Proceedings

Regional Workshop on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods

18 and 19 January 2006

Chennai, India

International Collective in Support of Fishworkers (ICSF)

www.icsf.net

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27 College Road, Chennai 600 006, India
Tel: +91 44 2827 5303 Fax: +91 44 2825 4457
Email: icsf@icsf.net
http://www.icsf.net

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Preface

Fishing communities, occupying the very margins of the land mass as it were, were among the worst affected in the Indian Ocean tsunami of 26 December 2004. Apart from significant losses of life and injury, fishing communities reported loss of houses, craft, gear, equipment and other means of livelihoods.

The period since then has seen considerable mobilization of aid towards relief and rehabilitation of all affected communities. To obtain a comprehensive understanding of the interventions that have taken place to rehabilitate the fisheries sector and communities dependent on fisheries and to identify the issues and challenges emerging, ICSF commissioned studies in four countries, namely, Indonesia, Thailand, Sri Lanka and India, in October 2005. A particular area of interest was to understand the role, if any, that had been played by traditional institutions in fishing communities in mediating tsunami relief and rehabilitation, with a view to assessing the potential role of these institutions in longer-term rehabilitation and resource management.

These studies were presented at the *Regional Workshop on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods*, held in Chennai, India on 18 and 19 January 2006, with the participation of fishworker organizations, Non-Governmental Organizations, policymakers and representatives of multilateral agencies, from India, Sri Lanka, Thailand, Indonesia and Maldives.

A one-day NGO meeting was held prior to this, on 17 January, to enable organizations working with fishing communities in tsunami rehabilitation to share experiences and learn from one another. The meeting was also meant to identify some of the key issues/challenges emerging for longer-term rehabilitation, drawing on the country-level studies, and to put forth recommendations on basic issues that need to be addressed by ongoing rehabilitation interventions. These recommendations were presented to the workshop on 19 January 2006, and have since been widely circulated.

This publication, which contains the proceedings of the workshop, the reports of the country studies, and the recommendations made at the workshop, will be useful to those engaged in the post-tsunami rehabilitation of fishing communities. It is hoped that it will also influence the course of rehabilitation in ways that benefit small-scale fishing communities and help improve their livelihoods in the long term.

Proceedings

INTRODUCTION

Background and Rationale

The tsunami that struck countries in the Indian Ocean region on 26 December 2004 caused severe damage to life and livelihood. The impact on fishing communities in affected countries was particularly severe. Apart from loss of life and injury, many households dependent on fisheries lost their houses, craft, gear, equipment and other means of livelihoods. Estimates indicated that damages to the fishing and aquaculture industry were substantial, to the order of US$568 mn in India, US$511 mn in Indonesia, US$335 mn in Sri Lanka, about US$139 mn in Thailand and about US$25 mn in Maldives.

It is well known that while natural disasters make no distinction, the ability to face them and recover from them differs substantially, depending on the social, economic, environmental and political reality. Clearly, the damage from the Indian Ocean tsunami was much greater than it should have been, because of certain underlying realities facing fishing communities along the coast.

If longer-term resilience to natural disasters has to be increased, rehabilitation interventions would need to take into account, and address, issues requiring interventions of a longer-term nature.

To obtain a comprehensive understanding of the interventions that have taken place to rehabilitate the fisheries sector and communities dependent on fisheries and to identify the emerging issues/challenges, ICSF commissioned studies in four countries, namely, Indonesia, Thailand, Sri Lanka and India, in October 2005. In addition to these four studies, ICSF also commissioned a study in India on "The Role of Traditional *Panchayat*s in Coastal Fishing Communities in Tamil Nadu, with Special Reference to their Role in Mediating Tsunami Relief and Rehabilitation."

These studies were presented at the *Regional Workshop on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods* held in Chennai, India on 18 and 19 January 2006. The workshop provided a constructive space for dialogue between fishworker organizations, NGOs, policymakers and representatives of multilateral agencies, from India, Sri Lanka, Thailand, Indonesia and Maldives. It was aimed to:

- analyze the status of rehabilitation efforts in the fisheries sector and fishing communities; and
- identify issues that need to be addressed in ongoing rehabilitation projects vis-à-vis the fisheries sector for sustaining livelihoods in the longer term.

A one-day meeting of fishworker organizations and NGOs working with fishing communities in tsunami-affected countries was held on 17 January, prior to the regional workshop. The meeting was meant to:

- provide an opportunity for participants from various countries to share experiences and learn from one another; and
- enable participants to agree on basic issues that need to be addressed by ongoing rehabilitation interventions, some of which are likely to be country-specific.

NGO Meeting

The one-day NGO meeting was held at the YWCA Conference Hall, Chennai. The programme for the meeting can be found in Appendix 2 and a report on the meeting is in Appendix 3. A total of 50 delegates participated in the meeting. The meeting enabled organizations working with fishing communities to share experiences and to learn from one another. It also took stock of rehabilitation interventions and agreed on some basic issues that need to be addressed by ongoing rehabilitation interventions, keeping in mind the fact that rehabilitation initiatives by NGOs, multilateral agencies and governments are still underway. These recommendations were presented to the workshop on 19 January 2006.

Regional Workshop

The regional workshop was organized at the IMAGE Auditorium, in Chennai, Tamil Nadu, India. A total of 90 persons, primarily from the tsunami-affected countries of Indonesia, India, Sri Lanka, Maldives and Thailand, participated in the workshop. They included representatives from fishworker organizations, NGOs and multilateral organizations such as the Food and

Agriculture Organization of the United Nations (FAO), the World Bank, the Asian Development Bank (ADB) and the United Nations Development Programme (UNDP). Government representatives from all the above countries also participated in the workshop. The complete list of participants can be found in Appendix 5.

The workshop programme (see Appendix 1) included presentations of the country-level studies, followed by discussions in the plenary. Multilateral agencies present provided an overview of their work and proposed future interventions. In a panel discussion, representatives of governments and NGOs highlighted their future priorities for tsunami rehabilitation work. The recommendations from the NGO meeting were also presented.

Field Visit

The programme for the three-day field visit, from 20 to 22 January, is in Appendix 4. The field visit provided participants with an exposure to post-tsunami interventions as related to house construction, habitat restoration, appropriate technologies, alternative employment and co-ordination of aid, taking place in the districts of Nagapattinam and Villupuram in the State of Tamil Nadu, India, through interactions with government officials, women's self-help groups, NGOs and fishing communities.

INAUGURAL SESSION

Welcome: **Chandrika Sharma,** *Executive Secretary, International Collective in Support of Fishworkers (ICSF)*

Welcoming the participants to the workshop, Chandrika Sharma, Executive Secretary of ICSF, gave a short background about the organization, which was formed in 1986 to defend the interests of the small-scale fisheries sector, particularly in the developing world, and to ensure their participation in important decision-making processes affecting their lives. An important part of ICSF's work is to make available information for, and about, small-scale fishworkers to bring greater visibility to the sector, through its Documentation Centre. Towards this end, ICSF brings out various publications, such as *SAMUDRA Report*. A more recent initiative is the *SAMUDRA News Alerts* that go out free to subscribers all over the world on a daily basis. The Documentation Centre also maintains active links with other such centres in the French and Spanish-speaking regions. ICSF has also been organizing workshops for small-scale fishworkers and NGOs, providing a constructive space for dialogue between fishworker organizations, NGOs, scientists, governments, researchers and others. The present workshop was in line with this, Chandrika Sharma said in conclusion.

Chairperson's Address: **R. Santhanam**, *Special Commissioner and Commissioner for Revenue Administration and State Relief Commissioner, Government of Tamil Nadu, India*

R. Santhanam said the workshop was being organized at the right time, just over a year after the tsunami disaster struck the State, which is a good time to take stock of the situation, review the state of rehabilitation efforts, identify issues that need to be addressed, and chalk out issues for the implementation of projects that are sustainable in the long run.

Santhanam congratulated ICSF on the reports brought out. He complimented, in particular, the author of the India study for covering the entire gamut of fisheries rehabilitation, and for the indepth analysis of significant issues in the rehabilitation process, namely, relief and compensation, livelihood restoration, relocation, role of institutions like fishermen's *panchayat*s in India, the problem of surplus boats, the dilemma of workers-turned-owners, and the rights of fisherwomen in the changed structure and scenario.

Santhanam also referred to various other studies, including those brought out by the Tata Institute of Social Sciences (TISS), the Fritz Institute, the South India Producers' Association (SIPA) and others, pointing out that such studies undertaken by independent organizations, made useful and important contributions towards providing directions to the rehabilitation processes, and identifying corrective actions, wherever necessary.

He drew attention to the fact that the tsunami disaster was the worst in living memory with the largest proportion of the damage concentrated in fisheries, housing and infrastructure. He said that it was not surprising that there was a greater focus on fishers during the relief and rehabilitation process. The Government of Tamil Nadu not only concentrated

on fishers but also took into account the requirement of other affected sections like small and marginal farmers, agricultural labourers, businessmen, petty traders, orphaned children, adolescent girls, students and various other categories of people, and provided relief packages to every category. Just as ICSF has commissioned studies for improving the lot of fishers, similar studies by others on other affected groups would be appreciated, as the common objective is to strive for a safe and secure future for all those who are affected by the tsunami in some way or the other.

Santhanam stressed that the Tamil Nadu government's response to the tsunami disaster has been characterized by a willingness to provide adequate space for civil society organizations (CSOs), to remove bottlenecks for their functioning, and be accessible and receptive to feedback and act upon them promptly. The State Relief Commissioner then proceeded to flag three main issues that are the main areas of concern:

(i) Proliferation of boats after the tsunami

In the post-tsunami period, the Coromandel coast saw the presence of a large number of NGOs and their desire to do something quick and visible in the tsunami-affected areas. This resulted in a large number of people who previously had no boats now getting boats. This is likely to result in a chain of other events such as shortage of people working as crew; increased dropouts from schools due to fishers taking their children to sea; competition by more boats from the same village for finite fishery resources in the same fishing area, causing tensions both at sea and on shore; and finally, an aggravation of tensions resulting from the changed social structure of workers-turned-owners.

Santhanam also pointed out that beneficiaries who have received boats have expressed concerns over the quality of boats built in a hurry and supplied by the NGOs. This, in turn, raises safety concerns. The other issues include a surplus of boats, alongside a shortage of nets and other equipment required for fishing; the high cost of maintenance; the unsuitability of boats to local conditions or requirements; and variations from the preferred design and make of engine. These are very serious issues that have to be dealt with and for which solutions have to be found, said the Commissioner.

(ii) Relocation

The State Relief Commissioner said that the Chief Minister of Tamil Nadu had announced a well-thought policy on housing in March 2005. The fishing communities in the tsunami-affected areas were faced with a difficult situation of deciding between safety and livelihoods. He said that while the safety concerns required them to go inland, their livelihood interests forced them to be at the shoreline.

The governments' housing policy is in accordance with the coastal regulation zone (CRZ) notification, and gives the option to the fishers to relocate beyond 200 m from the high tide line (HTL) if they so wish, reiterated the Commissioner. There is no compulsory relocation. Those who are willing to relocate have been assured of a house worth Rs150,000 (US$3,388), along with land. Those not willing to relocate would be allowed to repair, without government's assistance, if the structures are authorized and were in their current plots prior to 1991.

The Commissioner said that the government's policy is driven purely by safety considerations. There is a misconception among some people that the space vacated by fishermen who chose to relocate would be given to some other industries, which would totally destroy the fishers' livelihood. The Chief Minister had already assured the State Legislative Assembly that the vacated land would be entered in the Prohibitory Order Book (POB) and would be maintained for public purposes, which include the occupational use of beach by the fishing community. The community would be allowed to keep their boats, nets, etc. in this area. Since new houses are to be built as per the technical specification of the government for safety and durability, it is in the interest of the community to look at the relocation issue in the right perspective, he stressed.

(iii) Alternative livelihoods

Santhanam said that the issue of alternative livelihoods was important in the current situation where the tsunami has brought to the fore the risks involved in coastal lives. The limited nature of the aquatic resources has added another dimension. The government has addressed these needs in right earnest, and a dedicated programme of alternative livelihoods is being formulated in consultation with the affected communities. Recognizing the advantages of group-

based activities, special attention is being paid to ensure that these opportunities are delivered through self-help groups. Initiatives such as seaweed farming, crab and lobster fattening, etc. are being looked at as options. Generally, all these have got very good export markets, and can make a lot of difference to the fishers. The State Relief Commissioner emphasized the importance of establishing forward linkages if such activities are to be done in a sustainable manner.

He said that the coastal economy supply chain could be substantially altered through the identification and implementation of alternative livelihood opportunities. These will not only supplement the income gained but also provide for substantive risk diversification for the fishing communities. There is a provision of nearly US$50 mn for livelihood promotion in the Asian Development Bank (ADB) Tsunami Emergency Assistance Project, which is now being implemented in Tamil Nadu. Similarly, the post-tsunami sustainable livelihood programme funded by the International Fund for Agricultural Development (IFAD) focuses mainly on community resources management, community institutions, micro- and rural financial institutions and micro-enterprise development. He hoped organizations working with fishing communities, such as those present at the workshop, would help in the identification and implementation of projects, as that would go a long way in the restoration of the community that was the worst affected in the tsunami.

Background to the Workshop: **V. Vivekanandan,** *Chief Executive, South Indian Federation of Fishermen Societies (SIFFS), India*

Vivekanandan provided the background to the workshop. He said that one year on, it was a good time to take stock and reflect on post-tsunami relief and rehabilitation processes. ICSF had been, from the very beginning, monitoring and trying to follow up on the tsunami relief and rehabilitation process. He pointed out that, even though coastal areas are disaster-prone, many present at the workshop did not have much previous disaster experience. The experience that has been gained in the post-tsunami period will help us to be better prepared for future disasters. There have also been amazing opportunities for comparison due to the vast diversity of the affected areas/countries. Areas and countries seen as distinct geopolitical entities, which previously had rarely come together to think of common approaches and programmes, were united by the indiscriminating tsunami. This has also given an excellent opportunity to look at fisheries issues with a common perspective.

Vivekanandan pointed out that Southeast Asia, for example, is way ahead of south Asia in terms of community-based coastal resource management (CBCRM). It is with this kind of a regional perspective that ICSF decided to take stock of the situation one year after the tsunami by launching country-level studies in India, Indonesia, Thailand and Sri Lanka. It was decided to present these studies and organize a discussion and debate around them. The Fisheries Department of the Maldives had also expressed its interest in the workshop even though ICSF itself has not been able to commission a study in the Maldives. The workshop thus offers the opportunity to discuss the post-tsunami situation in five tsunami-affected countries in Asia.

Vivekanandan then proceeded to give the schedule of the workshop. He pointed out that this was the time that multilateral agencies, with large funds at their disposal, were starting their longer-term interventions. It is important to know their plans for tsunami rehabilitation, with the aim of coming out with the best way to take the whole process of rehabilitation forward. Therefore, following the presentations of country studies and inputs by government officials present on the country situations, multilateral agencies would present their plans for the coming period. And finally, the fishworker perspective would be presented in the form of a set of recommendations that had been drafted during the NGO meeting prior to the workshop. The recommendations, he said, were based on issues that emerged during country-level processes and consultations with affected communities.

Inaugural Address: **A. Vaidyanathan,** *Former Director, Madras Institute of Development Studies (MIDS), India*

Vaidyanathan started his address by complimenting the authors of the studies that had been commissioned. He stressed that the reports had been written not just to look at the success and failures of rehabilitation

programmes and processes but also to raise concerns and questions on longer-term issues.

He pointed to two underlying areas of concern. The first was the fragmented response to an immediate problem that often lacked a co-ordinated or comprehensive understanding of the nature of the disaster. The second and more important issue related to what the disaster meant to the fishing community—not only those directly dependent on fisheries but also those indirectly dependent on the resources for their livelihood.

Vaidyanathan stressed the importance of understanding the many changes that have been taking place over a period of time in the fisheries sector as related to technology, the resource base and demography, as what we see today is the cumulative effect of these changes. He delved briefly into the history of the development of the fisheries sector in India, and the impact of modern technology on the artisanal sector and fisheries resources. He spoke of the growing concern, even consensus, among experts that the rate of exploitation of fishery resources has exceeded sustainable limits. This, together with ecological damages in the estuarine areas and the coastal ecosystems, compounded in some areas by the advent of unregulated aquaculture, has aggravated the resource situation.

He pointed to some key issues facing the sector today, particularly the differential access to resources that has led to conflicts between the traditional sector and the modernized sector in inshore waters. Traditional fishermen often end up being marginalized and become sources of cheap labour.

Vaidyanathan stressed that interventions should be undertaken taking into consideration all such complex processes in the sector. There is, at the same time, need for good research on the potential of the available resources, which is still a grey area, where there are many opinions but no hard, well-documented answers. Much more information is needed to convert facts into actual knowledge. He reiterated that even the issue of diversification could be dealt with only after knowing and understanding the larger context of constraints and opportunities.

He emphasized the need to understand and document local knowledge, both in the collective memory and the experiences of the fisherfolk. Their ideas and interpretations, different from that of the experts, should be documented, and efforts should be made to increase their interaction with the knowledge, technology, competence and expertise of the modern scientific community.

Vaidyanathan strongly urged the participants to look beyond the success and failures of rehabilitation, and develop a much richer understanding of the interaction between the resource, technology and institutions. Addressing problems in a fragmented manner may otherwise lead to outcomes very different from those expected and might indeed turn out to be disappointing. He, therefore, urged the participants to have a larger and longer-term perspective to streamlining rehabilitation efforts.

COUNTRY REPORTS

INDONESIA

Author and presenter: **Hilde Janssen**, *Independent Journalist, Indonesia*

Chairperson: **Y. S. Yadava**, *Director, Bay of Bengal Programme Inter-Governmental Organization (BOBP-IGO), India*

Hilde Janssen presented the study on Indonesia. She said that the study was based on field surveys conducted in Aceh and Nias, the most severely affected provinces in Indonesia. Briefing participants on the pre-tsunami situation vis-à-vis small-scale fisheries and fishing communities in Aceh and Nias, Hilde elaborated on the role of various peoples organizations in the pre-tsunami context such as the *toukay*, the merchant-trader, also the main informal money-lending institution; the *panglima laot*, a traditional institution in fishing communities responsible for dispute settlement and checking illegal fishing; and the Gerakan Aceh Merdeka (GAM), or the Free Aceh Movement.

After providing a detailed overview of the damages in the fisheries sector, Janssen said that in the rehabilitation phase the efforts or interventions vis-à-vis livelihoods in the fisheries sector could be classified into: interventions in the harvesting sector; interventions in infrastructure; and interventions in the post-harvest sector. A major issue identified in almost all phases of rehabilitation was the non-inclusion of women in the process of relief and rehabilitation.

Janssen said that that there was no particular target quota for women, as fisheries was considered to be the domain of men.

In the context of land and shelter, relocation is a major issue. There are debates still going on in communities on whether to return to their original settlements or to relocate. There are also concerns on whether minimum standards, as on safety, are being followed in housing and reconstruction, given the wide variety in type, quality, size and package of interventions by different players in the field.

Janssen presented what she saw as cross-cutting issues in rehabilitation:

- The quality of aid and difficulty in ensuring good aid
- The quantity of aid, and problems arising while dealing with the issue of oversupply and depletion of resources
- Co-ordination
- Identification of beneficiaries in the rehabilitation process
- The issue posed by problematic ideas, like cutting out middlemen from the fisheries sector, which could be viewed as either utopian or feasible

In conclusion, Janssen stressed the following as essential needs:

- Finding a fine balance between quick, good and participatory solutions to meet the challenges of post-tsunami rehabilitation
- Formulating effective mechanisms for monitoring, co-ordination and control of relief and rehabilitation effort
- Finding a way out of the mode of competition among different players in the rehabilitation processes
- Finding solutions to genuine complaints of stakeholders

Comment: **Saut P. Hutagalung**, *Director of Planning and International Co-operation Bureau, Ministry of Marine Affairs and Fisheries, Indonesia*

Saut Hutagalung commended the study for its informative and comprehensive coverage. He said that it was a useful input for the Indonesian government as well as for all those who have committed to support the rehabilitation of Aceh and Nias.

Hutagalung then proceeded to inform the participants about the priorities of the Indonesian government in the rehabilitation phase. Housing tops the list of priorities as seen by the Government of Indonesia and the effort is to complete housing by the end of 2007. In the second phase, infrastructure development would be the top priority and this focus would continue till mid-2008. The year 2008-2009 would see institutional, social and human resource development leading the list of activities. Cutting through all these phases will be the effort to ensure economic activities to supplement the income of the tsunami-affected.

Hutagalung further listed the following rehabilitation priorities identified by the Government of Indonesia:

- Promoting effective co-ordination mechanisms between the provincial government Badan Rehabilitasi dan Rekonstruksi (BRR), the district government, donors and NGOs
- Promoting district-level teamwork among players/stakeholders (and encouraging community representatives/*panglima laot* to participate)
- Accelerating implementation of rehabilitation programmes
- Finalizing spatial/zoning plans for infrastructure, aquaculture, housing, markets, etc.
- Ensuring good quality of goods/services delivered to the communities
- Strengthening capacity of the provincial government to implement and monitor programmes
- Supporting the anti-corruption campaign, which was launched by the Governor of Aceh on 12 January 2006
- Supporting interventions that go beyond just replacement of losses/damages (in fisheries, for example, aim not just to replace lost craft and gear but also to improve fisheries and resource management)

Discussion

In the discussion that followed, a question on the role of traditional institutions like the *panglima laot* in the post-tsunami scenario was raised. Janssen said that post-tsunami, local leaders of fishing communities, apart from playing their traditional role of dispute

management and safeguarding traditions, were also involved in managing the aid coming in from different donors and in providing boats, gear and nets for the community. Traditionally, leaders of these institutions are respected for their knowledge and seniority. The influx of money post-tsunami has led to some distrust of the leaders, as people suspect them of corruption with respect to the aid coming in. Janssen said that even though traditional systems are the best vehicles to reach the community at large, involving them in money transactions can erode the respect and the trust that people have in them. She cautioned that while donor agencies should work with the *panglima laot* for their knowledge and their strong networking, there is need to be careful in not putting in too much money into the system. Rather, there should be involvement with the larger community, with clear controls and transparency in the use of money.

A discussion followed on the changed situation in Banda Aceh and the peace process underway in the post-tsunami period, with the civil unrest waning and talks being held between the Indonesian government and the Aceh separatist movement. It was pointed out that all signs on the peace settlements were positive. People are, however, watching the developments carefully as there was a similar peace settlement in 2002 with the separatists, which failed after a few months. The difference now is that the tsunami has made people aware that there is a lot at stake as they have lost much, and people are keen to move forward. There is also a lot of political support and will from the government, particularly after it became clear that the internal conflict was actually hindering the aid process. The tsunami has brought peace to this earlier conflict-ridden area, even though there are some stumbling blocks to be crossed, such as the new legislation required. Reports from the ground are also positive, indicating that former GAM fighters are returning to their villages. It was pointed out that the positive processes in Indonesia were in contrast to the situation in Sri Lanka where the peace process has been under stress post-tsunami, with consequent severe impacts on the livelihoods of fishing communities, especially in the conflict-ridden north and northeast of the country.

Another question was on the efforts in Aceh to move fishers towards deep-sea fisheries. Was this an initiative coming from the people or from the government? Was it sustainable? In response, it was said that Lembaga Ilmu Pengetahuan Indonesia (LIPI), the Indonesian Institute of Sciences, had undertaken a survey on the impact of the tsunami on the coastal region. It had collected data on stocks in the coastal areas but the survey had not included offshore waters. The Government of Indonesia is also interested in knowing the status of deep-sea fish stocks. Janssen said that some caution was needed before promoting such diversification.

Saut Hutagalung said that the Indonesian government has a policy designed to stop the operations of foreign fleets in the Indonesian exclusive economic zone (EEZ) under licensing arrangements, unless it is through joint arrangements. In such a situation, he stressed, there is an opportunity for the national fleet to develop gradually. There was also an opportunity for Aceh fishermen to develop themselves in such a context. At present, there are only five boats in the area, a very small number. By developing the deep-sea fishery, the pressure on coastal waters and their resources can be reduced considerably, at least along the east coast of Aceh. He said that the views of local communities are being taken into account while formulating these policies. He further clarified that the government was not referring to deep-sea vessels in the range of 100 gross tonnes (GT), but was planning for vessels not exceeding 10 GT in the initial trial phase.

There was also interest among the participants to know the stand of the Government of Indonesia towards the offer by the European Union (EU) on decommissioned vessels. Hutagalung said that to date the government has not actually accepted the offer. However, the government is now starting discussion with EU on the offer. Any decision taken will be based on a complete stock assessment, and discussions with the local government and the *panglima laot* on how the EU boats can be put to use and on how to develop the local capacity to utilize them.

