Many shrimp industries assert that they are taking only sea water for shrimp culture and do not use ground water. Sea water has a salinity around 35 ppt. It is mostly the *Penaeus monodon* the tiger shrimp. This needs a salinity in the range of 15-20 ppt for optimum growth. So the shrimp producer have necessarily to dilute it to bring down the salinity by adding fresh water. Let alone ground water we have even seen river water being pumped near Poompuhar in to shrimp ponds.....Salinization is not only possible but has actually happened all over the world. The Bhagwathi Institute of Environment and Development analysed numerous samples of water adjacent to shrimp farms in Sirkali Taluk, TN and found that in most of them Chlorides exceeded the permitted limits even by over 100 times for e.g. 15265 mg/l in drinking water source near Suryakumar shrimp Co. Mahendrapalle. In Kurru village, Nellore District, drinking water became saline after four shrimp farms were established and 800 people of this village had no drinking water (Vandana Shiva 1994. 'Social and Environmental impact of Aquaculture'). Dr. Alagarwami, Director CIBA identifies salinization of drinking water, wells, dwelling units adjoining agriculture lands and aquifers as critical Issues in shrimp culture. (National Workshop on Transfer of Technology for sustainable shrimp Farming, Ms. Swaminathan Foundation Madras, January 9-10, 1995) Dr. V. Gopalakrishnan, former FAO expert says "salt water seepage problem appears to be genuine and such area should be avoided for establishing new shrimp farms" (Fish & Fisheries Newsletter No. 4 January 1996). Dr. Sanjeevaraj noted that in Pulicat lake, saltwater from Prawn ponds was known to be seeping into drinking water tables (COPDANET Newsletter winter 1994) We have noted the salinization of drinking water in Pudukuppam, Naicker Kuppam, Poompuhar, Perunthottam, Pudupet, etc in Sirkali Taluk caused by large shrimp units and also in a very acute manner in Pattinamarudur, Tuticorin. ITC district which is sandwiched between two large farms viz. VOC and MAC Aqua farms Ltd.

(c) Feed and wastes

In a moderate 3 t/ha yield of shrimp, 4-6 t/ha feed is applied, while for a yield of 5t/ha it is 15t/ha. The magnitude of putrescible organic matter from these wastes is enormous. Hence, the practice of discharging such effluents into common water bodies needs to be strongly discouraged because of the strongly polluting effect (Mackintosh, D. J. Infofish. International 6/92:38-41). Feed wastes are more toxic than sewage and this is a sufficient ground for banning industrial Shrimp Culture.....The Team found that Amalgam marine Harvests, was blatantly discharging the effluents into the foreshore narrow sandy beach at Pudukuppam. This has spoiled the aesthetic appearance of the beach. The area is dark brown in colour and foul smelling. This will pose a serious hazard to Public Health. The wastes also enter "Uppanar" stream hardly 5 m away from discharge point. This is illegal and affects the health of villages. Settleable solids silt up the ponds and canals. Over accumulation of detritus leads to profusion of protozoa, and ciliates, which cover the body of fish. Respiratory diseases, loss of appetite, black gill disease, shell disease, foul smell of internal parts, tail rot etc are caused by such unhealthy pond conditions. The quality of effluents discharged into the environment are so poor that biological methods will not be sufficient to treat them. Most of the environmental troubles are caused by the industrial shrimp. The coastal zone used for culturing aquatic organisms is only a narrow strip on the continental shelf and on the low lying flat lands. Hence the very fragile nature of the coastal ecosystem is getting destroyed.

(d) Fertilizers and therapeutants

Large quantities of feeds are being used and fertiliser applications are generally minimal. Lime is regularly used but continued use of lime impoverished the soil. It also hardens the soil.

However, it is the use of therapeutants that is highly destructive of the environment. A very incisive account of the use of drugs in aquaculture is available from P. de Kinklein and C. Michael (INFOFISH International 4/92: 45-46 1992) and an exhaustive report is provided by Fred P. Meyer, an authority on the subject, (Review in Aquaculture sciences Vol 1(42) 693-710 1989). However the use of drugs has only aggravated the damage to environment. Sulpha drugs, Tetracyclines, Quinolones, Nitrofurans, macrolids (for 69 erythromycin), Chloramphenicol and

dozens of similar drugs are in use. Organophosphorus compounds like Dichlorvos are also used. Formalin, malachite green copper sulphate, quaternary ammonium compounds, Iodophores, chloramine - I etc., are used as sanitizers,

Viruses cannot be treated by any of the drugs. *Renibacterium* sp is also resistant to drugs: Chemotherapy leads to transit of drugs and their long persistence. Release of drugs or their metabolites into the environment affects the nontarget organisms. Use of steroids (Di-dehyl stilboestrol) to fatten shrimp in ponds has carcinogenic effect on humans. Use of chloramphenicol has unpredictable risks for human beings. Effluent treatment and self-recovery are hampered by the drugs by Suppressing saprophytic bacteria involved in purification processes. Soils accumulate drug residues.

(e) Loss of Mangroves and Biodiversity.

We observed that removal or destruction of these important mangrove habitats for establishing shrimp farms is becoming increasingly common along the coast of Tamil Nadu. From the Photographs (No. 40-45 showing the destruction of mangroves-bunds are already built), it is evident that there are several shrimp farms on the banks of Pitchavaram mangrove forests a valuable habitat. For the farms, water intake from the habitat will lead to virtual dryness of the habitat and the loss of biodiversity in this valuable realm. It is evident that the consequences are felt by the existing farms (Palmyrah and coconut trees in nearby farms are withering - Photograph No. 46 & 47). The destruction of the mangroves. (Photo No. 40-42) for shrimp farm will be a major cause for the loss of habitat diversity along the coastline of Tamil Nadu. We are going to lose a valuable gene pool and thus conservation of mangrove genetic resources from the activities of shrimp industry is a matter of primary urgency.

(f) Loss of Biodiversity in Cauvery flood plain and delta.

The stagnation of water in this lower reaches is due to the illegal damming at several places along the course and the obstruction of feeder canals and distributors to the main river. Once considered a best estuary and the delta of Cauvery are now vanished (Photo No. 48 showing the ill fated Cauvery). Also in the lower reaches in Nagai district, Tamil Nadu, low land drains regulator has been used for their effluent release (Photo No. 49) showing the block and the P. W. D. feeder canals are either blocked by the farm owners or using as drainage for effluent release by Amalgam Marine Harvests Ltd. at Pudhukkuppam (Photo No. 50) from the farms. These canals and drains once used as a freshwater resource for bathing and rechargers for the wells for the fisher folk in several villages now become saline because of the cessation of flow (example Pudhukkuppam village of Sirkali Taluk district; Pudupettai village Tharangampadi taluk..... Seed collected of *Peneaus monodon* (tiger prawn) by children is a regular practice in these canals now. During their collection of seeds the children picked only the tiger prawn seeds, and threw away all other shrimp and fish seeds thus depleting the estuarine and coastal fishery resources. One child get paise 0.10 for the tiger prawn seed and one earns about Rupees one hundred (Rs. 100 per day and 40-50 children are engaged in seed collection). This involves child labour and depletion of fishery resources and the loss of biodiversity in coastal and deltaic regions of Cauvery. Nursery grounds for shell and fin fishes are lost in this ancient river delta.

(g) Threatened Wetlands of National and International Importance.

The marshy swamps of Vedaranyam are now as Threatened habitats with the formation of shrimp culture all along the brackish water zones and in the marshy swamps.....Another wet land of national importance which is being threatened is Pulicat lake. Report A (1992) by the Ministry of Environment and Forests, Government of India clearly stressed the need of conserving these wetlands of national importance.....In the Government of India Report Pulicat Lake has been identified as an important lagoon (p.8 of the Report). This fragile ecosystem has been under great threat by the industrial shrimp farming. In the main brackish water area, construction of bunds is going on (Photo No. 55 to 66). From the photographs it is evident that the marshy lands with its typical marshy vegetation is the only area left and almost all the marshy areas are being lost because of the upcoming shrimp culture ponds. These areas of marshy vegetation act as spawning/ nursery grounds for a variety of estuarine/marine invertebrates and fishes. These areas also provide wildlife habitats to several migrant birds.

(h) Impact on agriculture

Dr. Alagarswami, Director CIBA identifies "indiscriminate conversion of agricultural lands into shrimp culture" as a critical issue. Most shrimp farmers in coastal areas have converted agricultural lands into shrimp ponds. More relevant is the fact that shrimp industry causes salinisation of "crop lands". Seawater (Salinity around 35 ppt i.e. 35‰) is pumped into the shrimp ponds. The growing period is from 120-150 days. This long detention of saline water in the shrimp ponds seeps into the adjacent crop lands and "salinises" them resulting in reduction of productivity or even barrenness. Then this "Unproductive" land (so declared by the shrimp industries) is converted into shrimp ponds.

We are concerned that conversion of paddy fields to shrimp ponds is already adversely affecting local rice production. In all the places we visited in NQM district Pattinamarudur of Tuticorin, Pulicat of Chengai MGR districts etc. most of the shrimp ponds are constructed on fertile agricultural land or on marginal lands where one crop is raised. Owing to the recent shortage of Cauvery water dispute between T. N. and Karnataka the yield of crops has been affected. Taking advantage of this, shrimp industries have been buying up agricultural land through inducement, persuasion and high pressure on revenue authorities. Salinisation of soil and water adjoining the shrimp farms is very well documented for Perunthottam village. As per the cultivation record for land purchased by M/s. Bask farms we see clearly that the lands purchased were fertile agricultural lands with an average of two crops having a 60% harvest yield.

(i) Denial of potable water

"Nagai, Q. M. districts of Tamil Nadu, the erstwhile granary of South" is today threatened with pollution, ecological imbalance and land alienation because of the arrival of large number of private companies and transnational corporations that have been investing heavily in shrimp farms etc. (Mukul Varma: Interpress service November 11, 1994). Drinking water in the vicinity of shrimp farms has become saline, wherever such farms were operated. Shrimp culture may increase salinity through facilitating the flow of saline water inland and discharge of saline effluent (Phillips, Kwei Lin and Beveridge 1993). Water samples from 7 villages in Sirkazhi near the shrimp farms were analysed by Bhagwathi Environment Development Institute at Dindigul. It was found that the water from bore wells and hand pumps were unpotable (see Annexure). The villages affected were Mahendrapatti, Neithavasal, Pudukuppam, Eranyimedu, Keelaiyur, Thirunagari, Nirajimedu etc. This was also confirmed by the Bharatiya Mazdoor Sangh in Kurru village. Nellore Dt. where all the fresh water wells became saline and unpotable after 4 shrimp farms were established. The proof of this was the fact that the District Collector, Nellore ordered the supply of drinking water through tankers, to these villagers. Dr. P. Sanjeev Raj (COPDANET NEWS LETTER winter 1994) also found that salt water from shrimp ponds seeped into drinking water sources. Dr. Vandana Shiva, after visiting some villages recorded that "shortage of drinking water and deterioration of its quality have resulted in the neighbourhood of shrimp farms".