THAILAND

Author and presenter: **Duangkamol Sirisook**, *Sustainable Development Foundation (SDF), Thailand*

Chairperson: **Muhammad Adli**, *Panglima Laot, Indonesia*

The presentation started with a slideshow of photographs showing the damages and losses Thailand suffered due to the tsunami. After a brief description and statistics on the damages and losses, in general, and in the fisheries sector, in particular, Sirisook proceeded to enlist the relief measures given in the fishery sector. These mainly comprised compensation for damage and loss of assets; aid for occupational development; assistance for housing and settlement; and relief measures for women and children.

The Thai team identified the following key issues in the relief and rehabilitation process:

- **Lack of clear and accurate data**: This problem was common to all countries, and had also resulted in widespread duplication of work. From the data available from the Department of Disaster Mitigation, for example, a total of 4,807 small vessels had been damaged in the tsunami. According to the data from the Department of Fisheries, however, 6,000 boats have already been replaced. Can it be concluded that there is an obvious oversupply of boats, or was there misinformation on the number of boats damaged in the first place? In the initial period after the tsunami, people were working with varying information, and lack of co-ordination. Hence a lot of the relief and support that was given did not go to meet actual losses.
- **Lack of co-ordination**: Relief and rehabilitation have been marked by poor co-ordination and lack of local mechanisms to manage relief operations. Additionally, diverse approaches and strategies have been used to disburse aid, depending on the underlying philosophies of organizations. For example, the Save Andaman Network (SAN) worked with the philosophy that communities should pay back what they had received, towards a common fund that could be used to further develop and strengthen the community and its organizations. SAN was wary of the problems, conflicts and the dependency that could be created by giving aid for free. Other organizations, however, believed in giving "free" aid.
- **Inadequate/inappropriate fishing gear**: Several organizations that had little experience of working with fishing communities, either supplied only the boats with no gear, or supplied gear that was inappropriate, and even destructive.
- **Compensation for damaged boats**: The compensation amount announced by the government for damaged vessels differed for registered and unregistered boats. For a registered boat, the compensation amount was THB50,000 (US$1,289), while for an unregistered boat, it was THB30,000 (US$771). This amount was, in any case, inadequate for even registered fishers to purchase new boats. SAN argued that relief should be on a humanitarian basis and not on the basis of whether you are inside or outside the system.
- **Damage assessment**: The principles and guidelines for assessing the scale of damage were problematic. The guidelines required that a committee be appointed to assess the damage. However, there were no common standards to assess damages. Further, only committee members knew the methodology for assessment—those who were actually affected were not consulted or informed. Many community persons were, therefore, dissatisfied with the assessment and compensation, and the lack of transparency in the functioning of the committee.
- **Lack of compensation for workers**: No compensation was provided to those working on fishing vessels and as workers on shore. Each boat lost affected those who worked as crew and on shore in post-harvest operations. However, compensation was given only to owners of fishing boats.
- **Migrant workers and ethnic minorities**: Ethnic groups, such as the sea gypsies, did not receive adequate compensation, even though they had lost their boats and houses, and were economically marginalized, in the first place. The sea gypsies are also faced with the issue of insecure title rights to their land, and claims by private landowners, even though the sea gypsies

have occupied much of the land for 60 years. Migrant workers, mainly from Myanmar, also faced the same problem. Estimates suggest that there are about 120,000 migrant workers, both legal and "illegal", constituting the largest workforce in the commercial fishing sector. Even though the Ministry of Labour did provide an opportunity to these workers to register, many of them went into hiding for fear of arrest, especially those who had lost their identification documents in the tsunami. Little information about their numbers or whereabouts is available even today. According to the government, nine migrant workers died in six provinces. However, studies by the NGO network indicate that at least 270 migrant workers have died in one village alone.

- **Land conflict**: In the post-tsunami period, many simmering land conflicts have come to the fore. There are about 81 tsunami-affected villages where there are conflicts over land, both with private landowners, and with the government (in cases where communities are on "public land").

On the matter of long-term rehabilitation, the following were identified as the major programmes:

- **Seafood Bank project**: As part of this programme, the government plans to give entitlements to coastal waters to promote aquaculture. It is being seen as a long-term rehabilitation measure in the post-tsunami period, and will be backed by various types of support, such as training and credit. Fisherfolk organizations, however, are very concerned about the project, as it is feared that, among other things, it will privatise what is a common-pool natural resource.
- **Special economic zones (SEZs)**: The government is moving to set up SEZs to revive the economy of the Andaman coast. Various incentives are being offered to those who invest in this region, including relaxation of tax laws, and laws to facilitate acquisition. This development is linked to the larger process of stimulating free trade as part of the globalization process. The impact on local people, particularly in terms of displacement, and on natural resources is likely to be high.

The Thai presenters concluded their presentation by sharing with the workshop participants some of the best practices in the rehabilitation process. These included case studies of rebuilding houses with community participation, setting up of a community-run and managed boatyard, and the formation of women's occupational groups.

Comment: **Waraporn Prompoj**, *Chief, International Co-operation Group, Fisheries Foreign Affairs Division, Department of Fisheries, Thailand*

Waraporn Prompoj said that damage assessment centres were set up in every affected province in Thailand to assess the damages and losses, particularly with reference to the fisheries sector. Compensation was provided for loss of boats and gear, and for losses in aquaculture. The government continues to ensure coverage of those who received inadequate or no relief. There have been some problems with respect to the damage assessment guidelines, but lessons were also learnt. Prompoj stressed that the difference between the numbers of boats damaged and those replaced pointed out in the presentation earlier, needed clarification. The figure referred to the number of people who received compensation and not the number of boats replaced.

Prompoj also outlined other initiatives that had been taken by the department. Traditionally, boats used in Thailand have been made of wood. However, timber has been a constraint and the use of FRP boats is being considered. Assistance for this has been requested from international and other technical organizations, including the FAO.

Prompoj also provided information about the assistance received from the Thailand King's organization, USAID and the Norwegian government. Initiatives are underway for mapping of fisheries resources to improve fisheries resource management. Sea farming using cage culture is being considered, including a pilot project for sea farming in deeper waters.

The government has been sensitive to the issue of oversupply of boats, and after consultation with the NGO network, has discouraged supply of boats by other organizations/governments. For instance, the French government was requested to provide, instead of boats, gear, post-harvest technologies and facilities at the fish-landing sites. The government is also

exploring models for sustainable aquaculture, and is working with farmers to provide training and support for market linkages.

Prompoj said that the poor quality of data was a problem. There were attempts to arrive at a reliable set of data, by combining all available information, but this had not worked out. However, the effort is to work towards good baseline data for future work. On the issue of co-ordination, she said that a co-ordination forum that acts as a clearing house for post-tsunami rehabilitation was set up in February 2005, together with the NGOs. A post-tsunami rehabilitation co-ordination unit has also been set up by the FAO to co-ordinate information and the parties involved.

There are also plans for further work on livelihood rehabilitation and management of coastal and fisheries resources. Studies to assess fishing capacity have been planned, and based on them, the government will propose improved fisheries resources management and aquaculture for sustainable development. It is planned to support culture activities in terms of markets, post-harvest technology, credit, etc. The department will also be insisting on registration of boats, while a boat-marking system is also being considered. There will be greater emphasis on safety of boats through reassessment of boat safety and training programmes on safety at sea for Thai fishermen. Another very important element is the early warning system for fishing communities—a computerized early warning system that is very simple and can be used by fishermen.

Rehabilitation and management of coastal and fisheries resources is a major focus area. Areas of intervention will include capacity building, as one way to protect resources is to train people—government, scientists, NGOs, village heads—about them.

On the Seafood Bank programme, Prompoj said that the intention is to provide alternative means of livelihood to fisherfolk, particularly those engaged in aquaculture. The programme would be undertaken only after taking various issues into consideration.

Discussion

A question was raised seeking clarification on the shelter and relocation policy of the Thai government. It was clarified that the government has undertaken to build houses for affected families/communities in various locations. However, if families do not wish to take this house, the government will pay them an amount of THB 30,000 (US$771).

Questions were also raised about the role being played by NGOs in a context where the government was already providing compensation, for example, for lost boats. In response, it was said that in many cases the assistance provided by the government was not sufficient. NGOs have taken on the role of topping up this support, to enable, for example, a family to replace its boat and buy gear. This has been the approach adopted by SAN, and duplication has been avoided. However, many other NGOs have provided FRP boats independently to communities irrespective of loss or damage incurred.

Another question was on the issue of migrant workers. Which are the areas in Thai fisheries where migrant workers are employed, and is such recruitment legal or illegal? What are the mechanisms in place for providing identification papers to workers who have lost their papers? In response, it was informed that most migrant workers seek employment mainly in the commercial fisheries sector. There is a dynamic and fluid movement of workers entering and leaving the Andaman coast. Some have identification papers, some do not. After the tsunami, the Ministry of Labour set up camps for migrant workers to register in cases where they had lost their cards. However, many workers stayed away for various reasons, including fear of harassment, or because all the notices were in Thai.

There was a doubt on the high number of villages (81) reported as facing land conflicts. It was clarified that most of these were conflicts that existed pre-tsunami. Post-tsunami, an additional four or five villages reported conflicts. Conflicts are mainly between communities and government, and between communities and private landowners. The government has set up a committee to look into these disputes.

To a question on the Seafood Bank programme, Sirisook explained that the programme aimed at producing more seafood, as the Thai marine resources were considered overfished. The plan is to give individuals entitlement to sea areas, similar to land entitlements. Those in the poverty register of the government can apply to farm species such as shellfish and cockles, mainly for the export market, after

receiving training in food safety. However, fisherfolk have objected to the programme. The sea is a shared common resource, and the programme will disrupt or restrict access to fishing grounds and thus contradict the way of life of their communities, they argued. There is also little understanding about the potential environmental and other impacts of the activity. Prompoj said that the objective of the programme was to improve alternatives for those in aquaculture. There was a need to balance fisheries and aquaculture, she stressed.

SRI LANKA

Author and presenter: **Oscar Amarasinghe**, *Senior Lecturer, University of Ruhuna, Sri Lanka*

Chairperson: **Harekrishna Debnath**, *Chairperson, National Fishworkers' Forum (NFF), India*

Oscar Amarasinghe started his presentation on the Sri Lanka country study by giving a brief description of the pre- and post-tsunami situation in the fisheries sector. He classified the issues relating to the distribution of craft and gear under three main heads: oversupply (in some areas), undersupply (mainly in the north and the north east) and "malsupply". Malsupply occurred mainly because of the low quality of craft and gear supplied.

There are other issues pertaining to the distribution of craft and gear, including their provision to "non-genuine" fishers; supply of more than one craft per person; corruption; the absence of a package approach to rehabilitation, which resulted in fragmented relief and rehabilitation; and a bias towards replacing FRP boats rather than traditional craft.

The following recommendations were made:

On the malsupply of fishing equipment:

- The Ministry of Fisheries and Aquatic Resources (MFAR) should prescribe standards for the fishing craft and gear to be distributed.
- Fishing equipment issued to "non-genuine" fishers should be bought back and redistributed among "genuine" fishers.
- There should be no further issue of fishing equipment to areas where malsupply is noticed until the redistribution is carried out as described above.
- Community organizations should be consulted on the distribution of fishing equipment.
- Issue of multi-day boats should be done only after the compulsory signing of a work contract between the owners and the crewmembers that include satisfactory employment conditions, including those relating to insurance and safety issues.

On the overexploitation of coastal resources:

- Laws on fishing gear must be enforced.
- Fisher People's Councils must be established, and powers delegated to community-based organizations (CBOs) to ensure the enforcement of State laws on fisheries management.

On the set-back areas (buffer zones):

- Permission must be granted to beach-seine fishers to settle close to their respective seine-laying areas.
- Fishers must be allowed to settle along the coastal belt if they so wish.
- Reconstruction of houses in coastal areas must be allowed only after taking into consideration the elevation of the area or the possibility of constructing houses on stilts.

On sustainable livelihoods:

- Assistance must be given to families to sustain their livelihoods.
- Training for skill development must be imparted.
- The capacity of CBOs must be strengthened.
- The important role played by women in fisheries should be recognized and women should be given opportunities to engage in income-generating activities.
- Alternative sources of livelihoods must be explored.

On rehabilitation in the north and northeast of the country:

- The Government of Sri Lanka should provide necessary facilities and assistance to NGOs who are interested in providing assistance in the north and the northeast region.
- Assistance given to the war-affected areas should be on a par with that given to other areas.

Additionally, it was recommended that the construction of permanent houses should take into consideration the regulations laid down by the Urban Development Authority with respect to environmental considerations, designs, facilities, etc. Rainwater-harvesting tanks should be incorporated into house designs in water-deficient areas.

Community participation was recommended in decisionmaking on rebuilding the fisheries sector. There should be better co-ordination between NGOs and State institutions, and alliances among NGOs aiming for similar interventions.

Amarasinghe reiterated the need for the State to accelerate the formulation of a long-term national fisheries policy. He concluded by strongly emphasizing the tsunami survivors' rights to gender equality and a dignified livelihood, conditions that must guide all rehabilitation and reconstruction efforts.

Comment: **Ranepura Hewage Piyasena**, *Additional Secretary (Development), Ministry of Fisheries and Aquatic Resources (MFAR), Sri Lanka*

Ranepura Hewage Piyasena commented on the situation in the strife-ridden north and northeast of the country, saying that the restoration of peace could be achieved only with the support of the community. He added that, compared to many other countries, Sri Lanka has very good rules and regulations for fisheries and their management, but the problem lay in enforcement.

The main stumbling block in rehabilitation is the absence of authentic data. Data collection in the aftermath of such a massive disaster has proved to be difficult. Most people, affected and unaffected, expect the government to do something or the other for them. For a country like Sri Lanka, where a third of the population lives below the poverty line, the number of beneficiaries could be unmanageably high, making compensation very difficult. The Government of Sri Lanka is trying to rope in NGOs to come up with reliable data.

The government is also concentrating on assistance to multi-day boats, a sector neglected by the NGOs, probably due to the fact that it involves the comparatively better-off fishermen. Even though they constitute only 10 per cent of the fisher population, the government considers this group as important since they account for half the national fisheries production. If they are not supported, the Additional Secretary said, Sri Lanka might end up importing fish products.

About LKR6 mn (US$58,532) is the estimated cost for the replacement and repair of one multi-day boat. However, the government has set aside only LKR2.5 mn. The Government of the Netherlands is supporting the project. The Additional Secretary added that the list of beneficiaries in the multi-day sector was published in the newspapers in all three languages – Sinhala, Tamil and English. It was also clearly mentioned in the newspaper notices that assistance would be withheld if the information given was found to be wrong. Efforts have been made to keep all transactions transparent. The fishermen are allowed to inspect the construction of their boats. Government functionaries are also in place to check the quality of the construction.

According to the Additional Secretary, the frequent changes in MFAR — the current Minister is the third in a row to be put in charge of tsunami rehabilitation – have also affected the rehabilitation efforts. Piyasena agreed that much more could have been done with better co-ordination and co-operation. Efforts for better co-ordination with NGOs are now in the pipeline, with FAO collaboration.

Piyasena added that until the tsunami, the fisheries sector did not attract much attention. Only around a third of the craft had been registered. After the disaster, it was politically difficult to decide whether to give compensation only to those who had registered their boats. The preparation of the beneficiary list thus proved to be problematic, especially when there were more beneficiary claimants than the number of fishermen. Though initially the government tried to work in a centralized manner, it later realized that the bottom-up approach would be more effective.

Discussion

The FAO representative, Derek Staples, made clarifications on the data provided by FAO, the reported unreliability of which kept recurring in Amarasinghe's presentation. He said that information collection and collation was one of the several projects funded by the UN. Later FAO was asked to spearhead efforts for better co-ordination among the major players in the rehabilitation process in Sri Lanka.

Staples said that FAO had attempted to identify and define "genuine" fishers. Information collection involves several people and, consequently, large biases. The definition of "destroyed" and "damaged" boats also changed dramatically as relief criteria changed. Such a continuous change in the nature of the data being collected called for a great deal of thinking and reasoning, Staples added.

"Genuine" fishers did not object to the distribution of craft to non-fishers, even though their very own livelihoods were threatened, because they knew that these boats would not be finally utilized. The non-fishers took the boats in the hope of selling them. But with oversupply, there are few buyers now. Buyback schemes would solve many such problems, it was pointed out.

Sebastian Mathew suggested two kinds of buyback schemes: buyback for redistribution and buyback for retirement. In the first instance, good-quality boats can bought from fishermen who want to retire, and the boats procured thus can be redistributed to those interested in continuing fishing. In the second instance, all poor-quality boats that compromise the safety of fishermen at sea can be bought back and permanently retired from the active fishing fleet.

More institutional support should be requested for such programmes from multilateral agencies to evolve a well-thought strategy to deal with redistribution and thus oversupply. A rational programme on the quality of the craft and their distribution could be tied up with the idea of a fishing unit that combines good engines with appropriate or sustainable fishing gear. Such programmes could be supported with better resource surveys as well.

MALDIVES

Presenter: **Fathmath Shafeega**, *Assistant Director Ministry of Fisheries, Agriculture and Marine Resources, Maldives*

Chairperson: **Herman Kumara**, *Convenor, National Fisheries Solidarity (NAFSO), Sri Lanka*

Fathmath Shafeega classified the tsunami assistance programmes of the Government of Maldives under the following heads:

- Provision for new long-range fishing vessels (inclusive of engine, equipment and gear)
- Provision for mechanized artisanal fishing vessels
- Repair and commissioning of damaged fishing vessels
- Replacement of lost and damaged equipment and gear
- Replacement of damaged facilities in the fishing industry
- Micro-credit facility to support fish processors
- Rehabilitation of damaged or destroyed boatsheds
- Repair of fish aggregating device centres
- Repair of mariculture stations
- Assessment and monitoring of the impact of the tsunami on coral reefs and other marine resources
- Infrastructure support
- Financial support
- Capacity building in fisheries

The main issues pertaining to the rehabilitation process were:

- Lack of co-ordination amongst donor agencies
- Delay in finalizing implementation arrangements
- Delay in finalizing the list and category of beneficiaries
- Faulty identification, resulting in inequality in the community

Discussion

To queries on contaminated drinking water supplies, it was pointed out that with aid from the International Federation for Red Cross and Red Crescent (IFRC), 2,500-litre rainwater collection tanks were provided to each house in the islands. With good rains reported in 2005, people are able to meet their water demand with the help of these tanks.

To a query on the absence of NGOs in Maldives, it was said that even though some NGOs are present, none was working exclusively in the fisheries sector. In the case of existing NGOs, there have been no consultations with the government, leading to overlapping of assistance.

On the issue of co-ordination, the government representative clarified that even though there was no overall mechanism to co-ordinate the assistance given by the donors, different departments were making their own efforts. Efforts by the World Bank and FAO to co-ordinate the supply of equipment proved to be quite meaningful.

While other tsunami-hit Asian countries were able to raise more than enough money for rehabilitation, the Maldives, though severely affected, had to struggle for lack of funds, and only half the requirements could be raised. Most of the funds — grants or loans – came with conditions, sometimes acceptable and sometimes not, the Assistant Director pointed out. The Maldives government looks through each project and takes two to three months to negotiate and come up with terms and conditions acceptable to all. Grants are accepted without any hesitation, while loans involve some processing time. Assistance in kind has to be discussed and co-ordinated with other agencies, to avoid duplication. One participant pointed out that in most other countries, the funds came in through the NGOs, and Maldives' lack of NGOs meant a lack of funds as well. It was clarified that the European Union (EU) had not extended any assistance for the fisheries sector, except to propose the handover of decommissioned fishing vessels.

INDIA

There were two presentations in the session on India. The first was a country study that examined the tsunami rehabilitation efforts in Tamil Nadu, Kerala and Andhra Pradesh, the three States of India that were affected by the tsunami. The second presentation dealt with the role of fishermen's *panchayat*s (village councils) in the distribution of relief and rehabilitation post-tsunami.

Author and presenter: **Venkatesh Salagrama,** *Director, Integrated Coastal Management (ICM), India*

Chairperson: **Pisit Charnsnoh**, *Yadfon Association, Thailand*

Venkatesh Salagrama outlined the principal objective of the study as attempting a snapshot of the State-wise and sector-wise damages and losses inflicted by the tsunami in India (excluding Andaman and Nicobar Islands), and the rehabilitation packages given for fisheries-based livelihoods and shelter.

Salagrama highlighted some new post-tsunami arrangements, like the group ownership of boats, supply of boats through women's self-help groups (SHGs), and the granting of asset ownership to women's groups, which would then rent out the craft and gear to the men for fishing. Other emerging trends include an increased preference for FRP *kattamaram*s (catamarans) to wooden ones, and disinterest among NGOs to supply or reinstate the mechanized sector, thus leaving the government as the only player in rehabilitating the sector.

The major issues identified in the rehabilitation of the fisheries sector are:

- **pitiable quality of the boats supplied**, characterized by the author as "use-and-throw boats", which causes concerns about safety at sea
- **low degree of community participation** in the replacement of boats
- **sporadic and patchy nature of the assistance provided to the post-harvest and ancillary workers, mainly women**. This may be due to the lack of understanding about their roles in production and trade, as well as a lack of interest in supporting the mechanized sector, which employs large numbers of dependent labourers. Women were better targeted only in areas where NGOs have a history of working with them. Non-membership in the *panchayat*s played a part in restricting their access to support. With interest waning to replace and rebuild boats, interest is waxing on women and other marginalized groups. Salagrama pointed to the increased possibility for the entry of widows or dependents of dead fishers into fish trade and processing.
- **poor distribution of credit**, which was also done in an inequitable fashion across communities and work categories
- **non-registration of new boats**, which raises major concerns about fisheries management. Trends like replacing wooden *kattamaram*s with FRP *kattamaram*s add to the problem of overcapacity.

Salagrama said it was unlikely that all new boats had entered fishing. There were enough deterrents in this regard, namely, the high cost of operation, the absence of adequate crew, and the poor quality and inappropriate design of boats, all of which might actually reduce the threat of overcapacity. The double entry of the same boat in official records might also have caused the inflation of the number of boats replaced. Salagrama did not expect all the promised boats to be delivered.

Two other long-term issues were identified, namely, the need for disaster preparedness and safety at sea, and livelihood diversification and migration.

According to Salagrama, the response of the Tamil Nadu government to the tsunami was the most commendable. He also highlighted the near-complete absence of the political class in the rehabilitation efforts in the State. Expressing concern over the government's compulsion of non-interference with rehabilitation efforts, Salagrama said that could have contributed to the failure to curtail the overenthusiasm of some of the civil society organizations.

Venkatesh Salagrama expressed concern about the "show quick results" attitude of the new NGOs, who completely lacked understanding of the ground reality. This mentality also threatened the existence of local NGOs that had been working in the area for a long time and forced them to make compromises.

The author pointed out that the formation of co-ordination bodies like the Tamil Nadu Tsunami Resource Centre (TNTRC), the NGO Co-ordination and Resource Centre (NCRC), and the Kanyakumari Rehabilitation Resource Centre (KRRC) had some positive impacts on rehabilitation efforts. All of them were good examples of government-NGO partnerships. Salagrama called for steps to legitimize and institutionalize such links on a firmer footing. Such partnerships could play a co-ordinating role in future development and rehabilitation activities, as well as a self-regulating role in curtailing the overenthusiasm of fly-by-night NGOs. He suggested that efforts be made to make these bodies viable and independent in the long run.

Salagrama concluded by saying that one year after the tsunami, much remains to be done — and equally importantly, undone.

INDIA SPECIAL STUDY

The role of traditional Panchayats *in coastal fishing communities in Tamil Nadu, with special reference to their role in mediating tsunami relief and rehabilitation*

Author and presenter: **N. B. Gomathy**, *Freelance Documentalist, Mumbai, India*

Chairperson: **Pisit Charnsnoh**, *Yadfon Association, Thailand*

The study was conducted along the Coromandel coast of Tamil Nadu, from Nagapattinam to Chennai. It was specifically designed to determine the changed role of the traditional institution for conflict resolution – the fishermen's *panchayat*. It was seen that with the flow of aid, the villagers depended on the *panchayat* system for equitable distribution. The *panchayat* institution thus helped prevent conflicts that would have arisen from the large amounts of aid entering the area in the form of relief. Where a traditional *panchayat* existed, most of the aid that came into the village was distributed through it.

The traditional *panchayat*s also dealt with enumeration of aid beneficiaries; distribution of compensation; and redistribution for goals of equity. Most of the *panchayat*s displayed high levels of accountability and transparency in the distribution of relief.

Community trust, however, could be an issue. When large amounts of money are floating around, there are chances for corruption and the loss of trust, and consequently, credibility, among the villagers. A great deal of sensitivity and effort must precede the involvement of such institutions in fundamentally new areas.