Protection of ground water sources may be viewed as non-tradable capital, as once contaminated, they may prove impossible to rehabilitate (Mark Evarard 1994).

As per the study done by BEDI, Water sample from a drinking water well in Naikarkuppam had a TDS of 2164 mg/l and chloride content of 993 mg/l in addition to excessive quantities of Mg and Ca. Samples collected from a drinking water hand pump near Shriram Shrimp farm now Amalgam farms had an exceedingly high TDS of 3578 mg/l, hardness of 7506 mg/l which is as bad as seawater. Unacceptably high Ca, Mg and sulphate were recorded. Another hand pump near the same farm had a TDS of 1466 mg/l and a Chloride content of 656 ppm which are unpotable.

Drinking water from a hand-pump near the shrimp farm of coastal Enterprises Ltd. has a TDS of 7694, chloride of 3879, hardness 2470 mg/l and so was unpotable.

The three reports discussed above give a fairly depressing scenario of the shrimp industry. While the production increases and export earning of the industry are well publicised, the socio-economic losses and environmental degradation affecting the well being of coastal population are hardly noticed. The traditional production systems are being replaced by more intensive ones. This has been encouraged by increasing demand from high income countries. Shrimp yield per hectare in many areas increased within a few years from an average 100 kg/ha per

harvest to an average of 1000 kg/ha/crop for semi-intensive shrimp farms and to between 2000 and 10000 kg/ha/crop for intensive type of production. The social and environmental costs of the expanding shrimp industry are closely inter-related. Pollution and other types of natural resource degradation induced by shrimp farming have been considerably highlighted in the NEERI reports and other material quoted and discussed by us. Social and environmental changes resulting from expanding shrimp industry in coastal areas are largely due to the conversion into shrimp farms of the lands waters and forests which were earlier dedicated to other uses. In fact, shrimp farms are developing at the expense of other agriculture, aquaculture, forest uses and fisheries that are better suited in many places for meeting local food and employment requirements. Intensive and semi-intensive types of shrimp production hardly seem to meet these requirements.

Mangrove forests constitute an important component of coastal eco-systems. They thrive in tidal estuaries, salt marshes and muddy coast lines. Conversion of mangrove to shrimp farms significantly reduces the natural production of wild capture shrimp as well as other fisheries. More over, their production role for low lying coastal regions is rapidly diminishing by their replacement by shrimp ponds. The Sunder Bans, which constitute one of the biggest mangrove areas in the world, covered in the early 1990s about 12000 sq. kms. in India and Bangladesh. In the West Bengal part of Sunder Bans large mangrove areas have been replaced by the shrimp ponds.

The increasing need for land by shrimp entrepreneurs has meant a dramatic rise in land prices in many areas. After the installation of shrimp farms near village lands, prices rise astronomically. Local farmers can no longer afford to purchase land, while indebted farmers are tempted to sell their holdings. Much of the coastal land recently converted into shrimp farms was previously used for food crops and traditional fishing.

The United Nations Research Institute for Social Development in collaboration with the World Wide Fund for Nature International has conducted a study and published a report dated June 19, 1996 called "Some ecological and social implications of commercial shrimp farming in Asia". The report is prepared by Solon Barraclong and Andrea Finger- Stich (the UN Report).

The UN Report gives the following picture regarding polluted waters and depleted fisheries :

"Polluted waters and depleted fisheries: Shrimp farms use both sea and fresh water to replenish their ponds. This brings them into competition with other users of these water resources. In areas where commercial shrimp ponds have been constructed there is frequently insufficient fresh water left to meet customary needs for irrigation, drinking, washing or other household and livestock related uses, and water supplies may be contaminated, or both Groundwater salinization has been reported in several places. This often means that people - most of the time women - have to bring water from more distant wells. In a village in Tamil Nadu (Nagai-Quaid-Millet district, Pimpur region), for example, women have to walk two to three kilometres to fetch drinking water that previously was available nearby before the expansion of shrimp farms on about 10,000 hectares (Bhagat, 1994). In Andhra Pradesh, a case study conducted by Vandana Shiva reports that, in the Nellore district, there was no drinking water available for the 600 fisherfolk of the village of Kurru due to aquaculture farms salinizing groundwater. She adds that "after protest from the local women, drinking water was supplied in tankers (Mukul, 1994). Local stocks of native fish and crustaceans are being depleted in many places because of the removal of mangroves which served as nursery beds, and also as a result of indiscriminate overfishing of wild shrimp fry (over 90 per cent of randomly caught fry are often wasted (Gujja, 1994). Natural fisheries are also frequently damaged by pollution caused by overloads of nutrients, sediments and chemicals from shrimp farms. In another Indian coastal village, Ramachandrapuram, fishermen reported that the value of their average catch of shrimp used to be Rs. 50,000 per catamaran per month, but after one year of operation of nearby aquafarms their catch was ten times smaller (Mukul, 1994). In the Chokoria part of the Sundarbans of Bangladesh, fishermen report an 80 per cent drop in fish capture since the destruction of the mangroves and building of dikes for shrimp farming (Sultna, 1994). Frequently, fisherfolk protest because their traditional access to the coast has been restricted or because stocks of wild crustaceans and fish have disappeared.

All the reports referred to by us clearly indicate that the expansion of modern shrimp ponds in the coastal areas has meant that local fishermen could only reach the beach by trespassing at great risk on shrimp

farms or by taking a long detour. Local people have not only lost access to their fishing grounds and to their sources of riverine seafoods and seaweeds, but they also have to relinquish social and recreational activities traditionally taking place on their beaches. The UN Report gives the following picture regarding natural resource degradation as a result of shrimp farming:

"In areas densely covered with intensive shrimp farms, however, the industry is responsible for considerable self-pollution and particularly for bacteriological and viral contamination. Each hectare of pond produces tons of undigested feed and faecal wastes for every crop cycle. This induces the growth of phytoplankton protozoa, fungus, bacteria and viruses (like the *Vibrio* group) growing in shrimp faeces and in large part responsible for the 1988 collapse of Taiwan's production) (Lin, 1989). The overuse of fertilizers and of veterinary and sanitary products such as antibiotics adds to the water pollution problem. It also contributes to the decreasing resistance of the shrimp stock. Where intensive shrimp farms are densely spaced waste laden water tends to slosh from one pond to another before it is finally discharged into the sea. Shrimp producers are extremely concerned about assured supplies of clean water as it is vital for their immediate economic returns.

Large amounts of sedimentation in intensive shrimp ponds is posing serious disposal problems for shrimp farmers. From 100 to 500 tons of sediment per hectare per year are apparently accumulating. Since only some 10 tons of feed is used to produce about 5 tons of shrimp per hectare per year, this raises questions about where such incredible quantities of sediment come from (Rosenberry, 1994:42). Ponds are cleaned after each crop cycle and the sediments are often discarded in water ways leading into the sea, or they are sometimes used to build dikes. Their putrefaction inside and outside the ponds causes foul odours, hypereutrophication and eutrophication, siltation and turbidity of water courses and estuaries, with detrimental implications on local fauna and flora. Biodiversity losses: The impacts of semi-intensive and intensive shrimp aquaculture on biodiversity "the totality of genes, species and ecosystems in a region") are multiple. This is because of the land area they cover; the water they pollute; the water circulation systems they alter; the wild fish and crustacean habitats they replace; the risks they pose of disease transfer; the impacts of released raised shrimp on the genetic diversity and resilience of indigenous shrimp and possibly also their negative impact on other native fauna and flora. Health hazards; Health hazards to local populations living near or working in shrimp farms have been observed in several places. For instance, in Tamil Nadu (Quaid-e-Milleth district near Pondicherry) an approximately 1,500 acre large shrimp farm has been reported to have caused eight deaths from previously unknown diseases within a period of two months following the installation of the aquaculture farm (Naganathan et al., 1995:607). There are numerous hazards to public health along the shrimp production chain from the farmers through the various processors to the often distant consumers. The workers employed on shrimp farms handle several potentially dangerous chemicals, and may be exposed to unsanitary working conditions". According to the UN Reports - intensive ponds have a maximum life of only 5 to 12 years, Abandoned ponds can no longer be used for shrimp and there are few known alternative uses for them except some other types of aquaculture. Apparently they can seldom be economically rehabilitated for other uses such as crop land. The extent of abandoned areas by the shrimp industry has been indicated by the UN Report in the following words:-

"After a production cycle of about four or five months, shrimp ponds under intensive use are cleaned and disinfected and the polluted sludge is removed and often disposed of unsafely. This treatment, however, does not usually sufficient to maintain the ponds productivity for more than five to ten years (Ibid. Annex 111/12). Entrepreneurs then move to other areas because of pollution and disease. This mode of production has been called rape and run" (Csavas, 1994 b). The altered milieu of these abandoned ponds inhibits the spontaneous regeneration of vegetation and their use for agriculture, forestry, other aquaculture or related fishing activities. These abandoned areas do not appear in worldwide estimates of areas used for shrimp farming, which for 1995 were estimated to include 962,000 hectares, of which 847,000 hectares were in Asia. In December 1994 these areas were estimated to have increased worldwide to 1,147,500 with 1,017,000 hectares in Asia (Rosenberry, 1993 and 1994a). Globally areas affected by the industry's practices over the last decade are probably at least one third larger, or even more if the total infrastructures surrounding the ponds are accounted for".

The UN Report pithily sums up the conflicts and externalities as under:-

"A major portion of the conflicts arising from the expansion of shrimp farming are the result of environmental and social degradation that is not included in the costs of shrimp production. Where the industry assumes no responsibility for damages to other groups arising from its activities, economists call them "externalities". For example, abandoned ponds are usually virtually unusable for other purposes for indefinite periods without costly rehabilitation, which is seldom undertaken. Mangrove destruction, flooding of crops, salinisation or pollution of land and water associated with the expansion of shrimp farming all affect the local people depending on these resources".