Comment: **P. Sundara Kumar**, *Commissioner of Fisheries, Government of Andhra Pradesh, India*

Agreeing with the findings of the India country study, Sundara Kumar stressed the following aspects of the post-tsunami rehabilitation in Andhra Pradesh:

- supply of quick relief to the affected people for two to three months
- entrusting of relief distribution to village communities. This is particularly worth noting in the face of such a big disaster, where everyone clamours for benefits.
- an overemphasis on repair of boats, rather than replacement
- problems in replacements, due to the paucity of wood to build boats
- evolution of a new system of group ownership

Discussion

V. Sampath, Senior National Consultant, Fisheries Project, UNDP, said that the India country report was incomplete without the inclusion of Andaman and Nicobar Islands, as the Union Territory was very near to the epicentre of the earthquake and had suffered huge damages and losses. Sampath said a study

conducted by the Department of Ocean Development (DOD) found that land subsidence to the scale of 0.9 m has taken place in Andaman and Nicobar group of islands and would impact the coastal lands in an unprecedented manner. It was also suggested that the author of the India study refer to the documents brought out by DOD, particularly those related to coastal demarcation and vulnerability mapping.

Several participants were curious to know if there were co-ordination problems in the tsunami rehabilitation efforts in India, as they did not figure in the country study, while all other studies referred to co-ordination as an area of grave concern. How did India manage to do better in the post-tsunami rehabilitation phase?

It was answered that co-ordination was indeed a problem in India as well, and there were gaps as well as duplication of effort. However, from the very beginning, there was also awareness about the lack of co-ordination. This led to the formation of co-ordination units like TNTRC, NCRC and KRRC. These organizations played a very crucial role in the post-tsunami rehabilitation phase, and they could well grow into much stronger and more meaningful organizations of co-ordination in the development sector at large, it was said.

Herman Kumara, Convenor of NAFSO, said that in Sri Lanka, efforts are being made to buy back trawlers and replace them with appropriate technology, considering the rate of overexploitation of the fragile ecosystem of the Gulf of Mannar by bottom trawlers. It is unfortunate that such an opportunity is not being grabbed to retire such trawlers. In the absence of a policy perspective, donors and NGOs were looking at replacing rather than retiring the vessels.

Elmer Ferrer of the CBCRM Resource Centre, Philippines said that the tsunami has linked south Asia and southeast Asia and, for that matter, the whole world. It was the first natural disaster in which funds were mobilized from all around the world. The question of being able to generate the same amount of generosity in future disasters also depends on how well the issues in this disaster are addressed, he added.

It was pointed out during the discussions that both the Indian studies focus more on equitable distribution of relief and rehabilitation, with no reference to the sustainability of the resource base. The relief and rehabilitation agencies did not seem to be necessarily bothered with these concerns. They were all aiming to replace or reinstate the status quo.

It is also unfortunate, it was said, that the communities heavily dependent on fish resources are not bothered about the impact on resources of the distribution of fishing assets. In the context of oversupply and overcapacity, there should be the possibility of looking at distributing equitably the opportunities, keeping in mind the sustainability of resources. Concepts like rotational access to the sea could be worth exploring. From the accounts of traditional knowledge and practices, it is apparent that such concepts were prevalent in earlier times. In planning rehabilitation exercises, there should be efforts to make such connections, it was stressed.

It was pointed out rotational access practices have been documented in one of the villages in Nagapattinam, which saw the influx of a large number of boats post-tsunami. It was clarified that this practice might not have resulted from concern for resource depletion, but rather from a lack of crew, as most of crew members got boats and turned into owners after the tsunami.

PRESENTATIONS BY FAO, WORLD BANK AND ADB

Chairperson: **C. V. Sankar**, *Officer on Special Duty-Relief and Rehabilitation, Government of Tamil Nadu, India*

C. V. Sankar initiated the session on presentations by multilateral agencies. He said that the fishing population of Tamil Nadu is only 1-1.5 per cent of the State's total population. Before the tsunami, the level of attention given to the sector was considerably less. The disaster focused all attention on the sector, as it was the most affected. The tsunami thus provided an opportunity to look at the sector in a scientific and standardized fashion. The disaster also made the outside world realize that there is much to be done in the sector. This happened by bringing into focus the actual living conditions of the fisher people, the technologies they use, the various subsectors in fisheries, and the risks fisherfolk face due to the nature of their livelihoods. Initially, the State government put in place a policy of replacing what is lost or damaged.

That policy had its own strengths and drawbacks. While there was no sense of injustice in merely replacing what was lost, the opportunity to rectify some of the ills in the sector was missed.

The type of replacement that happened was, by and large, productive. The fisherfolk, who were thoroughly shaken in the initial months after the tsunami, quickly got back to their vocation. It is not very clear whether all fisher people happily returned to what they were doing earlier out of choice or due to the compulsion for survival. Two challenges exist at present: to evolve alternative livelihoods for people who wish to do so; and make fisheries safer for fishers. These are linked to other issues like housing and education. Education is one aspect that the government would like to focus upon, said Sankar. A lot of effort in terms of psychosocial support was given through trained local people. Such efforts prove to be sustainable in the long term. The workshop deliberations are very important, added Sankar, as the State administration is in the process of putting together policies for the tsunami-affected, in general, and fishers, in particular.

Presentation I: FAO and the Tsunami

Presenter: **Derek Staples**, *Senior Fisheries Officer, FAO Regional Office for Asia and the Pacific, Bangkok, Thailand*

Derek Staples started his presentation by describing the aim of the Food and Agriculture Organization of the United Nations (FAO) as alleviating poverty and reducing hunger in the world. This aim is achieved through raising levels of nutrition and standards of living of people, improving efficiency of production and distribution of all food and agricultural products, disaster emergency assistance, and reducing vulnerability to natural disasters.

Staples stressed that the key role played by FAO in the post-tsunami phase was to help rural communities become self-reliant and more resilient. The approach adopted by FAO for this was to:

- extend support through the government;
- give direct support to affected communities (through UN and NGO partners and governments); and
- support sector-wise co-ordination and planning at national, regional and international levels.

Staples gave brief reports on the FAO activities in the tsunami-affected countries of India, Indonesia, Thailand, Sri Lanka, Maldives and Myanmar, in the Asian continent, and Seychelles, Yemen and Somalia, in the African continent.

The future plans of FAO to realize the aim of "build back better" put forward by the UN Special Envoy for Tsunami Recovery would be to:

- target better, so as to involve all the categories affected;
- improve fisheries infrastructure;
- address issues like oversupply of boats by evolving better systems of co-management;
- encourage good aquaculture practices;
- concentrate on issues of sea safety by coming up with standards for boats;
- work towards early warning systems and concentrate on communication at the village level; and
- work towards evolving more resilient communities by evolving risk reduction strategies

Presentation II: World Bank Priorities for Post-tsunami Assistance to Fisheries

Presenter: **Grant Milne**, *Senior Natural Resources Management Specialist, Agriculture and Rural Development, South Asia Region of the World Bank, Washington D.C., United States of America*

Grant Milne listed the World Bank's response to the tsunami and the principles it followed, adding that the general support plan was drafted in five days' time.

The principles of support were:

- Governments would lead and own the programmes.
- Communities should identify their needs and responses.
- Aid should be equitably distributed.
- Strategies should be linked to growth and poverty reduction.
- Responses must be co-ordinated with other donors.
- There should be a transition from emergency to reconstruction.

Milne gave a brief report on the World Bank's response and financial assistance to the tsunami-affected

countries of Indonesia, India, Sri Lanka, Maldives and Thailand. He summarized the presentation by giving three main areas of focus for the Bank's future tsunami-related activities: housing, public infrastructure, and rural livelihoods. Direct support for fishers is relatively insignificant. The priorities arrived at by the World Bank were an outcome of discussions between the governments and stakeholders. Milne said that there seems to be a growing interest in improving fisheries management in the tsunami-affected parts of the world. He added that the aim would be to evolve a policy framework to achieve this and thereby improve the livelihoods of fishers and processors.

Among the other steps envisioned by the World Bank are scaling up inhouse fisheries expertise, and evolving a targeted sector work that underpins support for capacity building, legal and policy framework, improving marketing systems, and other institutional reforms. Such sector work could guide longer-term sector lending, Milne added.

He concluded by remarking that such workshops are an important platform and a unique opportunity for NGOs to give feedback on the World Bank's programmes by identifying areas where it is doing well, and other areas where there is scope for improvement, especially in better targeting and delivery. Such interactions and deliberations would also help the World Bank chalk out its long-term priorities, he said.

Presentation III: *Asian Development Bank – India Resident Mission: Tsunami Emergency Assistance (Sector) Project (TEAP)*

Presenter: **S. V. Anil Das**, *Livelihood Specialist, Extended Mission in Chennai, Asian Development Bank (ADB), India*

S. V. Anil Das' presentation focused on the ADB's programme for tsunami rehabilitation in India, the Tsunami Emergency Assistance (Sector) Project (TEAP). It aims to restore the livelihoods and economic activities of the tsunami-affected populations, to accelerate poverty alleviation in the tsunami-affected areas and rehabilitate and reconstruct public and community-based infrastructure that are vulnerable to natural disasters.

Detailing the project cost and financing plan, Das went on to list the project components, namely:

- *Livelihoods:* restoration of income-generation activities and alternative livelihoods of affected persons
- *Transportation*: building roads/bridges and ports/harbours
- *Water supply and sanitation and rural/municipal infrastructure*: rehabilitation and upgrading of damaged water supply systems, village/ municipal roads, drainage and public building
- *Capacity building and implementation assistance*: providing support in assessment of damage, preparation and prioritization of subprojects, supervision/monitoring of works, and incremental administration

Discussion

Before opening the floor to discussions, C. V. Sankar added some points to supplement the presentations made by the World Bank and ADB as well as a short description of the role of the United Nations Development Programme (UNDP) and the International Fund for Agricultural Development (IFAD) in tsunami rehabilitation in India.

The chair gave reasons why the World Bank's response to the fisheries sector was not up to the same level as in other sectors. He said that after much discussion, the Government of India came up with a rehabilitation policy that emphasized replacing lost assets. For this, the government announced the Rajiv Gandhi Rehabilitation Package, which was to be implemented with subsidies from both the Government of India as well as the State governments, with substantial financial assistance from institutions like the World Bank and the ADB. Even though money was needed for new fish-landing centres and other similar facilities, the initial focus was on the restoration of damaged and lost assets.

A grant fund available with the World Bank for fisheries policy would take stock of what has taken place and what needs to be done before its formulation. The Director of Fisheries would implement this programme. A portion of the grant fund would be allocated for studies on further livelihood options, pilot studies, and so on. Sankar said that such efforts are very important to take the "build back better" concept forward.

Another important programme of the World Bank is the cyclone-mitigation project, not only for

Tamil Nadu, but also for other coastal States. This project again is aimed at ensuring the safety of coastal communities by building more evacuation shelters, training the people to manage them on a day-to-day basis, clubbing them with early warning centers, and so on. This would prove extremely useful especially the Coromandel coast, which is often plagued by cyclones and supercyclones. Sankar said that the cyclone shelters that were built after the disastrous cyclones of the 1970s with the funds from the EU, Red Cross and other such organization have stood the test of time. These structures, built around 25-30 years ago, can handle large population, ranging to a thousand.

Yet another aspect of World Bank funding is related to the environment. Funds are available to put up bioshields in the form of shelterbelts and mangrove plantations, which have proved extremely useful in decreasing the effect of the tsunami in many areas. Sankar felt that the shelterbelts are helpful in creating sand dunes and holding the soil, thereby protecting the community.

The World Bank also funds the coastal zone management plan for the whole State. This involves activities like the demarcation of the high-tide line (HTL) so as to take note of the coastal zone regulation of the Government of India. More important is developing an integrated coastal zone management (ICZM) plan. All the above would depend crucially on developing a legal framework. These programmes should involve the community in a big way. The stakeholder consultation would be done by the State government's Department of Environment.

Sankar said that ADB's TEAP includes a huge and flexible grant focused on livelihoods. IFAD also has a post-tsunami sustainable livelihoods programme. Sankar also commented on the study done by ICSF for IFAD, which made a lot of perceptive comments on the status of the fisheries sector and what needs to be done in terms of innovative activities.

On UNDP, Sankar said that it is mandatory for UNDP to assist the governments in terms of disaster preparedness. An ongoing project funded by the UNDP is the disaster risk mitigation project already in operation in six districts of Tamil Nadu. The main focus of the programme is disaster preparedness for earthquakes. After the tsunami, the Government of Tamil Nadu requested UNDP to extend the programme to all the coastal districts of the State. Its main focus is to make the community better prepared to face disasters. One village in Cuddalore district, where fisherfolk were given training on disaster preparedness before the tsunami, recorded the least number of deaths. The bottom line, Sankar said, is that communities need local solutions, and training in administering first aid, evacuation, and so on.

The district of Nagapattinam has taken these efforts a step further by coming up with a task force plan, which gives detailed listings of the resources available, like medical facilities, sturdy buildings, and cyclone shelters and their distances from particular locations in the village. Such plans need to be propagated at the village level. There is also a need for continuous interactive sessions with the villagers, to make these plans living rather than exist as mere booklets.

Answering a question on the impact of tsunami on fish stocks, Derek Staples said that FAO has indeed undertaken post-tsunami studies on the impact on fish habitats like mangroves. Even though there is no evident change in the fish stock, the impact would really be visible only after a couple of years, he added.

B. Subramanian of SIFFS, reacting to the greater emphasis given for fisheries management by all the three multilateral organizations that made presentations, said that the problems of management could not be solved unless the burgeoning population of fisherfolk was brought under control.

Reacting to the ADB plan for skill development, Subramanian said that fishermen do not want to be trained in activities like sewing. What they now need is good education. Most of them would opt for education and better employment than opt for a boat, if given a choice. NGOs are forcing the community to accept boats that are unable to give them a profitable livelihood anymore.

In response, Derek Staples of FAO said that fisheries management is a process, not a recipe. The process involves all the stakeholders, namely, the government, the NGOs and the fishing communities. He said that FAO and similar organizations are striving for a balance between social benefits and economic benefits with minimum impact on the sustainablity of resources. The question that needs to be answered is "Where do we want ourselves to be?" The alternatives of better education, better employment, and better and more opportunities are what we should

be working for on a much more determinate basis, he said. The Joint UN-FAO mission is marking a start for some such processes. Many of those working in tsunami rehabilitation are looking for quick results, but it has to be understood that all these processes take time.

Responding to Subramanian's demand for better education, Sankar said that focus on education is quite high on the agenda of the government in tsunami rehabilitation. NGOs working in tsunami rehabilitation were also interested in education. The physical infrastructure of schools, toilets and laboratories has been constructed by NGOs directly. Many NGOs have partnered with local parent-teacher associations for taking in additional teachers. Sankar welcomed the observation raised on the need to consider and focus on the educational aspects when designing the relief and rehabilitation packages with the support of multilateral agencies.

S. V. Anil Das, the ADB representative, said that skill upgradation is an overarching component, which mainly takes into account alternative employment. Das said that there is a section of the community whose children are educated and are probably interested in developing other skills, who could be considered for training.

On rebuilding the fisheries sector, some participants felt that replacing lost assets could be taken up by NGOs and other donor agencies, while the multilateral agencies could better focus on integrated coastal zone management. This is particularly important because there are areas where the effect of the tsunami on nearby villages has been dramatically dissimilar. Rehabilitation of communities in such pockets might throw up more conflicts than solutions. Therefore an ICZM plan should be formulated that would look at the coast in a holistic manner.

Sankar pointed out that engineering solutions have not been totally shelved. In some areas like the low-lying, densely populated pockets of Kanyakumari district, the sea protection wall would be the only solution available due to non-availability of land for people to be relocated on the landward side. Construction of such structures would be undertaken only after they are backed by technical studies that confirm their worth as the only solution available.

Pointing out that it is easy to assess the overall needs of the community with respect to physical infrastructure, Sankar added that care has to be taken to consult the communities on various issues like livelihoods and housing. The process is ongoing, and the communities' perceptions are given due importance and seriousness.

The ADB representative, Das, said that initially, during rapid assessment, involving the community in every aspect of planning was difficult and impractical. Both the assessment and the choosing of the community were at random. This resulted in the ADB and the World Bank allocating their budgets under broad heads, leaving the breakdown figures and programmes to be worked out after consultations with the community.

It was also pointed out that there several compulsions and great pressure to get things done quickly, unlike the other programmes funded by multilateral agencies, where much time is spent to understand and study the situation before coming up with a plan of work.

On the importance due to the traditional knowledge of fisher communities, it was said that one key principle that the World Bank should recognize is to build upon what already exists. The modern fisheries management techniques might not be acceptable to the community and, therefore, it would be worthwhile to document the traditional management systems and the traditional knowledge bases that exist in different communities in the Indian Ocean region, and then come up with viable fisheries management practices acceptable to the communities.

Milne added that the World Bank has projects and funds to support the supply of sea-safety equipment and communication networks. Most of the multilateral organizations like UNDP also have funds for setting up early warning systems.

On the question of sustaining fisheries, Derek Staples of FAO said that a study conducted in Thailand sought to determine what incentives are required to reduce trawler efforts. It was found that even with the fuel prices going up and thereby operational costs, the fishers would still not leave fishing because that is their way of life. This is not just a phenomenon of developing countries but can be seen in all the countries where there is fishing. When people are sentimentally attached to the profession, it is difficult to think of incentives to move them out of fishing, unless they are quite innovative.

H. Mohamad Kasim, Principal Scientist, Central Marine Fisheries Research Institute (CMFRI), India, said that in the face of biological and economical overfishing, there should be efforts to help fisher people earn better prices for their catch. Value addition is the area requiring major inputs and a great deal of handholding, he added.

C. M. Muralidharan of Action for Food Production (AFPRO), India pointed out that a fisherman gets into fishing at the age of around 13 and hence it is very difficult to alter his mindset. The youth have to be targeted for alternative livelihoods and a change of occupation. For this, they need education and skills development. Therefore, such initiatives should target not the existing skilled fishermen but the future generations and encourage them to come out of fishing.

Muralidharan added that many NGOs, supported by donor agencies, will set up processing plants, cold chains and fish-drying yards. But unless management systems are in place, these will prove unsustainable. A collaborative approach should be looked at where an institution like the ADB would provide infrastructure at the most appropriate place based on community opinion, and its management could be leased to private entrepreneurs and monitored by the people.

Anil Das said that the ADB is very cautious in dealing with infrastructure development. A proper implementation plan should be submitted along with the cost estimates for the infrastructure and also details on who will manage the structure and how it will be managed. Both the government and the ADB are very keen that the NGOs or the CBOs that are going to handhold them should plan, from the very first day, to hand over responsibility to the community.

The session wound up with general requests to the organizations present to have more and more consultations at the local level, particularly with communities. While the funding agencies and the government will co-ordinate these processes, the government would also like the people to understand what these schemes are about and what their implications are. Requests were made to the NGOs to come forward and suggest projects and studies that they would like to provide to the communities for restoring livelihoods, building back better systems, and so on.

DISCUSSION ON WORKSHOP RECOMMENDATIONS

(The recommendations, which are included after the India Special Study at the end of this document, are based on reports presented and discussed at country meetings and at the Chennai workshop, as well as the deliberations at the NGO meeting on 17 January 2006. They reflect the overarching concerns of the participants of the workshop.)

Presenter: **Annie George**, *CEO, NGO Co-ordination and Resource Centre (NCRC), Nagapattinam, Tamil Nadu, India*

Chairperson: **Muhammad Imran Amin**, *Telapak, Indonesia*

Some participants asked about the steps that ought to follow from the finalization of the recommendations, and how to ensure that they are well accepted and acted on. Chandrika Sharma, Executive Secretary, ICSF, described the evolution of the recommendations. She said that the process involved was elaborate, starting with the country studies that were discussed and critically reviewed at country-level meetings, and continuing at the NGO meeting on 17 January 2006 before culminating at the regional workshop in Chennai. The participatory process threw up issues of common concern to all the participating tsunami-affected countries as well as certain country-specific issues. The proceedings of the workshop would be widely distributed and publicized so that the recommendations reach governments, multilateral agencies, NGOs and all those engaged in post-tsunami rehabilitation of fishing communities. It is hoped that they will help influence the course of rehabilitation in ways that benefit small-scale fishing communities and improve their livelihoods in the long term, Chandrika Sharma added.

PANEL DISCUSSION

(The presentation of the recommendations was followed by a panel discussion on key issues that emerged from the workshop. The panelists were asked to identify the top priorities that ought to lead the post-tsunami rehabilitation efforts in each country. These priorities are listed below countrywise.)

Panelists:

1. **Waraporn Prompoj,** Chief, International Co-operation Group, Fisheries Foreign Affairs Division, Department of Fisheries, Thailand

2. **Saut P. Hutagalung,** Director of Planning and International Co-operation Bureau, Ministry of Marine Affairs and Fisheries, Indonesia
3. **Ranepura Hewage Piyasena,** Additional Secretary (Development), Ministry of Fisheries and Aquatic Resources, Sri Lanka
4. **Amarjeet Banga,** Director (FE&Fy Co-ord), Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, India
5. **Harekrishna Debnath,** Chairperson, National Fishworkers' Forum, India
6. **Gunnar Album,** Independent Observer, Norway

Chairperson: **Derek Staples**, *Senior Fisheries Officer, FAO Regional Office for Asia and the Pacific, Bangkok, Thailand*

INDONESIA

1. Improve co-ordination for better planning and management, and involve community-level organizations, NGOs, governments and the *panglima laot*.
2. Accelerate the pace of rehabilitation programmes to ensure timely and adequate support.
3. Shape policies and long-term measures only after consultations with various stakeholders.

SRI LANKA

1. Enhance co-ordination at the regional and district levels, which would help the government to provide assistance to the really needy.
2. Target the complete fishing unit while undertaking rehabilitation.
3. Aim to improve livelihoods in fishing communities.

THAILAND

1. Ensure better co-ordination between the government and NGOs, and among NGOs, for which a co-ordination unit would help.
2. Strive for sound resources as a basis for good fisheries. Improved resource management would require detailed stock assessments that could lead to plans for fisheries restoration, co-management and coastal aquaculture, among other areas.
3. Establish simple early warning systems in fishing communities to cope with future disasters.

INDIA

1. Focus on a sustainable livelihoods programme.
2. Strengthen developmental schemes specifically meant for fisheries.

(Harekrishna Debnath, Chairperson, National Fishworkers' Forum, India, added the following priorities:)

3. Help coastal communities become resilient to future calamities through region-specific long-term plans.
4. Involve the people in consultations on planning relief and rehabilitation measures, assessment of resources and requirements, and planning for sustainable fisheries management and coastal zone management.
5. Recognize the role of women in fishing communities and put them at the centre of the decision-making stage.

(Gunnar Album, the Independent Observer from Norway, added the following priorities:)

1. Document thoroughly the experiences of NGOs and make them available to governments in donor countries in an accessible form.
2. Help fishing communities improve their ability to control inputs and outputs in their fisheries.

Discussion

It was pointed out that after the tsunami, fisheries have come into focus in many countries, and a great amount of aid is being put to "build back better". Only through dialogue can there be a convergence of ideas and priorities. Otherwise contradictions will abound like the attempts to develop alternative sources of livelihoods even as there are calls to protect traditional livelihoods.

Summarizing the session, the Chairperson, Derek Staples of FAO, said the foremost priority was the issue of sustainable livelihood, for which it is necessary to have co-ordination of rehabilitation efforts among

the different stakeholders. Another priority is the need to understand the status of the resource base on which many livelihoods depend, for which participatory management, co-management and sustainable aquaculture are options worth exploring.

CONCLUDING SESSION

At the final session of the workshop, Sebastian Mathew, Programme Adviser, ICSF, and V. Vivekanandan, Chief Executive, SIFFS, provided some concluding comments. Mathew drew attention to the fact that relief and rehabilitation work in the post-tsunami period had led much greater — and perhaps unprecedented — interaction between fishing communities and governments of countries in the Indian Ocean region. There was thus a very real potential for a common framework to emanate from such an encounter. There was also considerable scope to draw from good legislation that exists in some countries in the region. The recommendations for longer-term rehabilitation, presented at this workshop, could also contribute to building an effective framework that brings together the regions and communities of south and southeast Asia.

Vivekanandan said that in the post-disaster situation, there was clearly a willingness to collaborate and co-ordinate, cutting across the usual boundaries between the private and public sectors, and governments and NGOs, as was evident during this workshop. The problems at the end of the first year after the tsunami, however, remain much the same as those that were highlighted in the immediate aftermath of the tsunami, for example, in the NGO statement to the 26th Session of the Committee on Fisheries (COFI) of the FAO on 8 March 2005. While there is agreement on what needs to be done, the problem lies mainly in the realm of implementing and operationalizing policies and principles. Proposing the practical modalities of implementation is especially challenging in view of the diversity in the institutional and legal framework of the tsunami-affected countries. While there is enormous potential for sharing experiences on rehabilitation, for the sharing to become learning, we have to contextualize and abstract the experiences. Often, it has proved difficult to reach this level.

Vivekanandan added that there was a need for greater reflection on the meaning of community participation, and whether there should be an unquestioning acceptance of proposals put forth by the community. Equally, there is a need to question the policies of donors, who remain largely unaccountable to those on the ground, and who prioritize interventions based on their own perceptions.