Alagarwami has divided the shrimp-farm technology into six types. We have already quoted the relevant paragraph 5.1.2. of the report. Although different experts have given different nomenclature to different types of shrimp farm technologies, we are of the view that the types indicated by Alagarwami in his report are based on the functioning of the shrimp culture industry in India and as such are acceptable. Keeping in view the NEERI report and other material quoted and discussed by us, we are of the view that the traditional and improved traditional types of shrimp farm technologies - defined by Alagarwami - are environmentally benign and pollution free. Other types of technologies - extensive, modified extensive, semi intensive and intensive - create pollution and have degrading effect on the environment and coastal ecology. Such type of shrimp farms cannot be permitted to operate.

We may refer to constitutional and statutory provisions which mandate the State to protect and improve the environment. Article 48-A of the Constitution of India states that "the State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country". Article 51-A of the Constitution imposes as one of the fundamental duties on every citizen, the duty to protect and improve the natural environment including forests, lakes, rivers and wild life and to have compassion for living creatures. The Environment (Protection) Act, 1986 (the Act) was enacted as a result of the decisions taken at the United Nations Conference on the Human Environment held at Stockholm in June, 1972 in which India participated. The Indian delegation was led by the then Prime Minister of India. The Statement of objects and reason to the Act is as under:-

"The decline in environmental quality has been evidenced by increasing pollution, loss of vegetal cover and biological diversity, excessive concentrations of harmful chemicals in the ambient atmosphere and in food chains, growing risks of environmental accidents and threats to like support systems. The world community's resolve to protect and enhance the environmental quality found expression in the decisions taken at the United Nations Conference on the Human Environment held in Stockholm in June, 1972. Government of India participated in the Conference and strongly voiced the environmental concerns. While several measures have been taken for environmental protection both before and after the Conference, the need for a general legislation further to implement the decisions of the Conference has become increasingly evident.

"Section 2(a),2(b),2(c) and 2(e) of the Environment Act are as under:

"2. Definitions - In this Act, unless the context otherwise requires,-

(a) "environment" includes water, air and land and the inter-relationship which exists among and between water, air, and land and human beings, other living creatures, plants, micro-organism and property;

(b) "environmental pollutant" means any solid, liquid or gaseous substance present in such concentration as may be, or tend to be, injurious to environment;

(c) "environmental pollution" means the presence in the environment or any environmental pollutant;

(e) "hazardous substance" means any substances or preparation which, by reason of its chemical or physico-chemical properties or handling, is liable to cause harm to human beings, other living creatures, plants, micro-organism, property or the environment;

Sections 7 and 8 of the Environment Act are as under :

"7. Persons carrying on industry, operation, etc., not to allow emission or discharge of environmental pollutants in excess of the standards. - No person carrying on any industry, operation or process shall discharge or emit or permit to be discharged or emitted any environmental pollutant in excess of such standards as may be prescribed.

8. Persons handling hazardous substances to comply with procedural safeguards. -

No person shall handle or cause to be handled any hazardous substance except in accordance with such procedure and after complying with such safeguards as may be prescribed.

Section 15 of the Act makes contravention of the provisions of the said Act punishable with imprisonment for a term which may extend to five years or with fine which may extend to one lakh rupees or with both. If the failure or contravention continues beyond a period of one year after the date of conviction the offender shall be punishable with imprisonment for a term which may extend to seven years. The effluents discharged by the commercial shrimp culture farms are covered by the definition of Environmental pollutant, environmental pollution and hazardous substance. The NEERI reports indicate that the effluents discharged by the farms at various places were excess of the prescribed standards. Unfortunately, no action is being taken by the authorities under the Act.

Hazardous Waste (Management and Handling) Rules, 1989 (the rules) have been framed under the Act. Rule 2(i) of the rules defines "hazardous wastes" to mean categories of wastes specified in the Schedule appended to the rules. Waste category No. 12 under the Schedule to the rules is as under:-

SCHEDULE
Categories of Hazardous Waste

1	2	3
Waste Categories	Types of wastes	Regulatory quantities
Waste Category No. 12	Sludges arising from treatment of waste waters containing heavy metals, toxic organics, oils, emulsions and spend chemicals and incineration ash.	Irrespective of quality

Rule 5 of the rules makes it obligatory for every occupier generating hazardous wastes to obtain authorisation as provided under the said rule. Rule 5(4) requires the State Pollution Control Board not to issue any authorisation unless it is satisfied that the operator of a facility or an occupier, as the case may be, possesses appropriate facilities, technical capabilities and equipment to handle hazardous waste safely.

Mr. Mehta has vehemently contended that the shrimp culture farms are discharging highly polluting effluent which is "hazardous waste", under the rules. Mr. Mehta relying upon the NEERI reports and other reports placed on record has contended that none of the farms have obtained authorisation from the State Pollution Control Boards.

The Water (Prevention & Control of Pollution) Act 1974 (the Water Act) has been enacted to provide for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water. The Statement of Objects and Reasons of the Water Act, inter alia, state as under:-

"The problem of pollution of rivers and streams has assumed considerable importance and urgency in recent years as a result of the growth of industries and the increasing tendency to urbanization. It is therefore, essential to ensure that the domestic and industrial effluents are not allowed to be discharged into the water courses without adequate treatment as such discharges would render the water unsuitable as source of drinking water as well as for supporting fish life and for use in irrigation. Pollution of rivers and streams also causes increasing damage to the country's economy."

Section 2(j) & (k) of the Water Act are as under :

"2. Definitions- In this Act unless the context otherwise requires

(l) "stream" includes

- (i) river;
- (ii) water course (whether flowing or for the time being dry);
- (iii) inland water (whether natural or artificial);
- (iv) subterranean waters;
- (v) sea or tidal waters to such extent or, as the case may be, to such point as the State Government may, by notification in the Official Gazette, specify in this behalf;

(k) "trade effluent" includes any liquid, gaseous or solid substance which is discharged from any premises used for carrying on any (industry operation or process, or treatment and disposal system), other than domestic sewage.

Section 25 of the Water Act provides that no person shall, without the previous consent of the State Board establish any industry, operation or process or any treatment and disposal system which is likely to discharge sewage or trade effluent into a stream or well or sewer or on land. There is nothing on the record to show that the shrimp culture farm owners are even conscious of the statutory provisions which require them to obtain the necessary consent/ authorisation from the concerned Pollution Control Boards.

There are other legislations like Fisheries Act, 1897, Wild Life Protection Act 1972 and Forest Conservation Act, 1980 which contain useful provisions for environment protection and pollution control. Unfortunately, the authorities responsible for the implementation of various statutory provisions are wholly re-miss in the performance of their duties under the said provisions.

At this stage we may deal with a question which has incidentally come up for our consideration. Under para 2 of the CRZ notification, the activities listed thereunder are declared as prohibited activities. Various State Governments have enacted coastal aquaculture legislations regulating the industry to take up in the coastal areas. It was argued before us that certain provisions of the State legislations including that of the State of Tamil Nadu are not in consonance with the CRZ notification issued by the Government of India under Section 3(3) of the Act. Assuming that be so, we are of the view that the Act being a Central legislation has the overriding effect. The Act (the Environment Protection Act, 1986) has been enacted under Entry 13 of List I Schedule VII of the Constitution of India. The said entry is as under:-

"Participation in international conference, assessment and other bodies and implementing of decisions made there at."

The preamble to the Act clearly states that it was enacted to implement the decisions taken at the United Nations Conference on the Human Environment held at Stockholm in June, 1972. The Parliament has enacted the Act under Entry 13 or List I Schedule VII read with Article 253 of the Constitution of India. The CRZ notification having been issued under the Act shall have overriding effect and shall prevail over the law made by the legislatures of the States.

This Court in *Vellore Citizens Welfare Forum vs. Union of India & Ors.* of 1986 (7) SC 375 has dealt with the concept of "sustainable development" and has specifically accepted "The Precautionary Principle" and "The Polluter Pays" principle as part of the environmental laws of the land. The relevant part of the judgement is as under:

"The traditional concept that development and ecology are opposed to each other, is no longer acceptable. Sustainable Development is the answer. In the International sphere "Sustainable Development" as a concept came to be known for the first time in the Stockholm Declaration of 1972. Thereafter in 1987 the concept was given a definite shape by the world Commission on Environment and Development in its report called "Our Common Future". The Commission was chaired, by then Prime Minister of Norway Ms G. H. Brundtland Report". In 1991 the world conservation Union, United Nations Environment Programme and World Wide Fund for Nature jointly came out with a

document called caring for the Earth " which is a strategy for sustainable living. Finally came Earth summit held in June 1992 at Rio which saw the largest gathering of world leaders ever in the history - deliberating and chalking out a blue print for the survival of the planet. Among the tangible achievements of the Rio Conference was the signing of two conventions, one on biological diversity and another on climate change. These conventions were signed by 15 nations. The delegates also approved by consensus three non binding documents namely a statement on Forestry Principles, a declaration of principles on environmental policy and development initiatives and agenda 21, a programme of action into the next century in areas like poverty population and pollution . During the two decades from Stockholm to Rio "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of supporting eco systems. "Sustainable Development" as defined by the Brundtland Report means 'Development that meets the needs of the present without compromising the ability of the future generation to meet their own needs'. We have no hesitation in holding that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the Customary International Law though its salient features have yet to be finalised by the International Law Jurists.

Some of the salient principles of "Sustainable Development" as culled out from Brundtland Report and other international documents, are Inter-Generational Equity, Use and Conservation of Natural Resources, Environmental Protection the. Precautionary Principle, Polluter Pays principle, Obligation to assist and cooperate, Eradication of Poverty and Financial Assistance to the developing countries. We are, however, of the view that "The Precautionary Principle" and "The Polluter Pays" principle are essential features of "Sustainable Development", the "Precautionary Principle" - in the context of the municipal law - means:

(i) Environment measures - by the State Government and the statutory authorities must anticipate, prevent and attack the causes of environmental degradation.

(ii) Where there are threats or serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

(iii) The "Onus of proof" is on the actor or the Developer/industrialist to show that his action is environmentally benign.

"The Polluter Pays" principle has been held to be a sound principle by this Court in *Indian Council for Enviro-Legal Action vs. Union of India* of 1996 (2)196. The Court observed. 'We are of the opinion that any principle evolved in this behalf should be simple, practical and suited to the conditions obtaining in this country'. The Court ruled that "Once the activity carried on is hazardous or inherently dangerous the person carrying on such 'activity is liable to make good the loss caused to any other person by his activity irrespective of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on". Consequently the polluting industries are "absolutely liable to compensate for the harm caused by them to villagers in the affected area, to the soil and to the underground water and hence, they are bound to take all necessary measures to remove sludge and other pollutants lying in the affected areas". The "Polluter Pays" principle as interpreted by this Court means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of "Sustainable Development" and a such polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology. The precautionary principle and the polluter pays principle have been accepted as part of the law of the land. Article 21 of the Constitution of India guarantees protection of life and personal liberty.