On the issue of co-ordination, identified as a key priority by all the government representatives in the panel discussion, Vivekanandan pointed out that in the wake of the tsunami disaster, various models of co-ordination have evolved. In India itself there are three or four distinctly different models of co-ordination. The Thailand model, as exemplified by the Save Andaman Network, is also very interesting, and there are rich opportunities to learn from them.

On the issue of "building back better", Vivekanandan said that he remained a sceptic. It appears better to do less than more, because often it is in the name of doing something better that bigger problems are created. It is not easy, for example, to address problems such as bad governance, social exclusion, and gender inequality as part of short-term interventions.

Finally, Vivekanandan flagged a few issues that emerged from the discussions during the workshop. Rehabilitation issues were more or less similar across countries, even in Thailand, a country regarded as economically better off. None of the countries had good baseline data about numbers of boats, fishermen, and so on. This appears to be a problem inherent to small-scale fisheries, due to its informal nature and the presence of, by and large, sociopolitically marginal communities. With State laws differing from community "laws", issues of legal pluralism arise as well.

Another important issue was transborder fishing. The post-tsunami context offers an opportunity to look at this issue in greater depth. Fishermen caught as poachers are often on small boats. National boundaries, while important, cannot be allowed to ignore the lives and livelihoods of small-scale fishermen. This is an opportune time for India, Sri Lanka, Indonesia and Maldives to work out some

humane system to allow access to one another's waters, based on certain conditions, rather than treating fishing as a criminal activity, Vivekanandan added.

Several comments were subsequently received from the participants. There was a query on how donors could be made accountable, an issue that remains a challenge, it was pointed out. One participant responded that perhaps the best way to increase accountability was to produce our own knowledge, as that increases options and alternatives. At present, the production of knowledge is monopolized by those who can pay. It is important that mechanisms for articulating, documenting and disseminating peoples' knowledge be developed. Enough resources have been generated during the tsunami to enable the development of information centres on a regional basis.

The demand side of rehabilitation efforts was also discussed. Communities who were the recipients of aid were often not bothered about the quality of aid. In the face of increasing demand and lack of quality control, donors had nobody to guide them. This is where fisher organizations like SIFFS can make qualitative differences.

It was pointed out that rehabilitation packages should strive for an average threshold of programmes that seek to improve the day-to-day lives of the affected, and should not be designed to cope only with unprecedented disasters.

In closing the workshop, Chandrika Sharma, thanked all participants for contributing meaningfully to the deliberations. The tsunami had brought together people from different parts of the world, creating an enabling environment for working together and understanding issues of common concern. It generated a greater space for governments, NGOs and fishworker organizations to gather and discuss issues. Only such participatory and collaborative efforts can continue to contribute to the larger betterment of humanity, in general, and fishing communities, in particular, Chandrika Sharma concluded.

Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods in Indonesia

by Hilde Janssen
Independent Journalist, Indonesia

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Introduction

The tsunami trigged by a massive earthquake off the west coast of Aceh in Sumatra, Indonesia, on 26 December 2004 caused enormous damage to almost the entire coastal area of the province of Nanggroe Aceh Darussalam, as Aceh is formally known. The tsunami also affected some coastal areas in the neighbouring province of North Sumatra, predominantly the island of Nias. The latter was hit by a second strong earthquake in March 2005, which caused even more damage to the island. However, given the extent of damage and rehabilitation work going on in Aceh, the focus of this study will be on the interventions in the coastal areas of Aceh. Although some data will be provided on Nias as well, the island was not visited for the study.

The objectives of this study, as defined in the terms of reference prepared by ICSF (see Annex 1), are to:

- provide an overview of major interventions related to rehabilitation of fisheries-based livelihoods, and analyze some of the key issues and challenges arising from their design, and the possible impact on fisheries resources and fishing communities; and
- provide an overview of shelter and reconstruction interventions specific to fishing communities, and discuss their merits and demerits.

The information presented in this study was collected during the months of October and November 2005 and is based on both primary and secondary sources. Visits were paid to Banda Aceh and other affected areas along the east and west coast of Aceh province, more specifically the districts of Aceh Barat (Meulaboh) and Aceh Jaya (Calang and Lamno) on the east coast, and the districts of Pidie and Bireuen on the west coast.

The interviewed resource persons include government officials, international donor agencies, local non-governmental organizations (NGOs) and network organizations and a broad group of representatives of the fishing communities—among others, traditional fishers, fisher leaders, boat builders, and fish processors and traders (both male and female). A list of persons met is given in Annex 2. The secondary sources comprise mainly government statistics and policy papers and assessment studies on fisheries from the Food and Agriculture Organization of the United Nations (FAO) as well as general assessments and appraisal reports from various agencies regarding the reconstruction and rehabilitation process. Where used in this study, they are referred to in footnotes. An overview of key documents is given in Annex 3.

The Context

Marine fisheries in the Indonesian province of Nanggroe Aceh Darussalam are predominantly small-scale and traditional, both on the east and west coast. According to Department of Fisheries statistics the provincial marine capture in 2003 totalled a little more than 134,000 tonnes, with a value of Rp863 billion (US$86 million)[1], accounting for 3 per cent of the provincial gross product.

Most of the catch is sold fresh for local consumption, either at the immediate local market or in larger towns such as Banda Aceh and Medan, the provincial capital of North Sumatra. A small portion of the catch is exported to markets in neighbouring Malaysia and Singapore, depending on species and quality. The export is handled exclusively by traders in Medan, who have long-established marketing channels with neighbouring countries and have direct transport links both through Medan's international airport and its Belawan port. Marketing of processed fish, both salted and dried, is also dominated by Medan traders.

Statistics put the total number of fishers in Aceh in 2003 at close to 88,000, of which 53,000 were full-time and around 34,000, part-time. The 60,000 fishers on Aceh's northeast coast outnumber by far the fishers on the west coast. The same holds for the fishing fleet, although less pronounced, with 13,000 out of 23,000 fishing craft belonging to the northeast coast. The fishing fleet consists mostly of wooden fishing craft with a length between 4 and 24 m, of which 9,000 are without engines, around 4,500 equipped with outboard engines, and another 10,000 with inboard diesel engines.[2] On the east coast, the bulk of vessels are less then 10 m long, with the most popular being the class of 7.5 m, with 12-23 hp diesel engines. These vessels use trammel nets for shrimp, gillnets for fish and bottom-setting longlines for the larger species. In addition, there is a class of small purse-seiners of 20-

25 m fishing for small pelagics. On the west coast, the vessels are of the same type, but generally larger. Most fishing craft operate in coastal waters, making day (or night) trips. Only the purse-seiners make extended trips, staying up to two weeks at sea. Few locally registered vessels are active in deep-sea fishing. Trawling has been officially banned in Indonesia, but that does not prevent some foreign trawlers vessels from operating illegally in Indonesia's territorial waters.[3]

Compared to Aceh, the capture fishery sector in Nias is far smaller and less developed. Government statistics put the total number of fishers at 6,000, with more than 4,600 working full-time, and around 1,350 registered as part-time fishers. The fishing fleet consists of fewer than 3,000 wooden fishing craft, mostly motorized and 5-6.5 m long. The introduction of outboard motors is a recent phenomenon, which started in the late 1980s. According to 1991 statistics, 96 per cent of the then 2,500 craft were not yet motorized, whereas, at present, the vast majority of the fleet is equipped with outboard or small inboard petrol engines. Fishers mainly use hooks-and-line, with gillnets being the second most-used gear. The catch is mostly sold at nearby markets for local consumption. A small portion of high-value fish and shrimp is exported through the harbour towns of Sibolga and Padang, both on the Sumatra mainland.

The provincial department of fisheries has the authority to issue fishing licences for vessels up to 30 gross tonnes (GT). Larger vessels are handled by the central government, that is, the Ministry of Marine Affairs and Fisheries in Jakarta. Those licences generally cover an extended area, beyond the borders of the provincial territorial waters. The law requires that the central government consults, and requests approval from, the concerned provincial authorities before issuing a licence.

In addition to the capture fishery, Aceh has developed a substantial aquaculture industry in salt-, brackish- and freshwater species. With a total production of 29,000 tonnes in 2003, mostly of shrimp and milkfish, and an area of 36,000 ha, Aceh ranks among the top five of Indonesian provinces in aquaculture. Aquaculture, especially pond cultivation, which dominates the sector, provides a major contribution in terms of income and employment for coastal communities. Aceh's aquaculture sector is concentrated on the northeast coast in the districts of Aceh Utara, Bireuen and Pidie. The farm-gate value of aquaculture produce in Aceh reached US$56.3 mn in 2003, according to government statistics.[4] FAO consultants estimate that the sector employs around 94,000 people, although MMAF statistics mention only 15,000 brackishwater farmers. However, the latter is only referring to owners, while FAO also includes workers, as each hectare of pond provides an estimated direct employment for 1 to 3 persons.

Aquaculture in Aceh is mostly small-scale and traditional low-input farming. Only a small proportion of farms use intensive or semi-intensive farming systems. Most traditional farmers operate less than 2 ha of pond, with varying land/farm ownership and employment patterns. Some ponds are owner-operated; others are rented or use contract farming or a share system. Given the large investment needed, some owners borrow capital in exchange for a share of the profit, paying labourers also a percentage of the harvest value.

Small-scale fisheries depending on big money

Despite its small-scale nature, the fishery sector in Aceh is directly linked to bigger business interests through a variety of complex patterns of capital inputs. Those providing the capital are generally referred to as *toukay*, that is, boss, with a clear distinction between *toukay bot* (owner or shareholder of a boat) and *toukay bangku* (literally 'banker', usually big traders who provide loans for operating costs like fuel and food, or capital for traders to buy fish.

While most fishing craft are privately owned by individual fishers, some of the larger fishing craft (17-24 m length) are fully or partly owned by businessmen. Most of the commercial purse-seine fishing craft in Banda Aceh are owned by businessmen-cum-investors. They do not interfere directly with the daily fishing operations, which are the responsibility of the *pawang*, the captain, assisted by the engineman. Some boatowners are active or former *pawang*s, sometimes operating one boat themselves, while a second (or more) boat(s) are operated by relatives or other locals. The financial arrangements of profit sharing vary by locality and region. In general, the boatowner takes a 50-60 per cent cut of the profit, of which he gives 5-7 per cent to the *pawang*. The latter also gets a bigger

share of the 40-50 per cent set aside for the crew. In case the *toukay bangku* takes care of the operating cost, he is also entitled to a profit share of 5-10 per cent on top of the reimbursement of operating cost. Credit is a means to 'strengthen' the relation between trader and fishers: money is used as a moral force to oblige the fishers to sell their produce to their 'loyal' trader. The same goes for local fish traders, who receive working capital from Medan-based exporters, which compels them to use the same channel to market their products.

While outsiders often define the credit system as exploitative, local fishers and traders do not automatically share this point of view. While some agree, and point out the dangers of getting trapped in debt, sometimes resulting in loss of boat ownership, others tend to differ. With no or little access to formal bank loans, they are in need of a source of easy credit. Furthermore, the *toukay* brings in valuable marketing knowledge and skills, which the fishers lack. Some make a clear distinction between trustworthy local *toukay*s and the exploitive outsider. Others stress regional differences in the degree of dependency.

Traditional dispute settlement and illegal fishing

Aceh fishing communities still acknowledge and respect the traditional local authority of the *panglima laot*, the so-called 'commander of the sea', whose territory is restricted to a single estuary or bay. This traditional institution dates back to the 14th century and was established by the ruling sultan when he appointed local leaders among the fishers to collect taxes. Later it developed into a fully-fledged traditional rights institution, with rules and regulations governing coastal communities with regard to fishing operations as well as social life, including dispute settlement. The rules, for example, dictate who is entitled to the catch sighted at sea; ban fishers from fishing on Fridays; oblige them to stop fishing and start searching in the unfortunate event of a fisherman drowning; and enforce protection of their coastal environment.

Aceh is divided into 140 *lhok*s or estuaries, each with its own set of rules and leader.[5] Fishers of each area elect their own *panglima laot lhok*, according to their own rules and regulations. In recent years, the government has become involved, and has topped up the local *panglima laot* structure with a co-ordinating provincial body, thus adjusting it to its own hierarchical administrative system. The new structure should enhance the partnership between *panglima laot* and the fisheries department, both at the district and provincial level, to promote the development of fisheries. Some applaud the extension, arguing that the often minimum level of education of local leaders is now being backed up by competent and skilled staff of the provincial body, enabling the institution to advocate the interests of fishers' rights.[6]

Others, however, oppose the move, claiming the *panglima laot* should stick to its traditional role at the local level, focusing on dispute settlement, not on government policies and politics. The government regulations to strengthen the position of the *panglima laot*, at the same time, undermine its independence, as newly elected leaders have to be confirmed by an official letter of appointment.

The institutional changes of the *panglima laot* coincide with a successful campaign by fishers against illegal fishing by foreign trawlers, mostly from Thailand and Myanmar. Indonesian waters are a heaven for illegal fishing operations, due to a variety of factors.[7] While modern equipped vessels from neighbouring countries get attracted by the richness of the Indonesian fishing waters, Indonesia has difficulties safeguarding the area due to the vast maritime waters, lack of monitoring, control and surveillance facilities like radar, helicopters and speedboats, and the existence of deep-rooted corruption. Until the late 1990s, the territorial waters of Aceh were no exception. The *panglima laot* played an important role in the anti-illegal fishing campaign, organizing local fishers, with the support of several NGOs. Their actions resulted in the seizure of around 40 Thai trawlers and their subsequent public auction. The proceeds from the action became a point of dispute, as they were eyed by several parties and claimed by both the local *panglima laot* and the provincial body that was established around that time. In the end, the money, the substantial sum of Rp11.9 bn (US$1.9 mn) was transferred to the YPMAN Foundation, an educational foundation set up by the provincial *panglima laot* to provide scholarships for children of fishers.

Impact of the armed conflict

For almost three decades, Aceh has been the battlefield of an armed conflict between the rebel Free Aceh

Movement (*Gerakan Aceh Merdeka* or GAM) and the Indonesian security forces. An estimated 15,000 people have lost their lives due to the conflict, most casualties being civilians. Although the rebel fighters constitute just a small group among the 4.2 mn Acehnese, the movement, at certain times, could count many supporters among the population. Most civilians, however, have unwillingly become part of the conflict, being suspected by one or the other side of being a spy or supporter, facing extortion and being forced to share their harvest or business profits, having their movements restricted, and living in fear. The coastal communities and fishers are no exception.

Fishing activities have, at times, been severely hampered due to the conflict. In many coastal areas, fishers have been regularly subjected to surveillances and checks by the security forces, thus being prevented from going to sea. At times, fishers have had to stay ashore due to a ban announced by one or the other party, sometimes because their fishing craft were seized, but more often out of sheer fear. Local people were constantly in danger of being branded as spies of the military or conversely as members of the GAM.[8]

The conflict has not only affected the fishing capture activities directly but also indirectly through the decline or destruction of basic infrastructure, lack of regular transport facilities, forced closure of ice-production units and trading companies.[9] In many coastal areas, the fisheries infrastructure was thus already damaged before the tsunami struck. Despite substantial shrimp aquaculture production being located in Aceh, all but three of the export processing plants had already shifted to Medan before the tsunami, due to the conflict.

Although the conflict did more harm than good to the fisheries sector in Aceh, the presence of the military kept illegal fishing activities at bay.[10] Not long after the successful action and seizure of 40 Thai fishing vessels, the conflict intensified again, resulting in an intensified presence of the Indonesian navy in the territorial waters of the coast of Aceh. The short-lived peace agreement, which was initiated in 2002, did not result in a significant reduction of military presence, which eventually increased when the peace process collapsed and the military emergency was announced in mid-2003. The military emergency was later reduced to a civil emergency, but on the ground, the military retained a dominant role.

Rehabilitation of Fisheries-based Livelihoods

The tsunami that hit the coast of Aceh in the early morning of 26 December 2004 caused severe loss and damage to a majority of the coastal communities in terms of lives, shelter, livelihoods and infrastructure. The huge waves devastated more than 800 km of Aceh's coast, penetrating 1-2 km and, at some places, even 3-6 km inland. Nearly 130,000 people in the province are now confirmed dead, with another 37,000 missing, presumably perished. In addition, at least 1,659 people died in Nias due to the 28 March 2005 earthquake.

A substantial number of fishers lost their lives in the disaster. In total, an estimated 9,083 fishers perished or a little more than 10 per cent of the fishers working in the affected area. Many of those who survived had to cope with the loss of their loved ones. The majority of the casualties were women, children and the elderly. The death toll ratio for women and men was 3:1.[11]

Damage to craft, gear and livelihoods

The total damage to fisheries-based livelihoods is an estimated US$600 mn, of the total of US$1.2 bn lost in the productive sectors as a whole, that is, 50 per cent of the total losses. These figures cover both damage to private and public property, including infrastructure, and also loss of business income.[12] During the first three months, all fisheries-based livelihoods came to a halt. Even the operational vessels stayed ashore, firstly because everybody was busy looking for relatives, cleaning up the mess and adjusting to live in refugee camps or with family. People also lost their taste for fish, with tens of thousands of dead bodies being washed up by the sea. Now fisheries activities have gradually restarted, first by those whose vessels, gear and tools were not damaged by the tsunami, and later also by those who had received aid to restart their businesses, although only partly. Many started looking for other temporary work, like cash-for-work projects, or selling cigarettes, running small food stalls, and so on, to make ends meet. It will take some more time before the affected communities can stand on their own feet again. Many are still dependent on the monthly food ration.

The tsunami has affected all: small fishers, big vessel owners and crew members, aquaculture farmers and

Table 1 Fishing craft lost and damaged in Aceh

Type of boat	Before tsunami			Lost			Damaged		
	East	West	Total	East	West	Total	East	West	Total
OB	3,155	1,337	4,492	1,774	429	2,203 (49.0%)	164	51	569 (12.7%)
IB	5,957	3,909	9,866	1,509	902	2,411 (24.4%)	1,140	530	1,670 (16.9%)
N	3,907	5,889	8,996	2,110	894	3,004 (33.4%)	14	160	174 (1.9%)
Total	13,019	11,135	23,354	5,393	2,225	7.618 (32.6%)	1,318	741	2,413 (10.3%)

Source: FAO, March 2005

For a more detailed breakdown per district, see Annex 5.

their workforce, fish processors, workers and fish traders.[13] Those with a broad network of unaffected family members and friends had a headstart, being able to borrow money to start some kind of business by themselves, not needing to wait for help from aid agencies.

Below is a more detailed account of the damage to craft, gear, engines, fisheries infrastructure and aquaculture.

Fishing craft

The capture fishery in Aceh and Nias[14] has suffered extensive damage as more than one-third of the craft in the affected areas has been lost. In total, more than 10,000 fishing craft from various types and sizes were lost or damaged.[15] The ones that remained intact were mostly out at sea, including the bigger purse-seiners.

Table 1 gives an overview of the damage in Aceh to fishing craft, classified as those with outboard engines (OB), with inboard diesel engines (IB), and non-motorized fishing craft (N), with separate figures for the east and west coasts. In general, fishing craft on the east coast are open-decked with an inboard diesel engine, varying in length between 5 and 12 m, with most being 7 or 8 m long. On the west coast, more fishing craft are fully decked, with an average size of 12 m.

The data indicate a significant heavier loss of vessels with outboard engines in Aceh, compared to vessels with inboard engines and non-motorized fishing craft. One reason might be that outboard engines are mostly used by fishing communities that do not have access to a natural harbour, and have to 'park' their fishing craft right on the beach. More inboard motors were probably saved because they were near usually shallow estuaries, which might have provided some protection. Others were saved because they were at sea. The relatively low losses among non-motorized fishing craft could be because they are found operating more upriver, as many of the coastal vessels have become motorized since the late 1980s. However, the district break-up of the losses and damage of fishing craft by propulsion (see Annex 5) paints a different and more varied picture. In the heavily affected districts like Banda Aceh, Aceh Besar, Aceh Jaya and Nagan Raya, the loss of non-motorized fishing craft equals, more or less, the percentage of loss of fishing craft with outboard and/or inboard engines. No clear pattern emerges from this district break-up of loss of vessels, indicating that the variation might be based on differences in local situations and circumstances.

The island of Nias lost around 40 per cent of its fishing fleet, with a total of 1,062 fishing craft being lost or severely damaged. The damaged fishing craft consist of 650 fishing craft with outboard engines and an average length of 6.5 m, and 412 non-motorized canoes less than 5 m long. Many fishing craft were damaged by the second earthquake in March 2005, by the 2-m high waves that hit the shores and thus the fishing craft.

Table 2 Estimated value of craft lost and damaged in Aceh

Area	Lost		Damaged		Total	
	Number	Est. Value (US$)	Number	Est. Value (US$)	Number	Est. Value (US$)
East coast	5,393	6,388,278	1,672	934,667	7,065	7,322,945
West coast	2,464 [16]	1,908,301	742	184,500	3,206	2,092,801
Total	7,857	8,246,579	2,414	1,119,167	10,271	9,415,746

Source: FAO March 2005

Replacement of lost craft will cost an estimated US$10 mn, according to FAO. The Fisheries Department earlier estimated the damage of craft to be around US$28 mn, including damage to engines. Although separate estimates of loss of craft, gear and engine of both agencies vary significantly, the total sum of estimated damage is more or less the same, that is, between US$38 mn (FAO) and US$44 mn (DKP).

Fishing gear

Around three-quarters of the fishing gear in Aceh's tsunami-hit areas were lost or severely damaged since both gear onboard the fishing craft as well as gear stored on the beaches and in houses and sheds, got washed away. Of the 26,000 units of gear inventoried in 2003, around 20,000 units were damaged, with an estimated financial loss of US$18 mn. Moneywise, the damage to gear is twice as high as the damage to craft.[17] Most vessels are equipped with several sets of different nets, which are used depending on the season, the type of fish and fishing method (day or night). The most commonly used gear in Aceh is the gillnet (32 per cent) and the fishing lines (38 per cent), according to 2003 statistics, while purse-seines, shrimp nets and traps account for around 7 per cent each (see also Annex 4 for overview of pre-tsunami type and number of fishing gear).

Engines

The FAO inventory of lost and damaged engines indicates that only few engines of the damaged motorized fishing craft were not damaged at all, while most, that is, more than 6,700 engines, were severely damaged. They can be considered as lost, with an estimated replacement cost of almost US$10 mn.

The damaged engines consist of a broad variety of types, both inboard and outboard engine.[18] The most popular, the Chinese 'Dompeng' inboard diesel engine, accounts for one-third of the damaged engines. Its popularity is largely due to its cheap price and easy maintenance.[19] A Honda 7.5-hp inboard engine costs almost US$4,000, whereas a 7.5-hp Dompeng costs under US$300, according to FAO price estimates. In general, it is the price that decides the choice of engine, not the quality. Fishers are aware that, in general, expensive engines last longer, but their limited resources restrict their options. Some donor agencies opt for quality replacement, providing the more expensive Yanmar engines. Most, however, just replace the lost engines with the same cheap type of engine, despite its limited life span.

Fisheries infrastructure

The tsunami almost completely destroyed the existing infrastructure for capture fisheries in Aceh, including its biggest fishing port in Lampulo, Banda Aceh. On the west coast, all harbours and landing piers between Lhok Nga and Meulaboh are totally wiped out, with the exception of the Meulaboh harbour, which is still operational, although heavily damaged. On the east coast, the larger facilities have been badly damaged, and as far south as Lhokseumawe, the smaller landing sites were almost all lost.

Indonesia categorizes harbours and landing centres according to size and budget resources, ranging from type A to E. The fishery harbours fall in the categories type C to E, with the larger type C facilities being funded and run by the provincial government, while the smaller D and E facilities fall under the responsibility of the district administration. In general, they have a jetty or concrete wharf with a covered concrete auction space and a meeting hall, which often doubles as a godown and has a separate prayer facility. Many more smaller and simpler facilities have been

Table 3 Estimated price of fishing gear lost in Aceh

Gear	Mat*	Lost units			Estimated price (US$)		
		East	West	Total	East	West	Total
Drift gillnet	Mn	65	269	334	5,778	91,167	96,945
Bottom gillnet	Mlt	3,656	1,123	4,779	1,212,167	327,400	1,539,567
Shrimp gillnet	Mlt	726	150	876	221,375	49,125	270,500
Trolling line	Mn	3,391	635	4,026	10,682,222	1,265,278	11,947,500
Hook-and-line	Mn	4,429	4,054	8,483	1,322,583	346,111	1,668,649
Bottom longline	Mlt	424	187	611	36,333	81,667	118,000
Drift longline	Mlt	—	4	4	—	1,778	1,778
Beach-seine	Mlt	31	54	85	103,333	180,000	283,333
Mini-purse-seine	Mlt	419	—	419	698,333	—	698,333
Purse-seine	Mlt	121	10	132	1,478,889	122,222	1,601,111
Danish seine	Mlt	—	33	33	—	55,000	55,000
Mini-trawl	Mlt	—	35	35	—	77,778	77,778
Total		13,262	6,554	19,816	15,761,014	2,597,525	18,358,539

Source: FAO March 2005
* Material: Mn=Monofilament, Mlt=Multifilament

funded and are run by local fishing communities themselves.[20]

The table 4 gives an overview of the damage caused by the tsunami to the various infrastructure, such as ports and harbours, landing piers, landing sites, ice plants and meeting halls (also auction halls and godowns with prayer facility) and fish aggregating devices (FAD).

Just like the landing centres, the already limited number of operating ice plants were also severely hit by the tsunami. Twenty of the 30 ice plants were damaged. Some, however, had been closed down before the tsunami due to the civil conflict. The *panglima laot* estimates that 15 of the 20 damaged ice plants were operational at the time of the tsunami. Two of the biggest commercial plants, with capacities of 45 and 65 tonnes per day (tpd), were destroyed. These big ice plants were located, respectively, in Krueng Raya near Banda Aceh, and Meulaboh. Many of the smaller plants in small centres have also been destroyed. On the west coast, no ice plants were operational after the tsunami, except for a few smaller plants south of Meulaboh in Blang Pidie. The northern section has to depend on two ice plants in Banda Aceh with capacities of 35 tpd and 50 tpd. On the east coast, fishers have to do with limited quantities from local sources, among others one privately owned plant in Pidie. Even in the present time of still limited fishing activities, there is a shortage of ice, with extra transportation costs adding to an already considerable increase of prices. Many small-scale fishers make their own ice in domestic refrigerators.

The ice shortage also has a major impact on marketing. Without ice, fishmongers are compelled to buy only small quantities of fish, which they can sell quickly before the fish turns bad. The only other alternative—to salt or dry the fish—is hardly an option post-tsunami, due to the damaged fish processing infrastructure and the lack of working capital. Many fish vendors themselves live in the coastal area and have lost not only their houses, but also baskets, ice-boxes and their bicycles or motorcycles, which served as their means of transport.

Fish-processing infrastructure, in particular the sheds, drying racks and cooking equipment of the small-scale fish drying units, have been almost totally

Table 4 Infrastructure lost and damaged in Aceh

Area	FAD	Landing pier	Landing site	Ice plant	Fuelstation	Meetinghall
East coast	164	22	32	13	9	42
West coast	15	2	25	7	1	32
Total	179	24	57	20	10	74

Source: FAO March 2005

destroyed, as most of them were situated directly on the beach. A total of 1,235 fish-drying facilities are lost or damaged beyond repair. Most drying facilities are on the east coast, as shown in the table below.

Marketing figures indicate a thriving industry, with 20 per cent of the fish capture being processed, mostly dried and salted. The major centres of fish processing are located on the east coast in areas such as Pante Raja, where many vessels use anchovy nets to harvest the small anchovies or *ikan teri*, which is the most popular dried-fish species.

Salt-farm units were also severely damaged, with salt pans inundated and destroyed sheds and cooking gear swept away. Like fish-processing units, they were also located close to the sea and thus were the hardest hit. Salt farming is mostly done by poor families and is one of the sectors where many women are active, just as in fish processing.

Aquaculture

Aceh's aquaculture consists predominantly of embankment fish farming, which is brackishwater shrimp and milkfish cultivation in ponds or *tambaks*, located close to the shore. The rapid development of the sector has gone hand in hand with a rapid reduction of the coastal mangrove forests, especially on the east coast, leaving little or no protection against the tsunami waves. It resulted in extensive damage to ponds and associated infrastructure such as dykes, floodgates, farmers' huts and machinery. The damage ranged from light damage to dykes to complete loss of ponds. Along with the waves came building debris, mud and silt, causing heavy sedimentation in ponds and irrigation canals. The damage to the canals has also disrupted water supply in other ponds further inland. This has caused a production stop of an estimated extra 5,000 ha of fish ponds, apart from the direct damage and loss of around 20,000 ha of embankment, as shown in Table 6.[21]

With the loss of the ponds, farmers also lost their crops and thus their working capital, with the prawn seeds and milkfish being swept way. Extensive damage was also suffered by 193 of the 223 shrimp hatcheries across Aceh. On Nias and Simeulue islands, many of the fish cages have been damaged or destroyed.

All in all, due to the tsunami, half of the aquaculture operations came to a halt, directly affecting the livelihoods of an estimated 40,000 people who had found employment in the sector. The tsunami also destroyed the aquaculture training centre of the Fisheries Department in Ujung Batee, near Banda Aceh.

The damage and destruction in both capture fisheries and aquaculture have had a direct impact on the livelihoods of many coastal people, whose work got directly or indirectly affected. Neither were other economic sectors spared: farmland and crops got damaged because they were inundated by salt seawater, and fields were covered with silt and debris, while craftsmen and shopkeepers lost their tools and stock. After the tsunami, government officials, including teachers, were more or less the only group of workers whose incomes were safeguarded.

Funding and organizations

It will take an estimated US$5.8 bn to repair the damage the tsunami and the earthquake caused in Aceh and Nias. Most of that money, that is, US$4.4 bn, have already been committed to specific projects. In total, an unprecedented sum of US$7.5 bn was pledged by the following sources: multilateral donors: US$2 bn; bilateral donors: US$1.6 bn; NGOs: US$1.8 bn; and the Government of Indonesia: US$2.1 bn.

Within days after the tsunami, Indonesia lifted Aceh's military restrictions, letting thousands of foreign troops enter with their equipment. Along came the civilian aid workers, both professionals and volunteers from all over the world. Many left once the emergency

Table 5 Fish-drying facilities lost

Area	Drying facilities
East coast	1,060
West coast	175
Total	1,235

Source: FAO, March 2005

period ended, spending over US$1 bn on relief aid. Hundreds of organizations stayed back for the rehabilitation and reconstruction work, among others 124 international NGOs (INGOs), 430 local NGOs, dozens of donor and UN organizations and various government organizations[22].

Co-ordination and collaboration

The Government of Indonesia was clearly overwhelmed by the huge disaster and the wave of aid agencies. Local governments were severely affected with many casualties among their staff and loss and damage of facilities. Disaster experts from outside, mostly foreign emergency workers from UN institutions and INGOs took the lead in the co-ordination of aid. They only partly succeeded, unable to include local organizations and small donor agencies due to language problems and perceived foreign domination. The latter perception was also fuelled by the security forces and politicians trying to impose a deadline on the presence of foreign aid workers. It took the Indonesian government more than three months to establish a separate co-ordination body by presidential regulation, called the Badan Rehabilitasi dan Rekonstruksi (BRR). It took almost another three months before BRR became fully operational, mainly due to delays in budget clearance.

The BRR operates on top of the existing Co-ordination Agency for the Management of Disasters and Displaced Persons (Bakornas), which is headed by the vice-president, aided by nine ministers, governors, the national police and Indonesian military chiefs. Bakornas has subsidiaries at the regional and municipal levels, but they lack operational funds, which should be provided by their respective local governments. Most ministries have their own mechanism and funds to provide emergency and disaster aid. Indonesia has more than 100 legal regulations regarding disaster management, but a comprehensive law on disaster mitigation is still lacking. Given the need of the presidential regulation to establish an effective co-ordination agency, the parliament is now drafting a new law on disaster mitigation, which allows the creation of a new independent agency.[23]

The main players

BRR

BRR's main role is to co-ordinate the disbursement of aid funds and ensure that they are used effectively, quickly and transparently. The agency operates from its headquarters in Banda Aceh, with two regional offices in Nias and Jakarta. BRR has a full time staff of 124, with 24 technical advisers. As a co-ordinating body, it tries to keep track of all reconstruction activities, seeks to ensure community participation and quality standards are upheld, identifies problems, gaps and areas of need, and helps find solutions in close collaboration with government bodies, NGOs, communities and civil society.

BRR has several divisions, each concentrating on a specific area of reconstruction like shelter, education, health, and natural resources and livelihoods. Fisheries are a separate subdivision under natural resources and livelihoods. The fisheries subdivision works in consultation with a steering group, on which the main players in the sector are represented, such as the Provincial Department of Fisheries, its technical counterparts from FAO and the Asian Development Bank (ADB), some donor agencies and the provincial *panglima laot.*

Government fishery institutions

Three fisheries-related government bodies are directly involved in the rehabilitation process, namely, the Ministry of Marine Affairs and Fisheries (MMAF), the provincial Department of Fisheries (DKP), and

Table 6 Embankment area and damage (in ha. and %)

Area	Pre-tsunami embankment	Damaged embankment	Damage percentage
East coast	44,624	19,826	44
West coast	452	452	100
Total	45,077	20,279	45

Source: FAO, March 2005

the district Bureau of Fisheries. The Jakarta-based MMAF is responsible for the major harbours and ports, and is involved in planning and channelling of multilateral and bilateral projects. In the latter capacity, MMAF is the facilitating counterpart for the fisheries programmes of both ADB and FAO. On the ground, however, the aforementioned agencies work in close collaboration with the provincial Fisheries Department and with the district Fisheries Bureau. With the start of the decentralization process in 2001, a major part of the provincial responsibilities were transferred to the district level.[24] Aceh's Special Autonomy status reinforces the provincial authority with extra funds and the possibility of entering into forms of direct international co-operation.[25]

During the next few years, large amounts of aid will be channelled to, and through, the Fisheries Department. The debt moratorium relocation is estimated to add US$24 mn to the fisheries budget, while the ADB fisheries project budget is around US$30 mn for three years and the Multi-Donor Trust Fund can generate another few million dollars. The present US$2.9 mn budget allocation for 2005 is mostly being spent on rehabilitation and improvement of harbour landing facilities (PPI) in five subdistricts, namely, Sabang, Aceh Besar, Pidie, Bireuen and Calang. The US$7.4 mn ADB budget for 2005 will also be spent on rehabilitation in both Aceh and Nias.

UN and international financial institutions

Moneywise, ADB is the biggest player in the rehabilitation of fisheries, with its US$30 mn ETESP. (Earthquake and Tsunami Emergency Support Project). ADB consultants have already drafted the plans for ETESP, which comprises six subcomponents, namely: community empowerment; rehabilitation of small-scale capture fisheries; rehabilitation of aquaculture facilities and production systems; rehabilitation of small-scale fish-landing and post-harvest facilities; coastal resource rehabilitation; and support services restoration and provision. ADB and the Government of Indonesia signed the ETESP agreements in April 2005. Disbursement of the 2005 project of US$7.4 mn has been delayed by slow budget approval but is now underway. The 2005 budget year will be extended to April 2006 and the project focus will be on nine sub-districts in Aceh Besar, Pidie and Aceh Utara. The first grant disbursement agreements, which were signed only in December 2005, allocate a US$2.5 mn grant to the development of sustainable livelihoods in 20 coastal communities in Aceh Besar and Aceh Utara, while another US$1.5 mn goes to rehabilitation of 30 ha of coral reefs and 300 ha of mangrove forests.[26]

FAO is one of the major players when it comes to technical inputs. It has produced a series of assessments of the damage and rehabilitation in various fisheries subsectors, such as capture fisheries, aquaculture, boatbuilding, infrastructure and fish processing. FAO data, combined with the MMAF baseline data, serve as a basic source for policy development. FAO has established an office in Banda Aceh and is running several projects. However, contrary to other UN organizations, its resources are limited. FAO is now trying to secure access to the well-funded INGOs like the International Federation of the Red Cross and Red Crescent (IFRC), offering technical assistance for the planning and implementation of fisheries rehabilitation projects.[27]

International and local NGOs

Many international and local organizations, and also individuals, are contributing to the rehabilitation of fisheries, which was one of the major sources of livelihood in the tsunami-affected coastal areas. None, however, focuses exclusively on fisheries and fishing communities. Donors such as Oxfam, Mercy Corps, ICR, and also UNDP and JICA, provide funds for

Table 7 Replacement and repair of fishing craft in Aceh

Progress Activities	Material and Size*												Total	
	W-A		F-A	W-B		F-B	W-C		F-C	W-D		F-D		
	N+	R	N	N	R	N	N	R	N	N	R	N	N	R
Delivered	717	98	103	642	101	118	80	21	—	1	4	—	1,661	224
Under construction	371	—	—	532	17	146	224	6	—	—	—	—	1,273	23
Pledged	259	—	100	206	8	—	451	—	—	46	—	—	1,062	8
Total	1,347	98	203	1,380	126	264	755	27	—	47	4	—	3,996	255

*Material W=Wood, F=Fibre, Size A=5-6.5 m, B=7-11 m, C=12-16 m, D=16+ m

+N= New replaced, R= Repaired

Source: Panglima Laot, 29 September 2005

various economic activities, starting with cash-for-work projects, and are gradually moving on to target specific sectors, including fisheries. Most of these funds are channelled to local organizations that serve as implementation partners. Only a few of these local NGOs had been working with coastal communities previously with a specific focus on fishery issues, including Pugar in Banda Aceh and Papan in Meulaboh.[28] A few others like YBK, CDI, Paska and Sahara were active in fishing communities but focusing on the broader issue of livelihood and economic resources.

Traditional institutions

Panglima laot is the only local fishers' institution that has a long history in fisheries and is strongly embedded in the coastal communities. As such, it has attracted a lot of attention from aid agencies, who see it as a source of information but also as a potential service provider. Most focus on the provincial *panglima laot* as the central representative of the regional network, which is easily accessible with its office in Banda Aceh and some well-educated English-speaking staff. The provincial *panglima laot* itself is also actively positioning the organization as a major stakeholder in the rehabilitation process, to safeguard the interest of the local fishing communities. However, the local *panglima laot* is not always directly involved, and has sometimes been even sidelined by aid agencies and other local leaders, especially during the initial relief phase. Now most are at least consulted, while a large group is more actively participating and sometimes implementing projects themselves. The provincial organization cautions against undermining the institution by burdening the *panglima laot* with financial responsibilities, thus creating a potential source of conflict and distrust.

Interventions in the pre-harvest, harvest and post-harvest sectors

"Don't give them fish, but a boat to go fishing" was a piece of advice many literally acted upon. Providing fishing craft to the coastal communities has proved to be a popular way of helping people, mostly so because it was perceived as a quick, visible, not-too-complicated and also not-too-expensive intervention as far as small fishing craft are concerned.

In general, one can say that all interventions aimed at providing the affected communities the 'tools' needed to restart their economic activities and enable them to look after themselves. The most common interventions are:

- Cash-for-work: clearing debris from landing sites, beaches, estuaries and ponds, replanting mangroves.
- Providing tools, sheds and training to boatbuilders.
- Repairing and replacing craft, gear and engines.
- Rehabilitating embankment areasand irrigation canals.
- Helping kickstart sector-related and supporting economic activities like production of ice and salt; provide transport and capital to fish vendors; rebuild fish-processing units.
- Repairing infrastructure on a small scale, as many of the larger projects are still pending.

Although government and aid agencies aim to "Build a Better Aceh", interventions in this direction have been limited, partly due to the chaotic start and lack of co-ordination, but also because some targeted improvements are part of the long-term plan, which are still under process and not implemented as yet, like, for example, integrated infrastructure projects. Interventions that go beyond replacement of losses include:

- Boatbuilders' training, focusing on technical quality improvements related to design and material.
- Promotion of transparent local co-operative management structures; strengthening local institutions; strengthening bargaining position of fishers and local traders.
- Promotion of community participatory approaches.
- Safeguarding the environment by replanting mangroves to strengthen embankment areas; promote environmental friendly fish culture,
- Promote sustainable fishery methods but also expand deep-sea, export-oriented fisheries.
- Quality improvement of fish processing.

Replacement of craft and gear

According to the government co-ordination agency BRR, a total number of 1,210 fishing craft had been built by the end of November 2005, with a further 7,234 more planned. A far more detailed assessment by the *panglima laot* at the request of FAO already counted more than 1,600 fishing craft being replaced by the end of September. In BRR's year summary report, the figures are updated, with 3,122 fishing craft of a total of 4,717 lost fishing craft having been replaced or being built.[29]

The different figures, and more so, the large differences, underline the rather chaotic aid and lack of co-ordination, particularly during the first six months. Hundreds of individuals, companies, charity groups, aid organizations and government institutions have been offering help to the affected fishing communities, offering fishing craft (new and second-hand) or funding for the construction of fishing craft, ranging from one single boat to hundreds of fishing craft. As can be seen in the table, most boat aid focused on the 7-11 m fishing craft. This size is the most common used in Aceh and many of them got lost or damaged. However, it is also a popular boat category for the aid agencies because of its affordable price and simple design, which make it easy to provide. The distribution of the fishing craft across districts has been uneven and supply-driven. The four districts close to Banda Aceh account for 40 per cent of boat losses but have received 75 per cent of all fishing craft distributed or repaired.[30] Other districts like Bireuen, Lhokseumawe and Simeulue are still waiting for the much-needed boat support.

In the hasty boat supply process, many problems occurred. Some donors only provided the boat, leaving it to the fishers to buy the engine and the gear, which are far more expensive. BRR estimates that of the 4,000 fishing craft that are being provided, only 1,000 have been equipped with an engine and only 600 have a complete set of gear; thus, less than a quarter of the fishing craft can be used right away to go to sea. Some donors delivered the aid without consulting the community and its leaders, creating a potential source of social conflict, especially if the aid was limited to a few people, or the recipients did not have a boat before the tsunami and sometimes were not even fishers at all. In other cases, the boat designs were not fit for the local conditions or did not meet minimum quality standards, thus endangering the lives of the fishers. Problems with design and quality were partly due to the fact that fishing craft were ordered outside the concerned villages, with boatbuilders not being familiar with local preferences.[31] The huge demand for fishing craft also caused many ordinary carpenters and furniture makers to jump at the opportunity, despite no or very limited knowledge about boatbuilding. Indirectly, this also caused a shortage of suitable and well-dried timber varieties.

Changing gear: turning to bigger craft

The major parties involved in fishery rehabilitation (DKP, BRR, FAO, ADB and *panglima laot*) all quote a target number of 6,000-6,500 fishing craft for replacement. This figure is based on the assessed loss of 7,000 fishing craft minus 10-15 per cent representing the percentage of casualties among the fishers.[33] All agree that with an estimated 4,000 small fishing craft built and in the process of being built, the required quantum has been reached. They stress it is now time to focus on the construction of larger fishing craft, which, until now, only have been built in small numbers, as is indicated above in Table 7.[34]

Most organizations have kept the replacement of large fishing craft at bay, not only because it is far more expensive, but more so because of the ownership dilemma. Helping the owner of a boat larger than 16 m is perceived as helping the 'rich' employer, while neglecting his 'poor' crew, although the crew will profit through employment and wages. Only now are some agencies planning to construct larger vessels.

In general, the owners are left to find a solution themselves. Those with repairable damage depend largely on their families and friends to borrow money, while some look for investor support, as banking credit seems beyond their reach. Those who have lost their vessels have to accept their fate and start all over again.

The only option to secure funding from aid agencies for larger vessels is through co-operative management, by setting up a co-operative or similar institution. Now that the target for small fishing craft appears to have been reached, several agencies are exploring the organizational options. Some already have established co-operatives and other structures to ensure a more 'equal' distribution of profit. As mentioned earlier, this intervention is strongly supported by the major players. FAO, for example, is already showing the way by collaborating with one of the IFRC country members, Belgium.[35]

At the community level, the shift of focus to larger vessels is criticized by the local *panglima laot* and fishers

Box 1: Bad Practices: Providing and Allocating Aid

Dumping aid without prior consultation: *The Kuwaiti Red Crescent handed out around 120 fibre canoe boats across affected areas, but none of them are used for fishing as the boats are considered too small and too light. "If used at all, they are just good enough to transport jerry cans of drinking water," notes one beneficiary.*

One source doesn't cover the variety of local preferences*: Before starting the boat project, MSF Lamno consulted one of the fishing communities in the affected area. Their preference for a boat with outboard motor became MSF's standard model. That preference is based on the fact that the concerned villages lack a natural harbour, forcing the fishers to pull the boats ashore and take the engines home. However, in neighbouring villages with access to a natural harbour, people prefer inboard motors, according to the* panglima laot *and fishers of Ujung Muloh. They, however, were not consulted in the matter, and now will have to accept the outboard motor boats. Some fishers have turned to family members for loans to buy a boat with inboard motor, which, they argue, is cheaper in operation cost (using diesel, instead of petrol) and easier to maintain. They used to have boats with a 'house' or living area, which would double up as a kitchen and bedroom for night fishing. Nowadays, boatbuilders reject orders for these models as they are more labour-intensive and the boatbuilders already have a lot of orders from donor agencies for smaller boats.*

Wrong target group: *Not all men in coastal villages are fishers, even less so if they live a few miles inland. The eagerness to help quickly sometimes resulted in superficial checks and balances, thus leading to instances of boats being given out to non-fishers, while the real fishers remained grounded ashore, empty-handed. That explains why in Jangka Buaya, the 18 boats donated by USAID remain ashore most of the time, as their owners are probably busy cultivating their fields.*

Bad quality mixed with bad politics: *Nobody seems interested in the 70 boats the Ministry of Social Affairs built in Meulaboh. Most are still waiting for an owner, while the dispute over the lack of quality and political collusion is heating up. The ministry is accused of handing the contract to a party member of the minister, who spent much less than quoted, using bad quality wood. While there are far more examples of badly built boats, which are usually discreetly abandoned (as local custom requires a show of respect and not a hurting of the feelings of well-intentioned donors), these boats attract a lot of public protest, boosted by political opponents.*

Box 2: Best Practices: Targeting Improvements

A co-ordinated effort: *Boatbuilding brochure and boat builders training: Technical assistance targeting both donor agencies and boatbuilders turns out a worthwhile intervention. A mission of a master boatbuilder of FAO set off the alarm bells regarding the dangerously bad quality of newly built boats. A simple booklet with photographs of bad and best practices provides guidance to the lay aid worker and convinced several organizations like HELP Germany to enlist their boatbuilders for a co-financed training in their own workshop, thus ensuring the implementation of the lessons learned. FAO boat experts still regularly visit the HELP boatbuilders to check the quality standards. Guidance is a must as one training will not change traditional methods and design. Some participants, although gladly acknowledging that they learned a lot, were still sticking to the old methods, because "that is what the fishers want, that suits the local circumstances, those materials are easily available."*[32]

In control: community participation. *Several funding agencies work closely together with communities to asses the situation (mapping assets) and consult with the* panglima laot *before they start boatbuilding activities. Using experienced local craftsmen (if available) and building boats on the spot, they enable beneficiaries to check the process closely (as, for example, IRC in Calang), even more so if craftsmen and fishers are jointly responsible for the project, including for buying materials. Some examples can be found around Meulaboh, in Kuala Tadu under the guidance of PAPAN, and in Pucok Luang, with YPK, as well as on the east coast in Pidie district (TdH in Pase Lhok), in Bireuen district (Permata in Curee Tunong) and Lhokseumawe (Sahara).*

alike, as many are still waiting for the replacement of the small fishing craft. They are alarmed and upset by newspaper articles claiming that with 4,000 fishing craft already being replaced, no more small fishing craft are needed. First of all, not all these 4,000 fishing craft have been delivered as yet. Secondly, looking at the sheer numbers, these 4,000 new small fishing craft do not add up to the loss of around 6,500 fishing craft up to 16 m long.[36]

The arguments in favour of the larger-vessel policy look beyond the need of mere replacement of lost craft and bring in additional elements, especially the need for developing capture fisheries, in particular, the 'underdeveloped' provincial deep-sea fishery. With larger vessels, the local fishing community would be able to tap the available offshore fish resources like tuna. These—so runs the argument—offer export opportunities, would create more employment, and, at the same time, help to prevent overfishing of coastal waters. According to some experts, the fish resources already show signs of depletion; others disagree. No scientific studies are yet available to assess the post-tsunami marine resources. The Indonesian Research Institute LIPI, in collaboration with the Norwegian Institute of Marine Research, has just completed a study on the ecological impact of the tsunami in the coastal waters. Their research includes no real stock assessment, although they identified coastal resources up to 80 m deep, indicating a positive and quick post-tsunami rehabilitation of coastal fish resources. A deep-sea stock assessment is still pending, with some indicating that the World Bank is in the process of preparing that assessment. The Fisheries Department, BRR, FAO and other parties are eagerly awaiting the results, as the availability of deep-sea resources will ultimately decide whether deep-sea fleet enlargement is feasible.

The second priority: fisheries infrastructure

First provide the fishing craft and only then the infrastructure–this is the most common approach followed in the reconstruction of capture fisheries in Aceh. As of writing this report, the first infrastructure projects have commenced, but most of them are still at the planning stage, with implementation only to start in 2006-2007. Integrated infrastructure projects are relatively expensive, with estimated cost estimates ranging from US$100,000 for a small landing centre to US$400.000 for rehabilitation of larger harbours. Only the bigger aid agencies have the funds to finance and hire the required expertise for this kind of infrastructure development. Furthermore, most NGOs view these kinds of infrastructure projects as the responsibility of the government, as it concerns public facilities.