Articles 47, 48A and 51A (g) of the Constitution are as under:

"47. Duty of the State to raise the level of nutrition and the standard of living and to improve public health. The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and in particular, the State shall endeavour to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health.

48A. Protection and improvement of environment and safeguarding of forests and wild life. The state shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country.

51A(g). To protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures.

Apart from the constitutional mandate to protect and improve the environment there are plenty of post independence legislations on the subject but more relevant enactments for our purpose are The water (Prevention and Control of pollution) Act, 1974 (the water Act), The Air (prevention and control of pollution) Act 1981 (The Air Act) and the Environment Protection Act, 1980 (The Environment Act). The Water Act provides for the constitution of the Central Pollution Control Board by the Central Government and the constitution of the State Pollution Control Boards by various State Governments in the country, The boards function under the control of the Government concerned. The Water Act prohibits the use of streams and wells for disposal of polluting matters. Also provides for restriction on outlets and discharge of effluents without discharge of effluents without obtaining consent from the Board. Prosecution and penalties have been provided which include sentence or imprisonment.. The Air Act provides that the Central Pollution Control Board and the State Pollution Control Board constituted under the Water Act shall also perform the powers and functions under the Air Act. The main function of the Boards under the Air Act is to improve the quality of the air and to prevent, control and abate air pollution in the country. We shall deal with the Environment Act in the later part of this judgement.

In view of the above mentioned constitutional and statutory provisions we have no hesitation to holding that the precautionary principle and the polluter pays principle are part of the environment law of the country.

We are of the view that before any shrimp industry or shrimp pond is permitted to be installed in the ecology fragile coastal area it must pass through a strict environmental test. There has to be a high powered "Authority" under the Act to scrutinise each and every case from the environmental point of view . There must be an environmental impact assessment before permission is granted to install commercial shrimp farms. The conceptual framework of the assessment must be broad based primarily concerning environmental protection linked with shrimp farming. The assessment must also include the social impact on different population strata in the area. the quality of the assessment must be analytically based on superior technology. It must take into consideration the intergenerational equity and the compensation for those who are affected and prejudiced,

Before parting with this judgment we may narrate the Dollar based argument advanced before us as was contended before us by the learned counsel appearing for the shrimp aquaculture industry that the industry has achieved singular distinction by earning maximum foreign exchange in the country. Almost 100 percent of the produce is exported to America, Europe and Japan and as such the industry has a large potential to earn "Dollars". That may be so , but the farm raised production of shrimp is much lesser than the wild-caught production. The UN Report shows the world production of shrimp from 1982 to 1993 as under :-

"Table 1: World Production of Shrimp (Thousands of Metric Tons)

Year	Farm-raised	Wild-caught	Total
1982	84	1,652	1,700
1983	145	1,686	1,620
1984	174	1,788	1,907
1985	218	1,906	2,162
1986	309	1,909	2,218
1987	551	1,735	2,264
1988	604	1,914	2,518
1989	611	1,832	2,425
1990	633	1,968	2,801
1991	690	2,118	2,808
1992	721	2,191	2,912
1993	610	2,100	2,216

It is obvious from the figures quoted above that farm raised production of shrimp is of very small quantity as compared to wild-caught. Even if some of the shrimp culture farms which are polluting the environment, are closed, the production of shrimp by environmentally friendly techniques would not be affected and there may not be any loss to the economy specially in view of the finding given by NEERI that the damage caused to ecology and economics by the aquaculture farming is higher than the earning from the sale of coastal aquaculture produce. That may be the reason for the European and American countries for not permitting their sea- coasts to be exploited for shrimp-culture farming. The UN report shows that 80% of the farm-cultured shrimp comes from the developing countries of Asia.

We, therefore, order and directed As under;

1. The Central Government shall constitute an authority under section 9(3) of the Environment (Protection) Act, 1986 and shall confer on the said authority all the powers necessary to protect the ecologically fragile coastal areas, sea shore, water front and other coastal areas and specially to deal with the situation created by the shrimp culture industry in the coastal states/Union Territories. The authority shall be headed by a retired Judge of a High Court. Other members preferably with expertise in the field of aquaculture, pollution control and environment protection shall be appointed by the Central Government. The Central Government shall confer on the said authority the powers to issue directions under section 6 of the Act and for taking measures with respect to the matters referred to in clauses (v), (vi), (vii), (viii), (ix), (x) and (xii) or sub-section (2) of Section 3. The Central Government shall constitute the authority before January 15, 1997.
2. The authority so constituted by the Central Government shall implement "the Precautionary Principle" and "the Polluter Pays' principles.
3. The shrimp culture industry/the shrimp ponds are covered by the prohibition contained in para 2(1) of the CRZ Notification. No shrimp culture pond can be constructed or set up within the coastal regulation zone as defined in the CRZ notification. This shall be applicable to all seas, bays, estuaries, creeks, rivers and backwaters. This direction shall not apply to traditional and improved traditional types of technologies as defined in Alagarwami report which are practised in the coastal low lying areas.
4. All aqua-culture industries/shrimp culture industries/shrimp culture ponds operating/set up in the coastal regulation zone as defined under the CRZ Notification shall be demolished and removed from the said area before March 31, 1997. We direct the Superintendent of Police/Deputy Commissioner of Police and the District Magistrate/ Collector of the area to enforce this direction and close/demolish all aquaculture industries/shrimp culture industries /shrimp culture ponds on or before March, 31, 1997. A compliance report in this respect shall be filed in this Court by these authorities before April 15, 1997.
5. The farmers who are operating traditional and improved traditional systems of aquaculture may adopt improved technology for increased production, productivity and return with prior approval of the "authority" constituted by this order.
6. The agricultural lands, salt pan lands, mangroves, wet lands, forest lands, land for village common purpose and the land meant for public purposes shall not be used/convened for construction of shrimp culture ponds.
7. No aquaculture industry/shrimp culture industry/shrimp culture ponds shall be constructed/set up within 1000 meter of Chilka Lake, Pulicat Lake (including Bird Sanctuaries namely Yadurapattu and Nelapattu)
8. Aquaculture industry/shrimp culture industry/shrimp culture ponds already operating and functioning in the said area of 1000 meter shall be closed and demolished before March 31, 1997. We direct the Superintendent of Police/Deputy Commissioner of Police and the District Magistrate/Collector of the area to enforce this direction and demolish aquaculture industries/shrimp culture industries, shrimp culture ponds on or before March 31, 1997. A compliance report in this respect shall be filed in this Court by these authorities before April 15, 1997.