ADB and FAO have stepped forward as strategic partners in rebuilding the severely damaged infrastructure, in collaboration with the Fisheries Department. ADB's current plans include support for the development of between 12 and 18 small-scale landing centres through an integrated approach, that is, designing landing sites, and icing, storage, refuelling and post-harvest facilities. The ADB project has not yet started due to bureaucratic delays in budget allocation and release.[40]

Minor rehabilitation and reconstruction of fisheries infrastructure is already being implemented in order to kickstart the production process. Various INGOs have made a headstart, with clearing debris through cash-for-work programmes. In some cases, this has been followed up with the construction of market sheds or small mosques on the beach or close to landing sites, which double up as meeting places.

Until now, some 130 fish markets have been constructed, with a further 156 planned, according to BRR data.[41] Information regarding reconstruction of landing sites is less easily available, and we, therefore, have to limit ourselves to a few places were we know work has started, like in Ulee Lheue. Here, at the request of the *panglima laot*, the aid agency Islamic Relief is building a landing pier for the five purse-seine fishing craft that survived the tsunami. Other sites will follow, according to BRR, but it will take time to build permanent facilities, as they have to comply with the minimum standards, including providing for solid-waste management and ice facilities.

To meet the immediate needs and ensure that fishers do not have to wait until full-fledged landing sites have been completed, FAO proposes to build small so-called container ice plants. One 3-5 tpd capacity ice plant is being procured by FAO, while the government will provide a 1 tpd ice facility. Some aid agencies like IRC have also started focusing on supporting infrastructure now that they have rounded off their boatbuilding activities.[42] IRC is currently discussing with local fishers in Calang what kind of support they need to strengthen their economic activities, be it an ice plant, fish-processing equipment, or transport or working capital for fish vendors. ICR plans to channel that support through local co-operatives to encourage co-operation amongst local groups.

Aquaculture infrastructure

Interventions in the field of aquaculture are starting only now, the only exception being the cash-for-work programmes to clear the debris from thousands of hectares of embankment area, which started within a few month of the tsunami. However, far more needs to be done to turn the cleaned ponds into productive ponds. The FAO sums it all up in its booklet *15 Steps for Aquaculture Farm Rehabilitation in Aceh, Indonesia.*[43] Rehabilitation turns out be a complex process for a combination of reasons. First of all, one needs to rebuild the infrastructure of a larger embankment area before one can start rebuilding individual ponds. The overall irrigation system of water canals and watergates needs to be repaired before separate dykes are rebuilt and sludge removed. Secondly, rehabilitation is an expensive affair, with a minimum cost of around US$100.000 per village area, based on average cost of US$1,800 per hectare.[44] Thirdly, it involves complex ownership patterns, involving both private and public or common properties, further complicated by issues of indebtness and owner-worker relations. Fourth, the social and economic importance of aquaculture cannot cancel out its negative impact on the environment and the fact that it caused the destruction of protective mangrove forests.

The FAO booklet is an obvious effort to address all the abovementioned issues and to ensure the reconstruction process will help overcome problems that already existed before the tsunami, and result in improvements in technical, economic, social and environmental aspects. Still, many aid agencies are keeping a distance and postponing their activities in the aquaculture sector. In addition, the organizations that are involved in aquaculture interventions mostly seem to do so in an unco-ordinated manner.

Exact data on the extent of the rehabilitated embankments are not available. Some owners have started reconstruction on their own, often with the financial help of family members. Others got some support from aid agencies or the government to rebuild the irrigation canals and to reconstruct the dykes. Few organizations took it upon themselves to fully fund the rehabilitation of aquaculture for a whole village, let alone address all the technical, social, economic and environmental issues involved. In Sangso in Pidie district, Terre des Hommes, The Netherlands

Box 3: Good Initiatives: Striving for Transparent Co-operative Management

From co-operative to village-based resource management

The wave of tsunami aid has brought a whole range of co-operative management concepts to Aceh, many still only on paper but a few have already been brought into practice, though it is too early to judge their feasibility and sustainability.

Fishers co-operative: joint ownership

The 40 fisher-strong Putra Pantai co-operative[37] in Curee Tunong (Bireuen) is about to become the owner of a 20-m purse-seine vessel, which they will operate in shifts. At present, the fishers are all busy mending nets and keeping an eye on the boatbuilder's work. In due time, they hope to acquire a second purse-seine boat using the income the co-operative will generate as 'boatowner' and from its credit fund. In Meulaboh, fishers will be establishing a far bigger co-operative that will manage 17 vessels with the help of a professional management team, which is also supposed to take care of the marketing of the fish.

Village co-operative: profit sharing and revolving fund

In Lambada, the first 50 owners of new boats (17 privately owned, 6 owned by two persons and one owned by a crew of 15) provide the basic income of the revived village co-operative, which has savings and credit as its main activity.[38] The fishers contribute a share of the profit to the co-operative, money that will later be used as a revolving fund to buy more boats and set up a shop (warung logistik) *to sell fisheries equipment. Micro-credit, with a transparent accountancy system, is seen as a key to reduce dependency on traders-cum-moneylenders.*

Community Finance Institute: a more flexible credit institution

The crew of the new purse-seine boat in Lancang (Pidie) can now borrow its operating cost against a 5 per cent from the Community Finance Institute (Lembaga Keuangan Masyarakat). *That's 5 per cent less than the trader-cum-moneylender would ask. The newly established institute works actually as a village co-operative, but is not bound by the strict co-operative rules and regulations. Instead, it can develop its own rules as and when required. ICD, a local NGO, has recently set up five such institutes in as many villages in the Kembang Tanjung district. The communities all received some boats, and will contribute part of their profits as start-up capital for the community finance institute.*

Community Economic Institute: community resource management

The villagers of Lhok Bubon and Pucok Lueng in Meulaboh district have recently established their own village-based institutes called Lembaga Ekonomi Masyarakat *or LEM. These institutes provide a single window for aid agencies intending to work in the area, thus ensuring community participation and control. The institutes aim to manage all economic activities as a 'village enterprise', with a co-operative management team[39] of elected members and separate division heads, representing the various economic sectors active in the village (fisheries, agriculture, home industries, trade, etc). Micro-funding is a crucial activity as it generates money (through interest) and, at the same time, supports various economic activities, providing access to credit. The village organization's micro-fund is also meant to provide 'insurance-loans' to pay hospital bills, and improve people's welfare by investing in training, education and social activities. Some income is already generated through joint management of boats and boatbuilding (profit sharing), hand tractors and tools (rental), and sale of fuel. Future sources of income could include: management of fish-landing sites, ice plants, fish auctions and petrol pump management (earning income from percentage of sales or tender rights), group-owned fish ponds or farmland.*

The organization's recently built village office serves as a meeting and information point. The proposed designs for new houses and a village-scale model are put on display here. The ultimate goal is village-based resource management.

(TdH) ensured that the owner of the pond would share a larger part of the profit with the workers. Yasindo, partner of the environmental group Walhi, which is working in the neighbouring Jangka Buaya subdistrict, paid more attention to the environmental issue by planting single rows of mangrove samplings along the dykes to strengthen the embankment[45]. Walhi itself wants to introduce silvofisheries as a way to promote sustainable aquaculture. In all, on the ground, one encounters a diverse mix of interventions. This might change once larger-scale intervention programmes start, like those of ADB.

Post-harvest fishery-based livelihoods

Livelihood support is one of the most popular intervention strategies as part of the post-tsunami aid. It scores well with all parties involved, both governmental and non-governmental, small and big organizations. Supporting fish processors, fish traders and salt farmers is one of the obvious choices for the rehabilitation of the affected coastal communities. Even so, during field visits, these groups still complained a lot about the absence of financial support or its limited scale.

Fish processing is restricted to certain coastal centres where a substantial number of vessels equipped with anchovy nets are active to supply small anchovies or *ikan teri*. Elsewhere, people will only occasionally engage in fish processing, mostly when fishers encounter difficulties in selling fresh fish, mostly due to an abundance of catch. In those cases, the fish is either salted or dried to keep it from going waste and to reduce the loss of income. Generally, only the processing of the small dried *ikan teri* is perceived as commercially viable. That is also underlined by the fact that the big fish traders and exporters in Medan who are active in the *ikan teri* trade were among the first to provide aid to their loyal suppliers so as to keep the business going.[46] In other places like Leupung, the traders from Banda Aceh and Medan are the ones who own all or most of the vessels.

Interventions in fish processing mostly aim at replacement of lost infrastructure and equipment: a shed for cooking and storage, stoves and pots, drying racks and baskets.[47] However, fish processing also requires working capital, as processors double up as traders, buying fresh fish from the fishers before they can sell the processed fish to the merchants in Medan. FAO is now considering providing working capital, but, given its restricted funds, for the time being, it will retain its focus on providing physical inputs. FAO has also plans to organize training to improve the quality of processing as well as bookkeeping.

FAO has so far rehabilitated 189 fish-processing units in four districts. In Pante Raja, it has mainly provided aid to the larger units, arguing that they provide more employment than the smaller ones. The 45 beneficiaries who, on average, had a capacity of 200 to 500 drying racks have each received 100 drying racks from FAO. Thus they are still operating well below their normal capacity. They used to employ four to eight workers each, while smaller units employ two to four persons, mainly women.

Elsewhere, some fish-processing units received only part of the equipment and were thus unable to start working.[48]

Support for fish traders consists mainly of replacement of transportation infrastructure, mostly motorcycles, insulated ice boxes and pannier baskets, as well as working capital. While some organizations like FAO specifically target fish traders in certain pockets, others like Oxfam provide working capital to fish traders as part of a general economic recovery package, which also targets food-stall owners and craftsmen. Overall, the interventions targeting fish traders lack co-ordination: some get help and others don't, depending on the priorities set by the organizations working in the area, and not based on the needs of the people or the requirements to revive a specific economic activity.

Salt workers are more specifically targeted, because, just like fish processors, they are heavily concentrated in certain areas. In various locations along the east coast, salt farmers have been provided with sheds and cooking equipment so they can start working again[49].

Interventions specifically aimed at women and other vulnerable groups

Women are the key to a new Aceh, underlines Mr Kuntoro, the head of the BRR, stressing the 'strategic value' of women. However, fisheries are perceived as a sector dominated by men, and thus most interventions target male fishworkers. While every single

organization active in the rehabilitation of fish processing will stress that women are among the main beneficiaries, most of them shy away from exclusively targeting women in this sector, not wanting to deny men the same opportunity.

On the ground, fisheries in Aceh are indeed men's business.[50] Women only participate in a few fishery-related activities, and none of these is an exclusive woman's domain. While women form the major workforce in the fish-processing sector, and often are the only source of income for female-headed households, the entrepreneurs are mainly men and husband-and-wife teams. The same goes for salt farmers, who mostly operate as a family business. Though women certainly benefit from the interventions in fish processing and fish marketing as well as salt farming, the large group of women do so only indirectly, through the revival of employment opportunities. The working relations in the sector, as such, remain unchanged. Aid agencies neither target their support for family-related fisheries business to strengthen the position of women as equal partners. However, in general, most agencies ensure that women are included as beneficiaries of the livelihood programmes, as recipients of working capital and tools to enable them also to earn an income, though mostly in sectors that fall in line with the 'traditional' female activities like sewing clothes, baking and selling of cakes and other food products.

Interventions are, in general, more focused on the rather broadly defined target group of 'poor' people, which usually covers both the structurally poor and those whose poverty is directly related to the impact of the tsunami. With most assets in coastal areas destroyed by the tsunami, there is a high degree of impoverishment among formerly better-off and middle-class families. In line with their pro-poor and pro-equity approach, agencies generally opt to provide the same basic assistance for all affected people. Although equal treatment is not always feasible, especially in livelihood interventions, there is a clear tendency to treat all tsunami-affected subgroups equally: all affected fishers tend to receive the same small boat, and all fish vendors the same amount of capital, with no extra compensation for the 'rich' boatowners and traders.

The far more complex ground realities force agencies to review and refine their strategies. FAO, for example, decided to provide support to the largest units of fish processing, thus supporting the relatively richer entrepreneurs as they have the potential for generating more employment for female workers, while the smaller fish-processing units are still waiting for aid. Many perceive this as unequal treatment and thus it forms a potential source of conflict[51]. BRR promotes a more 'equal' practical approach regarding aquaculture by trying to help rehabilitate as many shrimp farmers as possible (each—both poor and rich—with one pond), while indirectly ensuring employment for aquaculture labourers as well.

Rehabilitation of fishing communities: land and shelter issues

All settlements along the 800 km of devastated coastline in Aceh harbour larger or smaller fishing communities. In each and every of the 650 affected villages and towns, the fishing communities have been hard hit by the tsunami as they are the ones living closest to the sea. However, no separate data are available for fishing communities, as they are not treated as a specific statistical entity but seen as an integral part of a mixed village community. While in many small coastal villages, the majority of the people depend on fisheries, there will always be a few craftsmen, traders and farmers as well. In bigger towns, the situation is reversed, as in Banda Aceh, where the majority of the affected population works in the service sector. In all, it seems safe to assume that more than half of the 540,000 people rendered homeless by the tsunami belong to households depending, at least partially, on fisheries for their livelihoods.[52]

Number of fishing villages affected and infrastructure

According to BRR data, approximately 650 villages have been affected, of which more than half, that is, 340 villages, have suffered severe damages. The worst-hit are the villages on the west coast of Aceh, from Meulaboh up to Lhok Nga and Banda Aceh, with Calang town standing out as the worst-affected place, with just one single house left—and even that is damaged. On the northeast coast, most seashore villages have also been swept away, but further south

on the east coast, one finds more settlements that have only partially been damaged. On Nias island, an estimated 80 coastal villages are affected, leaving more than 40,000 people homeless. Given the damage, BRR estimates around 120,000 new homes are required, some 80,000 to 110,000 in Aceh and 13,500 on Nias.[53] With around 80,000 ha of land now submerged or uninhabitable, around 30,000 land plots are no longer fit for habitation. Thus, a quarter of the homeless need new land for their homes.

As with houses and villages, the damage to infrastructure is immense[54]:

- 3,000 km of roads were rendered impassable, among which were 600 km of arterial roads, 650 km of city roads and 1,360 km of local neighbourhood roads.
- 120 arterial bridges and 1,500 minor bridges were destroyed.
- 8 out of 10 airports were damaged.
- 14 out of 19 seaports were badly damaged.
- 2,700 school buildings were damaged, of which 366 need to be replaced.
- 122 healthcare centres were damaged or destroyed.
- More than 500 religious facilities (mosques, prayer halls and Islamic schools and boarding schools) were severely damaged.

Reconstruction progress and relocation

Shelter and housing have been named the first priority in the reconstruction effort, but so far, progress has been slow. By the end of 2005, BRR hopes a quarter of the required 120,000 new houses will be ready. At present 16,500 houses have already been built, with another 13,000 under construction. BRR plans to speed up the process next year, targeting to build 78,000 houses before the end of 2006. By March 2007, all the required 120,000 new houses should be ready.

At present, a large part of the more than 500,000 homeless have found temporary accommodation with family and friends or have built their own huts. Close to 70,000 people still live in tents, while another 75,000 stay in 'organized' barracks that are provided by government and aid agencies. The initial plan to relocate all displaced people to barracks was abandoned after fierce criticism from the affected communities, especially from the fishing communities. With coastal areas still being partly submerged and roads and bridges damaged, those barracks were planned to be built far away from the village of origin — too far, according to the communities, who were afraid to be cut off from their source of income (sea and farmland) and the only asset they had left, their own piece of land. In some cases, the government, therefore, opted to locate barracks closer to the affected villages. In other cases, the villagers chose to return to their villages and build their own huts. The latter option has often been treated as the end of their 'displacement', thus meaning the end of the monthly supply of food rations and living allowance.[55] To avoid being left out in the cold, some families split up, with some members continuing to live in the barracks in order to claim the rations and others returning to the village to reclaim their land.

Right to return

Initially, the government proposed to have a 2-km coastal safety zone, where no construction would be allowed. This plan was successfully opposed by the communities living within the 2-km zone, who demanded the right to return to their land.[56] However, it took the government a few months to take a decision, which caused considerable delay in the housing projects, as UN agencies and many other international donors did not want to build houses without formal government permission. This is highlighted by the fact that the houses constructed so far have been built by comparatively smaller agencies, mostly those with a project size of under 1,000 houses.

Officially, now all internally displaced persons (IDPs) are entitled to return to their place of former residence, if they so choose.[57] However, relocation remains an issue, as around 80,000 ha of land are now submerged or uninhabitable. This means that thousands of households have to be relocated. In some villages, were only a few households had to relocate, they have themselves made arrangements, using village land or swapping plots. Elsewhere the (sub) district government has bought land for those who have lost their land to the sea.[58] Most aid agencies keep their distance and do not want to get involved in land sales, foremost because of the disputes surrounding land

ownership and land titles, but also because they fear it will lead to inflated prices.[59]

In some cases, the local government has claimed former private coastal land for public use. Both in Calang and Meulaboh, local authorities have developed plans to use some land for coastal development, that is, for a harbour and a tsunami monument in Meulaboh, and for the relocation of the complete town of Calang, which was totally destroyed by the tsunami. In Meulaboh, this claim has been disputed by the private owners, as the government remains unclear about the place and arrangements for relocation.

Delays in the construction process are also caused by problems surrounding land ownership, as documents have been destroyed, both those privately kept as well as those of the government land registration agency (BPN). In small communities with a large group of survivors, public memory can still be tapped to re-establish borders and ownerships rights. The government accepts ownership letters acknowledged by the community, and BPN will provide them with new land certificates.[60] In some places, there have been complaints that the process takes a lot of time, with officials claiming payment, although the service should be free.[61] The big problems, however, arise in the devastated suburbs of Banda Aceh that were densely populated. Here only a fraction of the inhabitants survived. It is, therefore, far more difficult to establish ownership rights, especially since most of the landmarks have disappeared. It is in these areas that least progress has been made.

Participation, minimum standards and scientific norms

BRR dictates a community-driven approach, to ensure community participation. Until September, some 20 international and local NGOs had initiated work on land mapping in 94 villages. Mapping was followed by village-level spatial planning, including site planning and detailed engineering designs for public infrastructure like roads, drainage, clean water and sewage networks. This is how it should be done: having group discussions and setting up a village steering committee that acts as a partner for discussion, for data collection and verification discussion, for design and implementation. The UNDP set up a Small Grant Programme to support local NGOs with the mapping and planning exercise, while INGOs like TdH and Hivos enlisted an experienced Indonesian support NGO to assist local organizations in the field.[62] Other examples can be found in the box on best practices.

In a significant number of other villages, the housing reconstruction process is far less participatory. Some organizations do the job themselves, with the help of a contractor and just hand over the keys to the new house, while others only consult a selected group of key figures.[63]

Building model houses has become standard practice for many agencies in order to ensure that basic safety and quality standards are in place while giving the community a voice in the design. In practice, it often means the community's choice is restricted to two or three models, which many feel obliged to accept because it is a gift and they feel they would anyway lose any arguments with the 'experts' on technical aspects of safety.

In the first months, several agencies designed and promoted earthquake-resistant houses, putting up posters to inform the broader public of the essential safety measures, like the required diameter of iron rods and the depth of the foundation. Wooden houses on stilts belonged to the favoured designs promoted by international agencies, as they were seen to provide some safety against a future tsunami and, at the same time, reduce risks of injury, as wood is a relatively light material. However, due to the issue of illegal logging, this type of design has been silently dropped. Most agencies have severely cut down on use of timber for housing, replacing it mostly with bricks. This design is preferred by the communities, as they perceive a brick structure as being more 'permanent' (read: durable) than a wooden structure, certainly with the present decreasing quality of timber. [64]

The official BRR guidelines for shelter establish minimum standards and do not address all the safety issues and scientific norms. Even so, some of these minimum requirements are not being observed in various housing projects. The wide variety in quality, style and type of housing highlights the problem. The minimum prescribed

standard size of houses is set at 36 sq m, but various agencies ignore the regulation, some building houses as small as 27 sq m, while the most spacious ones count at 70 sq m.[65] The lucky ones get a kitchen block and a tiled floor; the unlucky ones have to live with triplex walls. People often lack information on the minimum standards, although UN Habitat claims to have distributed 100,000 leaflets via BRR.

Providing shelter is more than just building a house, underlined BRR head Kuntoro, while highlighting the shortcomings in water and sanitation. These shortcomings are due to the lack of clear guidelines, co-ordination, monitoring and control. Some NGOs just focus on a quick solution[66], while elsewhere, various organizations are active and the reconstruction process is divided sectorwise (shelter, water and sanitation, schools) without much collaboration.

Box 4: Best Practices: Participatory Approach

Being there

In overwhelming sad and chaotic times, the few returning displaced villagers of Lam Ujung, near Darussalam, were happy just to have somebody around to consult, helping them sort out what they wanted, where to get it, whom to approach. A student activist of People's Crisis Centre (PCC) regularly stayed with them in the destroyed village, guiding them on how to cope with all these aid organizations and get the support needed for the others to return to the village. Although PCC also provided food aid, it was the moral support that made the difference.

Village mapping and planning

Reconstructing the old village on paper together with the survivors is the first step towards the construction of a new village. It usually takes three to five days for the public exercise, but preparations start much earlier with compilation of village data. The actual map helps to verify the data (Who had a boat? Who owned this fishpond? How big was this plot of land?) and it is there for all to see. A second map helps to visualize the new village layout, and indicates who wants or needs to relocate, and how it will be arranged. The next step is the actual marking of the separate building plots. A core group of villagers represents the community to work with the NGO housing team on the housing design and construction process.

One Step Further: Resource Mapping

YPK uses the village mapping exercise not only to map houses and infrastructure, but also to assess the natural resources for present and future economic activities. The exercise creates awareness about potential resources within the framework of sustainable livelihoods, thus building a base for community-based resource management.

Going the whole way: from emergency aid to a network of eco-villages

"Udeep Beusaree", *"Living Together", is the motto of the 23 Meuraxa communities that are supported by Uplink. By providing food support, Uplink stimulated people to return to their villages, set up community kitchens and build their own barracks. Focusing on one area, Uplink gradually created a network of 23 villages. With the help of architects and planners from Jakarta, the villagers started mapping the sites for their new homes, looking for alternative solutions to address the safety issue (artificial hills, escape roads). They played a crucial role in the reversal of the planned safety buffer, gaining the support of the minister for the environment for a pilot project of eco-villages. Now that they have started reconstructing their villages, the rich neighbours are also returning to rebuild their houses, with their own money.*

Key Issues

The quality of aid: How to ensure that people get helped well

The quality of fishing craft is sometimes dangerously poor due to various reasons: use of bad-quality materials, lack of craftsmanship and technical know-how, and designs that are not suited for local conditions. Less life-threatening is an incomplete boat, but with just a boat and neither gear nor engine fishers are still unable to go back to the sea and earn their own living. These quality problems have been highlighted by various organizations, including FAO, *panglima laot* and BRR. More community involvement certainly helps reduce the problem, just as better training and extension work will improve the quality of aid by extending the life of a boat. But how to ensure minimum quality standards with so many players in the field? And who takes responsibility for past mistakes? What about the people who got a leaking boat or no nets? Or a leaking house, for that matter. In housing, one also encounters a wide variety in quality, size and style of shelter, despite minimum standards. More information on minimum standards and rights can empower local communities, but without a clear complaint mechanism, their criticism often remains unheard.

The quantity of aid: Danger of oversupply and depletion of resources

Small fishing craft turn out to be an attractive 'quick fix' for many aid organizations: they provide highly visible aid, which is easy to provide and relatively cheap. The small fishing craft not only help fishers but also the aid organizations that are under pressure to digest unprecedented large amounts of donations in a short time. With around 4,000 fishing craft delivered and more under construction, experts fear an oversupply of small fishing craft, which, in turn, can deplete available resources in the coastal areas and thus endanger a sustainable development of the fishery sector. Shifting focus to larger fishing craft, especially those equipped for deep-sea fishing and multiple-day trips, is being promoted as an alternative. However, the scientific justification for this strategy, by way of resource assessment, is still lacking. In the meantime, aid agencies have started showing interest in larger boat projects, under pressure from donors to spend more money, but also to generate future employment opportunities.

The quantity issue also colours the discussion on infrastructure. The government officials' tendency to go for big infrastructure projects is sometimes more motivated by opportunities to generate some money for themselves than fine-tuned to local needs. People are often better off with 10 small ice plants than one big plant.

The question of co-ordination

With so many organizations operating in Aceh and so much donor money around, co-ordination is severely hampered. BRR is established to do the job, but it is not yet in full control, despite its being backed up by a steering committee of the major parties involved (ADB, FAO, *panglima laot* and INGOs). Other mechanisms are needed to improve co-ordination of aid in the field, which also can serve as an 'early warning system' to detect and mend problems related to the quantity and quality of aid. Community-driven aid sounds good on paper, but, in practice, it is not easy, less so for the communities themselves, who are overwhelmed by the sheer number of organizations offering piecemeal assistance. Their 'partners in development' - the local NGOs - are often co-opted as service providers for INGOs. The long-term armed conflict in Aceh has had a devastating impact on the capacity of local organizations, as it has hampered their freedom of movement, membership, contact with communities, networks, and capacity development. Many local leaders have been silenced, and many promising activists have left. The *panglima laot* survived and is now being treated like a "prima donna", as one activist puts it. But it might die an early death due to an overload of responsibilities and aid money.

After the initial frustration of endless co-ordination meetings and the pressure to start 'doing something', it may now be time again to have a second look at the co-ordination issue and the role and limitations of the various parties involved.

Who comes first? Potential social conflicts

With the huge demand for aid, not everybody can be served at the same time. Most people accept this as their fate, at least to a certain extent. Although people may envy other villages for being helped faster or

receiving better-quality housing or fishing craft, the most potential source of conflict is when the immediate neighbouring household receives additional benefits. Checking and rechecking of information is essential to prevent aid going to the wrong group or individuals. Community involvement is a must, but does not necessarily offer a solution for everything. Influential people may take advantage of benefits, forcing others to consent. When everybody has lost everything, it is difficult to judge who is more entitled to aid than others: the widow with two small kids, or the intact family with six kids? The big, well-connected trader who can employ 10 people or the small trader who employs just two, but is fully dependent on aid? While people in the beginning were happy with whatever aid they received, they have now become more critical, as established pre-tsunami hierarchies re-emerge.

Local logging: illegal or justified?

Illegal logging has been rampant in Aceh, protected by practices of corruption and the established interest of so-called *oknum*s (individuals) within the police force, army and the bureaucracy. Environmentalists are now gaining ground in their effort to put an end to illegal or semi-legal logging, supported by the presence of international agencies. While a logging moratorium put an official end to local logging permits, illegal logging practices continue, although in a more limited way. With all the reconstruction going on, local villagers often feel justified to cut down 'some' trees for local use, for boatbuilding and for housing. Some aid workers silently condone this, arguing that it is pointless to pay a triple price for imported legal timber, which could anyway also originate from the neighbouring village, thanks to the existing paperwork fraud. Allowing timber to be imported without import duties does not solve the problem, but only makes local people more vulnerable.

The issue of logging highlights the tense relation between the needs of reconstruction and environmental preservation. While rehabilitation offers a change to address long-neglected environment issues, the urge to get back to normal life promotes a more short-term practical approach.

Cashing in on social responsibilities

Generating income opportunities in the reconstruction process resulted in various cash-for-work programmes, especially in the initial relief phase when clearing debris was a priority. Now, an often-heard complaint, is that people want cash for everything. Even the local term for community work, *gotong royong*, has become a synonym for paid work. Although this might be temporary, given the emergency situation, attention needs to be paid to traditional ways of community service and social responsibilities. In village planning, the relocation issue can be addressed as a community issue, looking at communal land for a solution or starting a common lobby for those who have become landless. One should be cautious not to pay for all social services, and avoid reducing local institutions like the *panglima laot* into mere service providers.

The co-operative allergy: looking for suitable alternatives

The jokes about the local acronym for a cooperative, KUD, highlight the malfunctioning of the local co-operatives. In the past, they were used as milk cows by government officials and their cronies at the expense of the local communities. But the concept of co-operative management still appeals to many, and the need for a local source of easily accessible finance is still huge. Furthermore, with all the aid coming in, co-operative management can contribute to overcoming problems of 'unequal' individual ownership, and help strengthen local institutions. While some make use of the existing legal framework of co-operatives, others are looking for alternatives that are less prone to government interference and offer more flexibility to respond to local needs. Some started experimenting with new approaches, like village-based resource management. A more comprehensive effort to compare the institutional alternatives and analyze their scope and feasibility is still lacking.

Striving for utopia? Cutting out the middlemen

The silver lining to the tsunami destruction is that it also offers an opportunity to rebuild Aceh in a better way. However, the urge to start reconstruction work at the earliest often leaves insufficient time for good strategic planning. Furthermore, established social patterns cannot be changed overnight. All strive to strengthen the position of fishers, making them less dependent on local traders and moneylenders. Cutting out the middlemen sounds like a good solution, but it may take a long time to achieve this, and it needs the

long-term involvement of support organizations. Many organizations are still too preoccupied with the present needs to look at the future and work on medium-term and long-term policies and plans.

Conclusions and Recommendations

A fine balance: quick, good and participatory

Given the scale of the damage, the rehabilitation of the tsunami-affected fishing communities and their fisheries-based livelihoods is a huge task in itself. Finding the right balance between speed, quality and community involvement has proven to be even more difficult. Several problems have already been highlighted; all are interrelated with the following issues:

- *Co-ordination and control*: The wide variety in quality, kind, size and strategy of interventions highlights the problem. Minimum standards and scientific norms are ignored and adjusted at will to the agenda and regulations of the agencies and institutions involved, with the beneficiaries at the receiving end.
- *Competition*: Hundreds of aid organizations are active in rehabilitation and reconstruction. Many have a lot of money to spend, and started claiming certain areas, putting up signboards and banners and signing MoUs with local governments. Some authorities have taken advantage of the situation, auctioning aid projects to the highest bidder with the fanciest designs. Local organizations depending on donor money are enlisted as service providers.
- *Complaints:* BRR is claiming the role of referee, handing out red cards to organizations and local governments that do not abide by the rules. However, a complaint mechanism is still missing, with local communities often not knowing whom to address and where to go to register their protest and criticism.

Challenging times ahead

Until now, the post-tsunami interventions in fisheries have focused on the quick revival of fisheries activities, mainly through replacement of lost craft and gear, but also by providing tools, minor infrastructure and capital to get supporting sectors like fish processing and marketing going again. Next year, much more project money will be available for fisheries, especially bilateral and multilateral funds channelled through government departments, the ADB project being a prime example. It will be crucial to get the rehabilitation process focused though a consolidated effort of all stakeholders, with specific reference to the following issues:

Filling the gaps

As the dust of the aid whirlwind is settling, those organizations and institutions with a longer-term involvement need to assess and address the shortcomings in aid, not only helping those who have been left out, but also providing engines for the fishers who have only received fishing craft, and also adding gear for all seasons. It would help if stakeholders got together to draft an assessment list, and get comparable parameters, leading to a detailed overview of gaps.

Linking local initiatives and regional infrastructure projects

The groundwork done and the fundamentals laid by local groups and organizations often form a good basis to develop further plans, by providing opportunities for accessing regional infrastructure projects. It means linking NGO initiatives to government funding, to prevent some very promising and inspiring initiatives from getting stuck halfway, but instead helping them become models for the development of the fisheries sector.

Bridging short-and long-term investment plans

Between the quick start and the completion of a full-fledged landing pier there is a time-consuming planning, design and construction process, which should be bridged with projects focusing on the medium term. An integrated planning session with all the stakeholders involved is needed to develop a step-by-step approach for the development of fisheries infrastructure in line with existing capacities and opportunities. Detailed plans are needed to develop a few larger fishing craft into a deep-sea fishing fleet and an export industry.

Analyzing interventions on co-operative management

Aid opens the door to co-operative management, promoting it as a model for channelling larger vessels,

revolving funds and micro-credit, and public infrastructure. Given the distrust against co-operatives, several initiatives are being developed to ensure a more transparent and effective way of co-operative management at the local level. The effectiveness and impact of the various models and strategies, including their legal implications, need to be analysed, and should lead to more in-depth discussion on the issue of co-operative management.

Strengthening local institutions

Panglima laot is one of the few traditional local institutions that survived the pressures of time and conflict. As a prime stakeholder in fisheries, it deserves a central role in the rehabilitation process. However, some fear with that, with all the money involved, the rehabilitation activities could undermine its traditional role as a mediator of disputes. Major partners in fisheries should develop a common strategy, together with both the local and provincial *panglima laot*s, to define their roles and responsibilities. Attention needs also be paid to capacity building and specific training, not only for the *panglima laot* but also for other community-based organizations, like the new financial management institutes.

Looking beyond replacement to sustainable improvements

The traditional small-scale fisheries sector offers ample opportunities for improvement. Modernization of the fleet, infrastructure and marketing appears an obvious choice, but it needs to be sustainable as well and based on an assessment of the available natural resource base. Improvement in quality and life of fishing craft offers a start, just as registration of vessels would serve as a basis for registration of fish catch. Better fish-processing tools and access to credit can also help strengthen the position of local traders in the export industry.

Endnotes

[1] At present the exchange rate for US$1 is approximately Rp10,000

[2] Data related to the situation in 17 affected districts of Aceh province. There are various data on the pre-tsunami number of fishing craft. The 2003 statistics of the Ministry of Marine and Fisheries Affairs (MMAF) give a total of 16,431 fishing craft, consisting of 6,258 without engines, 3,885 with outboard engines, and 6,270 with inboard engines, while another MMAF provincial document refers to a 16,070 fishing fleet. The gap between the 16,500 figure and the 23,000 estimate used by FAO (based on assessment with MMAF) is at least partly due to registration problems, as many fishing craft are not properly registered. However, this inaccuracy in baseline data has no direct impact on the damage assessment, as the data collected by different agencies regarding damaged fishing craft vary only slightly (see Annex 4 for detailed overview).

[3] The law banning trawling activities has some flaws, notes Pieter Flewwelling of FAO. The adjustment of the technical definition of trawler gear makes it possible to legally operate trawlers with small changes to the gear.

[4] Various figures are mentioned by the Fisheries Department and FAO assessment studies, varying in size of plots (FAO refers to 46.000 ha and KKP, 36.000 ha) and total fishery value (FAO mentions Rp 1.59 trillion and DKP, Rp 1.40 trillion), but nonetheless they stress the importance of the aquaculture sector, constituting around 30 per cent of the total fishery value.

[5] Traditionally, each local territory in Aceh was ruled by a group of local leaders familiar with the traditions. While the *panglima laot* looks after the sea, there are others who hold authority over the rice fields and irrigation canals (*kecyuen blang*), the forest area (*panglima uteun*), market and trade (*haria peukan*), the harbour (*syah banda*) and, if applicable, even gold mining (*keujruen meuh*) The government administration has partly replaced the traditional institutions, which were further weakened by the armed conflict and consequent military operations.

[6] For example, it provides legal support to Acehnese fishers who are caught in the territorial waters of neighbouring India, Malaysia and Myanmar.

[7] State losses due to illegal fishing are estimated at US$2 bn annually and mostly blamed on foreign boat crews. As of 2007, Indonesia will stop allowing foreign fishing vessels to operate in Indonesian territorial waters, with the exception of foreign vessels working together with local fishing companies.

[8] Local leaders, therefore, become reluctant to interfere, afraid to get branded as well, just like local activists and organizations. Feared and actual restrictions severely undermine the role of civil society.

[9] In Calang, for example, a privately owned ice factory was forced to close down in 2001. Thus the fishing sector there had to depend on supplies from Meulaboh or Banda Aceh, which not only increased the price of ice but also led to regular shortages of ice or even lack of supply for several days. In the same period, continuous extortion forced one major businessman to sell two of his three bigger fishing craft.

[10] As stressed by the head of the provincial fisheries department. The navy also increased its presence to guard territorial waters against GAM rebels. Some claim a post-tsunami increase in illegal fishing by foreign vessels due to the severe loss of Aceh-based fishing craft in the tsunami. Others, however, stress that these illegal fishing activities are seasonal and linked to the migration of fish in the so-called 'east season', which attracts foreign fishers to the Indonesian territorial waters.

[11] See Oxfam Briefing Notes: Tsunami Impacts on Women, March 2005. Accessed 5 Dec 2005: http://www.oxfam.org.uk/what_we_do/issues/conflict_disasters/downloads/bn_tsunami_women.pdf.

[12] Figures quoted from BRR December report. An earlier estimate of the DKP put the value of fisheries assets at US$290 mn (Rp 2.9 trillion), of which US$120 mn were damaged or lost by the tsunami, with an additional loss of business income (harvest ponds and capture fish) of US$280 mn. Damage to fish processing is not mentioned, and damage to ecosystem, explicitly excluded.

[13] It seems a higher percentage of the larger vessels were spared, compared to the smaller fishing craft because many of them were still out at sea when the tsunami struck, but not all of those at sea were spared. Some of the damaged larger vessels have been quickly repaired as they are owned by businesspeople from outside, but the 'poorer' local owners cannot fall back on aid, due to their employer status, and they need more time to get the funds, while repairs usually also take a few months..

[14] The damage in Nias was caused by both the tsunami as well as the major earthquake that hit the island three months afterwards, on 28 March 2005. Although that earthquake did not trigger a tsunami, waves did rise to a height of more than 2 m, causing extensive damage to fishing craft lying on the shore.

[15] The data seem quite accurate, despite a slight variation depending on definition, source and time of assessment. The DKP notes a total of 9,559 fishing craft as lost (OB: 2,369; IB: 3,969; Non: 3,225), but does not talk about damaged craft, while the FAO figure for the west coast is slightly higher (by 240) in an April mission report.

[16] The number of lost craft on the west coast is slightly higher than stated in the previous table, for which no explanation is given, although both tables are taken from the same FAO Consultant Mission Report by Akmal Syukri, March 2005. According to the BRR fisheries staff, the first assessment of 10,000 fishing craft lost and damaged was later revised to around 15,000 fishing craft, with the additional 5,000 damaged fishing craft found in districts that earlier had been thought to be free of damage. In the meantime, most of the damaged fishing craft have been repaired, according to BRR.

[17] The secretary of the *panglima laot* attributes the high cost of gear to the relatively large size of nets being used in Aceh.

[18] When adding up the various types of damaged inboard engines, the total number, that is, 4,949, exceeds the total number of lost and damaged fishing craft with inboard engines, that is, 4,081.

[19] The secretary of the *panglima laot* claims that the popularity of the Dompeng engine was pushed by government schemes, with officials looking for ways to 'save' money, buying cheap engines that could easily be marked-up in the budget. Pre-tsunami, the Dompeng engine cost half the price of the Japanese Yanmar engine, which is considered to be the best in this category.

[20] According to the provincial department data, there are 253 locally run landing sites. They serve as a source of income for the community, as a percentage of the auctioned harvest goes to local organizations like the *panglima laot*, the mosque and youth groups. Some view the upgrading of those facilities by the district fisheries authorities as a means to secure an income for the officials themselves, while depriving the community of a source of income.

[21] The MMAF statistics state different data, that is, a total embankment area of 36,500 ha, of which 14,500 ha were damaged, which also results in 40 per cent damage. FAO consultants indicate that the official figures might be underestimated, as officials at the district level quote larger embankment areas.

[22] Data according to BRR registration. Ran database counts 414 local and international organizations active in Aceh and Nias.

[23] The new agency should not only consist of government officials, but should also include representatives of civil society and disaster experts. The new law should fill the gaps in existing regulations, but foremost, generate an effective co-ordination body, as Indonesia is a country prone to disasters, both natural and man-made.

[24] At present, the provincial Fisheries Department is more or less ignored by the district Fisheries Departments, as they now financially depend on their district government. The provincial department, which is the nodal agency for various projects, hardly has access to data on the situation in the districts, while it is also being ignored by INGOs.

[25] The provincial Fisheries Department hopes that the Special Autonomy Law opens the door to direct fish exports (for instance, shrimps to Italy), with the possibility of Banda Aceh gaining the status of an international airport and Krueng Raya, an international port, thus being able to profit from the international contacts established in the aftermath of the tsunami.

[26] A third grant agreement was also signed on 15 December 2005 regarding a US$2 mn grant to develop prototypes of earthquake-resistant housing, including building 300 such units in 16 affected areas.

[27] FAO is entering a strategic partnership with IFRC to build larger vessels to develop the deep-sea fisheries. In earlier stages, it secured financial support from several donors to train boatbuilders and publish guidelines on boatbuilding and rehabilitation of aquaculture.

[28] The tsunami aid wave resulted in a significant increase in local organizations. Meulaboh, which earlier counted only three NGOs, now has nearly 20 organizations.

[29] It remains unclear how, all of a sudden, the number of lost fishing craft has been reduced from at least 7,000 to less than 5,000 fishing craft. Even the BRR experts on fisheries cannot explain where the figure comes from. Although the report refers to the FAO and *panglima laot* as a source, the parties themselves use the earlier mentioned loss assessment figure of 6,000-6,500 fishing craft.

[30] The four districts are Banda Aceh, Aceh Besar, Aceh Jaya and Pidie. Information based on *panglima laot* assessment, but percentage of losses based on disputed total loss of less than 5,000 fishing craft, published in BRR year report.

[31] There is a great, although often just slight, variation in size of fishing craft and boat design. FAO has made a detailed list by subdistrict of all the different boat sizes, combined with gear and propulsion use of gear. However, the list is not complete and lacks an overview. A detailed assessment of the combination of craft, gear and propulsion aid and their coherence is not available.

[32] The boat quality problem could have been addressed earlier. FAO admitted it had problems funding the mission. The success of the intervention depends on long-erm guidance and support. For example, although everybody acknowledges that galvanised nails enhance the life of a boat, few will use them because the nails need to be ordered from Medan, preferably in bulk, and they are far more expensive.

[33] Peter Flewwelling, the chief technical officer of FAO in Aceh,quoted a replacement target of 6,000 fishing craft, based on a 7,000 fishing craft lost minus 15 per cent, figures which were also quoted by BRR and the head of the Fisheries Department in Aceh, although the latter put a more flexible target of up to 6,500. Earlier assessments mention around 10,000 fishing craft lost and damaged, and the revised figure only seems to account for the lost fishing craft.

[34] BRR fisheries staff underlined that except for the around 4,000 small fishing craft which are built or in the process of being built, various agencies have expressed strong interest in adding a few thousand more (Social Welfare Department: 2,000; FAO: 2,400; BRR: 2,000, now reduced to less than 1,000). These expressed intentions motivated BRR and its major partners to put a brake on small boat building and stimulate aid agencies to build larger vessels, as BRR itself, and ADB as well, are now also going to do.

[35] The Belgium Red Cross will supply 17 purse-seine fishing craft (*labi-labi*) of 17 m to the Meulaboh fisher community, which will be jointly managed by a co-operative. The latter is expected to have a membership of 300 fishers, consisting mainly of *pawang*s and crew members (17 persons/boat). The plan to use an existing co-operative has been dropped as the old members are all boatowners who wanted to be part of the new co-operative. The first five vessels, at present under construction in Lampulo, are expected to be delivered by the end of December. The Belgium Red Cross plans to supply another 8 *langar* fishing craft of 23-25 m to other regions like Sabang and Pidie. The projects cost, respectively, Euro1 mn and Euro800.000.

[36] Looking at the FAO loss assessment figures, it turns out that only 100 of the 7,853 lost fishing craft fall under the category of large fishing craft, i.e. >16 m. Even if the 12-16 m 'C' size is taken into account, the amount of small fishing craft lost is around 6,000, of which 5,000 would need to be replaced (according to the FAO formula of a 10-15 per cent reduction for loss of lives).

[37] The co-operative was established last year just before the tsunami by the local farmers' organization, Permata. The co-operative in Meulaboh, which is supported by the Belgium Red Cross, will be newly established to avoid the debt burden of the old boatowners' co-operative.

[38] The local fishers community is supported by the Banda Aceh-based NGO, Pugar, which also helped to secure funds for several fishing craft. Similar initiatives can be found in other places, like Jeumurang in Pidie (TdH/SHMI).

[39] Staff payment remains a source of dispute, with one management team preferring regular salaries, while the other would prefer sector heads generating their own incomes through, for example, profit-sharing such as having the head of the fisheries enterprise manage the fuel pump at the landing site.

[40] The ADB fisheries project comprises six subcomponents, namely: (i) community empowerment; (ii) rehabilitation of small-scale capture fisheries; (iii) rehabilitation of aquaculture and mariculture facilities and production systems; (iv) rehabilitation of small-scale fish-landing and post-harvest facilities; (v) coastal resource rehabilitation; and (vi) support services restoration and provision. The project will take three years, with a budget of US$30 mn.

[41] BRR presentation, Mr. Kuntoro, Jakarta, 28 November 2005

[42] IRC has built and repaired a total of 340 fishing craft in Calang in collaboration with the *panglima laot*. In the follow-up phase, IRC plans to provide phase-wise budget support to local co-operatives up to Euro40,000.

[43] The booklet is a joint project of FAO, Aceh's Aquaculture Training Centre of the Fisheries Department and the Australian government. The booklet was published in October, an indication that interventions in aquaculture started late. Furthermore, very few local NGOs were aware of the existence of the FAO booklets, including the one on boatbuilding. FAO printed 300 copies and has now started a distribution campaign, handing out soft copies.

[44] The quoted figures are taken from a project proposal of YBK for TdH Netherlands in March 2005, for the rehabilitation of 67 ha shrimp ponds in Sangso, Samalanga district, based on a 'one ha-pond per owner' approach, including working capital to buy seedlings and feed.

[45] Others claim that planting mangroves on the embankment leads to seepages and may, therefore, not be acceptable to fishpond farmers.

[46] Pak Uji, the owner of 'Nusa Indah' in Medan, was one of the first people to provide food aid to his suppliers in Pante Raja, on the third day after the tsunami. He also provided them with working capital (average Euro200) and mobile phones, which they have to pay back in instalments with each delivery of *ikan teri*.

[47] Local consumers prefer uncooked dried fish, but for the export market, only boiled dried fish will do. Fish processors in Panta Raja produce both.

[48] In Jeumerang in Pidie district, the fish processors receive JICA support through ICD, a local NGO. When visited, the sheds and stoves were already in place, but of no use as yet since the processors did not have any cooking pans or drying racks to process the fish. They complained that the local fishing craft were forced to sell their catches in neighbouring Pante Raja.

According to ICD, the delay was because the cooking equipment had to be ordered from Medan.

[49] UNDP has rehabilitated 50 ha of salt pans in Pidie district, with the help of the cash-for-work programme, involving around 2,000 people, according to its own press release. While travelling in Pidie district, I noticed several clusters of new salt-cooking sheds.

[50] The local NGO Paska in Pidie has introduced a rule that the male beneficiaries of their boat programme have to pay a weekly contribution (Rp 5,000) to the widows in the village. In this way, widows receive some working capital to invest in their *pandan* mat-weaving home industry.

[51] Part of the problem is that they formed three groups of processing units, one of exclusively male entrepreneurs. One women's group was selected as the beneficiary for the FAO project, the others would be helped by the Fisheries Department (according to FAO), but that help has not materialised. In the meantime, the original composition of the group has changed, excluding smaller entrepreneurs and adding bigger ones. Heated protests occurred and the *panglima laot*–himself a processing entrepreneur–had to intervene, more or less covering up the whole affair.

[52] According to MMAF statistics, there are around 87,000 full-time and part-time fishers in the affected areas, which multiplied by four (household members) adds up to more than 300,000 people.

[53] All BRR data taken from *Tsunami Recovery Status Report,* 14 December 2005. While BRR reports 650 affected villages, Oxfam and others still use a 'rounded-up' figure of 1,000 affected villages and towns, as quoted in Oxfam's Briefing Note on shelter, also dated 14 December 2005, from an early damage assessment.

[54] BRR, *Tsunami Recovery Status Report*, December 2005

[55] The WFP is in charge of the monthly food supplies, which, according to the standards, consists of 12 kg rice per person, plus a certain amount of cooking oil, instant noodles and canned fish. Other agencies have been explicitly asked to stop providing food supplies after six months. The living allowance of Rp 90,000 (US$9) per month per person is the responsibility of the provincial government. It is not as well organized as the food supplies. The allowances are not regularly handed out, and people sometimes are just passed over without any clarification. There are no clear rules whether returned villagers are entitled to food rations and a living allowance: some get it and others don't, while some get just one or the other, but not all. Most local aid workers don't know what the rules are and when the additional food aid will stop.

[56] Uplink and its network of 23 villages near Banda Aceh played a crucial role, as described in the box *Best Practices: Community Participation*.

[57] Most people opt to return, but for some, it is a forced choice, with no other options at hand since there is no other plot of land available a little further from the sea.

[58] The Lancoek leprosy colony in Samudra Pase subdistrict near Lhokseumawe got relocated, but the negotiations for the sale of land took a long time. In this case, it was not just the price but also the fear factor that caused problems. In nearby Seunnodon, the subdistrict government had already bought land to relocate half of the villagers of Bantayan. In Lamreh, near Banda Aceh, government land (Bukit Soeharto) has been allocated for those who lost their land, including those who where living on somebody else's land.

[59] JRS has helped the surviving villagers of Lamsenia in Leupung subdistrict near Lhok Nga to buy land at the foot of the hill, where UN Habitat and Oxfam will build the houses.

[60] BRR has issued guidelines for a participatory approach to restore property rights, requiring communities to map their village, and decide on inheritance rights per plot, which are then processed by BPN, making detailed maps and handout documents. BPN received funds for a land registration project, with Japan supporting efforts to restore cadastral documents that were damaged by flood water and mud.

[61] The Asia Foundation lists several complaints in its *Aceh Rehabilitation and Reconstruction Appraisal* (ARRA), including document replacement mechanism inappropriate to actual post-disaster conditions, lack of proper facilities and complex requirements.

[62] YPK from Meulaboh was one of the NGOs supported by the GESSGP fund set up by UNDP, resulting in the establishment of LEMs, Community Economic Institutes. LPTP from Solo is assisting local partners of TdH and Hivos in several villages in Pidie, Bireuen and North Aceh districts.