9. Aquaculture industry/shrimp culture industry/shrimp culture ponds other than traditional and improved traditional may be set up /constructed outside the coastal regulation zone as defined by the CRZ notification and outside 1000 meter of Chilka and Pulicat Lake with the prior approval of the "authority" as constituted by this Court. Such industries which are already operating in the said areas shall obtain authorisation from the "Authority" before April 30, 1997 failing which the industry concerned shall stop functioning with effect from the said date. We further direct that any aquaculture activity including intensive and semi-intensive which has the effect of causing salinity of soil, or the drinking water or wells and/or by the use of chemical feeds increases shrimp or prawn production with consequent increase in sedimentation which, on putrefaction is a potential health hazard, apart from causing siltation turbidity of water course and estuaries with detrimental implication on local fauna and flora shall not be allowed by the aforesaid authority.
10. Aquaculture industry/shrimp culture industry/shrimp culture pond which have been functioning/operating within the coastal regulation zone as defined by the CRZ Notification and within 1000 meter from Chilka and Pulicat Lakes shall be liable to compensate the affected persons on the basis of the "polluter pays" principle.
11. The authority shall, with the help of expert opinion and after giving opportunity to the concerned polluters assess the loss to the ecology/environment the affected areas and shall compensate all individuals/families who have suffered because of the pollution and shall assess the compensation to be paid to the said individuals/families. The authority shall further determine the compensation to be recovered from the polluters as cost of reversing the damaged environment. The authority shall lay down just and fair procedure for compensating the exercise.
12. The authority shall compute the compensation under two heads namely for reversing the ecology and for payment to individuals. A statement showing the total amount to be recovered, the names of the polluter whom the amount is to be recovered, the amount recovered from each polluter, the persons to whom the compensation is to be paid and the amount payable to each of them shall be forwarded to the Collector/District Magistrate of the area concerned. The Collector/District Magistrate shall recover, the amount from the polluters, if necessary, as arrears of land revenue. He shall disburse the compensation awarded by the authority to the affected persons/families.
13. We further direct that any violation or non-compliance of the directions of this Court shall attract the provisions of the Contempt of Courts Act in addition.
14. The compensation amount recovered from the polluters shall be deposited under a separate head called "Environment Protection Fund" and shall be utilised for compensating the affected persons as, identified by the authority and also for restoring the damaged environment.
15. The authority, in consultation with expert bodies like NEERI, Central Pollution Control Board, respective State Pollution Control Boards shall frame scheme/schemes for reversing the damage caused to the ecology and environment by pollution in the coastal States/Union Territories. The scheme/schemes so framed shall be executed by the respective State Governments/Union Territory Governments under the supervision of the Central Government. The expenditure shall be met from the "Environment Protection Fund" and from other sources provided by the respective State Governments/Union Territory Governments and the Central Government.
16. The workmen employed in the shrimp culture industries which are to be closed in terms of this Order, shall be deemed to have been retrenched with effect from April 30, 1997 provided they have been in continuous service (as defined in Section 258 of the Industrial Disputes Act, 1947) for not less than one year in the industry concerned before the said date. They shall be paid compensation in terms of Section 258 of the Industrial Disputes Act, 1947. These workmen shall also be paid, in addition, six year's wages as disturbed compensation. The compensation shall be paid to the workmen before May 31, 1997. The gratuity amount payable to the workmen shall be paid in addition.

The writ petition is allowed with costs. We quantify the costs as Rs. 1,40,000/- (Rupees one lac forty thousand) to be paid by the States of Gujarat, Maharashtra, Orissa, Kerala, Tamil Nadu, Andhra Pradesh and West Bengal in equal shares of Rs. 20,000/- each. The amount of Rs. 1,40,000/- realised from the seven Coastal States shall be paid to Mr. M. C. Mehta, Advocate who has assisted us in this case throughout. We place on record our appreciation for the assistance rendered by M. C. Mehta.

Sd/-
(Kuldip Singh)

NewDelhi
December 11, 1996.

Sd/-
(S. Saghir Ahmad)