[63] The villagers of Janguet, near Lamno, claim they have merely received the keys from the Turkish organization that rebuilt their houses, although they were obviously consulted about the land ownership. Now they don't know whom to complain to about the leakages (they just wrap the outer walls in plastic) and about the houses that are yet to be built. Beneficiaries of IOM's temporary shelter just needed to sign for the key receipt and have no clue about their permanent houses: "Just ask the village head" is a response one hears very often. "Small people", as they call themselves, leave the talking to the "big" people and don't dare to ask questions.

[64] Complaints about the quality of timber are heard all over Aceh, mostly due to the drying process and the hardness of the type of wood. The involvement of security personnel in timber mills, transport and delivery forces aid workers and communities to 'accept' the lesser quality, not daring to reject the supplied wood.

[65] Figures quoted from The Asia Foundation ARRA appraisal. In Meulaboh, CRS is building standard houses of 45 sq m, while Help is doing so in Seunuddon .

[66] Villagers of Lhok Phuk in Seunuddon, tired of waiting for houses promised by CORDAID, happily accepted the quick fix from the Yogyakarta-based YEU, who just provided timber and money to pay the construction workers. It turned out to be bad deal: low-quality timber and low investment (US$1,000 per house) with no extra facilities.

Annex 1: Terms of Reference (TOR) of ICSF Study

Study on post-tsunami rehabilitation of fishing communities and fisheries-based livelihoods in Indonesia

Objectives of studies

1) Provide an overview of interventions related to rehabilitation of fisheries-based livelihoods and analyze some of the key issues/challenges arising from these
2) Provide an overview of land, shelter and reconstruction interventions specific to communities and issues arising therefrom

Duration

30 days in October and November 2005

Outline (draft)

Background information:

Pre-tsunami realities along the coast (issues related to coastal and fisheries management, socioeconomic development of fishing communities, etc.)

Rehabilitation of fisheries-based livelihoods

- Damages to craft, gear and livelihoods, based on governments' and other data
- Interventions so far in the pre-harvest, harvest and post-harvest sectors
- Nature of interventions that have been specifically aimed at women and other vulnerable groups in the fisheries
- Key issues arising (for example, oversupply of boats, inappropriate or poor quality of boats and equipment supplied, boats/ equipment supplied to non-cohesive groups leading to conflict/cornering of benefits by influential individuals)
- Potential impact of interventions on vulnerable groups (especially women) and on the sector as a whole (example: cold chain technologies and impact on women, supply of new trawlers/ destructive gear and impact on the small-scale sector)
- Some examples/case studies of best practices (for example, technologies for post-harvest specifically targeting women, processes used for deciding on and implementing rehabilitation, etc.)

This section should draw on both secondary and primary sources (government, NGOs, fishing communities, boatyards, net and motor suppliers, and suppliers of other equipment). It could also draw in issues related to damage to aquaculture farms and facilities, and efforts towards restoring them, to the extent that they are relevant to the fisheries sector and fishing communities.

Rehabilitation of fishing communities: Land and shelter issues

- Number of fishing villages affected, based on governments' and other records
- Extent to which villages have been reconstructed 'in situ', or have been relocated, and whether the decision to relocate was taken in participatory ways, and whether land is considered suitable
- Housing: whether participatory processes/ scientific norms are being followed
- Key issues in reconstruction and rehabilitation of fishing communities
- Some examples/case studies of best practices (for example, participatory processes, use of sound technical inputs in making housing decisions, etc.)

This section should draw on both secondary and primary sources (government, NGOs, fishing communities).

Institutional aspects

- The role played by traditional institutions within fishing communities in response to the tsunami disaster, and, in particular, the way they are mediating relief and rehabilitation efforts
- A critical analysis of the roles and functions of traditional institutions, and the potential role that they can play in fisheries and coastal resource management post-tsunami
- A general overview of the respective role being played by government, civil society actors, UN agencies, etc. in rehabilitation

Annex 2: List of Resource Persons

Name	Organization	Issues discussed	Place
Peter Flewwelling	FAO, Chief Technical Officer, Fisheries	Damage, interventions general & FAO	Banda Aceh (BA)
Mulia Nurhasan	FAO, Consultant, Fish Processing	Support prog., fish processing	BA
Antoine Munoz	Red Cross Belgium, Head, Rehabilitation Marine	Bigger vessels & co-operatives	BA
Marcel de Brune	IRC, Deputy Director, Programme	Fisheries programme, Calang region	BA
Jon Cook	ADB, Consultant, Fisheries	Future fisheries programme, ADB	BA
Iskandar Ahmad	DKP NAD, Head, Prov. Fisheries Dept.	Fisheries policy, damage and support	BA
Sjafi'i	Kabit DPK, District Head, Fisheries Dept.	Overview, damage and interventions	Calang
Yusya	BRR, Vice-deputy, Fisheries Sector	BRR's role in co-ordinating support, gaps and best practices	BA
Icut	Walhi, Director	Fisheries NGO network, PLL	BA
Zulhanuddin, Hsb	Pugar, Exc. Director	Fisheries programme, PLL	BA
Budi A	YKMA, Director, local NGO on *adat*	*Panglima laot* institution, history, strength, info mukims pulau Brit Utara and Labuhan Taro, close to Meulaboh	BA
Farida	Paska, Director	Livelihood programmes, fisheries	Sigli, Pidie
Suhaimi	Permata, Regional Co-ordinator	Livelihood acts, fisheries	Bireuen
Muna	Permata, Director	Programme act	BA
Eva Erdalina	Yasindo, Co-ordinator, Livelihood prog.	Fisheries activities	Ulee Glee,
Mansur M. Kiran	Yasindo Director		Jangka Buaya
Miska Zulyadi	PAPAN, Director	Programme act, policies	Meulaboh (Mereubo, Nagan Raya)

Annex 2: List of Resource Persons (contd.)

Name	Organization	Issues discussed	Place
T. Irwansyah	YPK, Director	Fisheries act and	Meulaboh (Samatiga)
Faisal Fahmi	YPK, Staff (ex-fisherman)	Group management policies	
Adli Abdullah	*Panglima laot* (PLL), Secretary, Province NAD	PLL role and activities	BA
T. Muttaqin ('DekPon')	PLL, Staff, Province Office	Data	BA
Pardan	PLL, Secretary, District-level Pidie, YLEPP, Director	Damage and interventions	Sigli
T. Risman	PLL, Secretary, District-level Meulaboh and Board Member, Fisher Co-operative	Co-operative management of vessels	Meulaboh
Sarbini Yamin	PPL, Lhok Ujung Muloh	Local fisheries sector	Lamno
Indriansah	PLL, Lhok Ulee Lheue	Local fisheries	BA
Zulkifli	PLL, Secretary, Local-level Lambada	Local fisheries	BA
Hj Nazar	PLL, Local-level Kula Panta Raja, Pidie	Local fisheries	Kuala Panta Raja
Munir	PLL, Lhok Jangka Buaya, Pidie	Local fisheries	Jangka Buaya, Pidie
Halidin	PLL, Lhok Kula Tadu, Meulaboh	Local fisheries, co-op management	Kuala Tadu, Nagan Raya
Ibu Anca, Ibu Yus	Local fish processors/traders	Support and trade practices	Jangka Buaya , Pidie
M.Isa	Fisher Lancang, Samalanga Bireuen	Local fisheries and help	Lancang, bir
Basri Bintang	*Toukay*, dried fish trader	Local market and fish processing	Curee Tunong,
Ibnu Hajar	Head, Putra Pantai fishers group (Permata)	Group ownership and management	Curee Tunong,
Ibu Numra, pak Zulkifli	*Toukay*, dried fish proc. and traders (Yasindo)	Received help and practices	Jangka buaya
Umar Usman	Fisher, head of *pukat pantai* team	Received help, Yasindo	Jangka Buaya
Mariani A. Rahman	Fish processor/trader	Complaints of no help	K Panta Raja
Wardiah Asan	Fish processor/trader		

Annex 2: List of Resource Persons (contd.)

Name	Organization	Issues discussed	Place
Sadiah Hasan	Fish processor/trader		
Hj Sauda Masyam	Head, Fish traders group	Help, distribution and trade	
Darmawati (Dedek)	Fish processor/trader		
Safriada	Membe, Fishers co-op Ikan Jeuneuha	Set-up of co-op, help PLL Abdullah Hadiz	Pasi Lhok, Kembang Tanjung
Farida	Fish processor/trader	Business support via local NGO, CDI	Pasi Jumeurang,KembangTanjung, Pidie
Abdullah Azis	Boatmaker	Boatbuilding and management	Kuala Tadu, Nagan raya
Muge-muge'	Fish traders-cum-vendors	Trading activities and support	Kuala Tadu, nagan raya
T. Zulbaili	LEM Lhok Bubon, manager-fish trader	Village asset management and co-ordination	Lhok Bubon, Samatiga, Meulaboh
Musliadi	LEM Pucok Lueng, Manager, Tokoh Masyarakat	Idem	Pucok Lueng,Samatiga
Mustafa Kamal	LEM Pucok Lueng, Head of fisheries sector	Idem	Pucok Lueng, Samatiga
Umran Jori	Boatmaker	Boat training FAO	Lhok Bubon,Samatiga
Tarmizi	Boat cleaner	Work opportunities, Panggong, port	Meulaboh
M. Amin Hakim	Fisher and trader, ,*toukay* 'ngek beng'	Local fisheries situation, Calang	Calang
Suwardi and Muliadi	Fishers, Lamno	Boat preference and support	Ujung Muloh
Riza udin	Fisher, Lamno	Work	Janguet
Marzuki Hz	Fisher, Lamno	Local fisheries and support	Ujung.Muloh
Herman	Fisher, Meulaboh	Work and life, Panggong	Meulaboh

Annex 3: List of Key Documents

Aceh Rehabilitation and Reconstruction website: www.e-aceh-nias.org

Asia Foundation: *Aceh Rehabilitation and Reconstruction Appraisal*, ARRA, 2005.

Bappenas. *Master Plan for the Rehabilitation and Reconstruction of Nanggroe Aceh Darussalam Province (NAD) and Nias islands*, North Sumatra, March 2005.

BRR and International Partners. *Aceh and Nias: One year after the Tsunami: The Recovery Effort and Way Forward*, December 2005.

BRR website: www.brr.or.id

DKP. *Rehabilitatisi dan Rekonstruksi Provinsi Nanggroe Aceh Darussalam Paska Bencana Alam Tsunami sektor Kelautan dan Perikanan*, 2005.

Rehabilitatisi dan Rekonstruksi Provinsi Nanggroe Aceh Darussalam dan Sumatera Utara Paska Bencana Alam Tsunami sektor Kelautan dan Perikanan Tahun, 2005.

FAO website: www.fao .org

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FAO. Micheal Phillips and Angus Budhiman. Consultant Mission Report. *An Assessment of the Impact of the 26th December 2004 Earthquake and Tsunami on Aquaculture in the Provinces of Aceh and North Sumatra, Indonesia*, March 2005.

FAO. Akmal Syukri, National Consultant (Fisheries). *Tsunami-affected in Aceh*, January 2005.

FAO. Jean Gallene. *Assessment of the Fisheries Subsector after the Earthquake of 28th March 2005 in Nias and South Nias Districts*, June 2005.

FAO. Jean Michel Le Ry. *Emergency Needs Assessment Mission Report*, April 2005.

FAO. Mike Shawyer. *Post-tsunami Assessment of Boatbuilding Activities in Nanggroe Aceh Darussalam (NAD), Indonesia*, March 2005.

FAO. Sigurdur Sigurdurson. *Rehabilitation and Reconstruction of the Fishing Ports and Fish-landing Sites in Aceh after the Tsunami*, March 2005.

FAO. Jean Gallene. *Emergency Assistance to Support the Rehabilitation in Tsunami-affected Areas in Indonesia, Nias Island and North Sumatra Province*, March 2005.

FAO. David James. *Post-tsunami Emergency Intervention and Rehabilitation of Fisheries in Nanggroe Aceh Darussalam (NAD), Indonesia*, March 2005.

Annex 4: Detailed Table of Fishing Boats in Aceh Pre-tsunami

Breakdown of Boats by Propulsion Type by District before Tsunami

Nr	District	Non-motorized		Outboard engine		Inboard engine		Total	
		MMAF	FAO	MMAF	FAO	MMAF	FAO	MMAF	FAO
1	Banda Aceh	35	50	80	92	114	268	229	410
2	Aceh Besar	218	790	475	492	202	341	895	1,623
3	Pidie	647	838	280	731	355	478	1,282	2,047
4	Bireuen	845	855	614	614	574	727	2,033	2,196
5	Aceh Utara	236	381	392	460	816	911	1,444	1,752
6	Lhokseumawe	-	252	-	417	-	171	-	840
7	Aceh Timur	317	415	109	11	1364	1560	1,790	1,986
8	Langsa	-	-	-	-	-	427	-	427
9	Aceh Tamiang	302	191	326	135	628	930	1,256	1,256
10	Sabang	135	135	80	203	146	144	361	482
	Total: East Coast	2,735	3,907	2,356	3,155	4,199	5,957	9,290	13,019
11	Aceh Jaya	-	225	-	299	-	257	-	781
12	Aceh Barat	645	193	198	24	817	515	1,714	732
13	Nagan Raya	-	260	-	136	-	197	-	593
14	Aceh Barat Daya	568	653	163	140	140	172	871	965
15	Aceh Selatan	1,265	1,265	626	626	474	483	2,365	2,374
16	Aceh Singkil	405	405	112	112	597	579	1,114	1,096
17	Simeulue	640	2,088	430	-	7	1,706	1,077	3,794
	Total: West Coast	3,523	5,089	1,529	1,337	2,089	3,909	7,141	10,335
Total		**6,258**	**8,996**	**3,885**	**4,492**	**6,288**	**9,866**	**16,431**	**23,354**

Source: MMAF, 2003; and FAO, as noted in assessment by Akmal Syukri, 2005

Type and Number of Fishing Gear on East and West Coast before Tsunami

Region	Quantity of Nets					Handlines	Traps
	Shrimp net	Purse-seine	Ktg	Gillnet	Liftnet		
East Coast	318	1,416	977	4,303	474	2,576	735
West Coast	—	384	656	4,191	459	7,373	1,116
Total	**318**	**1,800**	**1,633**	**8,494**	**933**	**9,949**	**1,851**

Source: MMAF, 2003

Annex 5: Detailed Table of Boats Lost and Damaged in Aceh

Number of Boats Lost and Damaged by Propulsion Type by District

Nr	District	Non-motorized		Outboard Engine		Inboard Engine		Total Boats	
		Lost (%)	Damaged	Lost (%)	Damaged	Lost (%)	Damaged	Lost (%)	Damaged
1	Banda Aceh	43 (86)	7	81 (88)	7	145 (54)	35	269 (66)	49
2	Aceh Besar	690 (87)	2	293 (60)	32	295 (87)	18	1,278 (79)	52
3	Pidie	495 (59)	-	419 (57)	229	78 (16)	100	992 (48)	329
4	Bireuen	378 (44)	-	238 (39)	136	476 (66)	175	1,092 (50)	311
5	Aceh Utara	177 (46)	-	187 (41)	96	321 (35)	171	685 (39)	267
6	Lhokseumawe	227 (90)	5	380 (91)	11	152 (89)	8	759 (90)	24
7	Aceh Timor	-	-	-	-	-	567	-	567
8	Langsa	-	-	-	-	2 (1)	-	2 (0)	
9	Aceh Tamiang	-	-	-	-	12 (1)	21	12 (0)	21
10	Sabang	100 (74)	-	176 (87)	7	28 (19)	45	304 (71)	52
	Total: East Coast	2,110 (54)	14	1,774 (56)	518	1,509 (25)	1,140	5,393 (41)	1,672
11	Aceh Jaya	215 (95)	-	256 (86)	-	84 (33)	-	671 (86)	-
12	Aceh Barat	82 (42)	-	2 (8)	-	236 (46)	217	445 (61)	217
13	Nagan Raya	230 88)	-	124 (91)	-	156 (79)	-	510 (86)	-
14	Aceh Barat Daya	14 (2)	-	9 (6)	-	79 (46)	15	93 (10)	15
15	Aceh Selatan	98 (8)	12	38 (6)	51	117 (24)	85	261 (11)	148
16	Aceh Singkil	-	-	-	-	-	-	-	-
17	Simeulue	255 (12)	148	-	-	230 (14)	213	485 (13)	361
	Total: West Coast	894 (18)	160	429 (32)	51	902 (23)	530	2,464 (24)	741
	Total	3,004 (33)	174	2,203 (49)	569	2,411 (24)	1,670	7,858 (34)	2,413

Source: FAO Assessment by Akmal Syukri, 2005

An Assessment of the Post-tsunami Recovery Process in the Fisheries Sector of Sri Lanka

by Oscar Amarasinghe[1]
Senior Lecturer, University of Ruhuna, Sri Lanka

December 2005

Contents

List of Tables, Boxes and Map

Introduction

The tsunami of 26 December 2004 struck a relatively thin but long coastal area stretching over 1,000 km, or two-thirds, of Sri Lanka's coastline. The damage stretched from Jaffna in the north down the entire eastern and southern coast, and covered the west coast as far north of Colombo as Chilaw.

Sri Lanka will need about USUS$1.5 bn to effectively implement a recovery and reconstruction strategy, according to a damage and needs assessment report released by the Asian Development Bank (ADB), the Japan Bank for International Co-operation (JBIC) and the World Bank on 2 February 2005. According to the latest assessments, Sri Lanka will need about US$2.2 bn to effectively implement a recovery and reconstruction strategy. That includes capacity building and substantial spending on the tourism industry. Development partners, ranging from private individuals both inside and outside Sri Lanka, to governments, NGOs and development agencies, have pledged US$2.8 bn. As of November 2005, US$2.1 bn have been committed.

About 86,946 fisheries-dependent people were affected, while 5,006 fishers died. The number of fishing households affected has been estimated as 71,544. The fishers lost 16,101 craft, while 7,105 were damaged. The total damage to craft and gear has been estimated as LKR11,696,068 (LKR1 = US$0.00974089, US$1 = LKR102.660). Moreover, a total of 13,329 fisher houses were damaged and 16,434 completely destroyed. Damages to fisheries infrastructure and to the natural coastal environment have also been colossal. Large numbers of fisher families were displaced and lost their means of livelihood.

Fisheries was the major sector affected by the tsunami and there was an urgent need to reconstruct and rebuild the sector. The government did not have the financial and managerial capacity to handle the crisis, and foreign and local donor assistance was sought for the reconstruction programme. A large number of international agencies, INGOs and NGOs not only extended financial assistance but were also physically involved in the process of reconstruction and rebuilding. However, even one year after the crisis, the results are not very encouraging. Several issues related to co-ordination, distribution of relief aid, provision of fishing equipment and alternative housing, etc. have given rise to a large array of problems, some of which appear to be insurmountable.

This study attempts to assess the reconstruction and rebuilding process of the Sri Lankan fisheries sector, with the aim of identifying the problematic issues and looking for appropriate future directions.

The methodology adopted in this study could be called as an 'intermediate technology'. It used a host of secondary information from published sources and websites, while primary information was obtained from informal and formal discussions and observations in the field, and participatory rural appraisal (PRA) methods. Discussions were carried out with senior fisheries officials at the Ministry of Fisheries and Aquatic Resources, Colombo and the Assistant Directors of Fisheries at the sample districts. Information at the landing site level was often obtained from the Fisheries Inspectors (FI) of the respective divisions. Field studies were carried out in Matara and Hambantota districts, and assessments of the process of recovery of the fisheries sector in these districts are given as annexes. Problems associated with livelihoods, resettlement and distribution of fishing equipment were identified through PRA techniques, employed to groups of fishers and fisherwomen in four of the heavily affected districts, namely, Trincomalee, Ampara (both in the Eastern Province), Matara (Southern Province) and Kalutara (Western Province)[2]. These field studies were carried out by investigators of the National Fisheries Solidarity (NAFSO). Due to escalating civil disturbances, the situation in the northern region was not studied, which is one of the limitations of the study.

The study is divided into five parts. In Part I, an overview of Sri Lankan fisheries is presented. Part II deals with the impact of the tsunami on the fisheries sector, especially the estimated damages to people and property. The process of restructuring and rebuilding is presented in Part III, which describes the various processes aiming at rebuilding the fisheries sector, the actors involved, and the problems and issues arising. Part IV highlights the major issues emerging from the whole process of restructuring and rebuilding, and Part V presents the recommendations of the study.

Table 1. Basic Fisheries Information (Marine Fisheries), 2004

Number of Fishing Villages	Fishing Household	Active Fishermen	Fishing Household Population
1,337	132,600	151,800	611,900

Source: MFAR, 2004 [4]

PART I

Sri Lanka's Fisheries: An Overview

Situated in the Indian ocean, southeast of India, Sri Lanka is a small country having a land area of 65,510 sq km lying within the latitude 6°-10° N and longitude 79°-82° E. Sri Lanka has a 1,700 km coast line of which 1,150 km are sand beaches. Possessing a shelf area (up to 120 m depth) of 30, 000 sq km, Sri Lanka has sovereign rights over an area of about 517,000 sq km of the sea, with the declaration of the exclusive economic zone (EEZ) in 1976. The same law designates an area up to 12 nautical miles as the territorial sea and a further stretch of 12 nautical miles as the contiguous zone. In the territorial sea, Sri Lanka has exclusive rights to all living and non-living resources of the water column, the seabed and subsoil, while in the rest of the EEZ, the country has sovereign rights to all living and non-living resources in the water column, seabed and subsoil, but not over the air space. Under the United Nations Convention on the Law of the Sea, Sri Lanka can claim an additional seabed area (of 1,000,000 sq km) that has a sediment layer of 1 km in thickness and contiguous to the EEZ.

Fisheries resources of Sri Lanka are categorized under three broad types: (1) marine resources, (2) inland resources, and (3) brackishwater resources.

Marine Fisheries

The Fisher People

There are more than 1,337 fishing villages in the marine sector, inhabited by 132,600 households (see Table 1). About 151,800 people are actively engaged in fishing. The marine census of 1996 estimated the mean household membership size to be five. The total number of people depending on marine fisheries as their major source of income is around 611,900. The Ministry of Fisheries and Aquatic Resources Development has estimated the total fishery-associated population to be around one million[3].

The most important fisheries districts, in respect of the number of fishing household population, are Batticaloa, Kalmunai, Jaffna, Trincomallee and Negombo. It is evident that the majority of the important fisheries districts are found in the Northern and Eastern region of Sri Lanka, with a majority Tamil population.

Fishing Craft

The types and the number of craft and beach-seines in operation are given in Table 2. The number of craft registered pre-tsunami is 30,700, but the actual number in operation may exceed this by a significant margin because, in certain landing centres, the number of unregistered craft could be as high as the number of registered craft.

Fish Production

Sri Lanka's annual fish production is around 286,000 tonnes, of which, 253,190 tonnes come from marine fisheries (see Table 3). Offshore fisheries is of recent origin and its contribution to production still remains much below the coastal fisheries.

Due to the prevailing ethnic problems in the country, information on fisheries activities in the northern and eastern districts of Sri Lanka is scanty and incomplete. However, it should be noted that northern and eastern fisheries districts account for a significant proportion of the total annual fish landings in the country.

In general, it is evident that fish landings have been showing a gradual decline since 2000, which is quite true for most of the fisheries districts in the southern and western regions of the country. However, such a trend is not well evident in the northern and eastern regions.

Table 2. Type and Number of Craft and Beach-seines in Operation, 2004

Type of Craft	Number of Craft
Non-motorized traditional[5]	15,300
Motorized traditional	700
Day boat with outboard motor (FRP)	11,600
3.5-tonne day boat with inboard engine	1,500
Multi-day boat	1,600
TOTAL CRAFT	**30,700**
Beach-seines	900

Source: MFAR, 2004[6]

PART II

The Impact of the Tsunami : A National Analysis

Introduction

Although natural disasters are not rare occurrences along the coastal tracts of Asia, for most Sri Lankans they are distant events. However, the tsunami of 26 December 2004 seems to have changed all that. It completely devastated life along the coastal belt of the country, especially in the northern, eastern and southern regions (see map). The most seriously affected sector was fisheries. The damages to lives, property and economic activities were colossal.

About 25,910 fishing craft owners, 4,457 skippers, 33,346 crew members and 6,347 individual fishermen were affected[11] by the tsunami , causing great hardship, including loss of employment (see Table 4). In addition, 806 divers, 492 fish collectors, 6,484 fish vendors, 1,948 dry fish processors and 6,191 others were also affected, which resulted in complete disruption of fishing activities in the country.

Map 1. Sri Lanka

Table 3. Annual Fish Production by Sector (tonnes)[7]

Year	Marine Fish Catch		Total Marine	Inland and Aquaculture	Total Fish Catch
	Coastal	Offshore			
1980	165,264	2,148	167,412	20,266	187,678
1985	140,270	2,400	142,670	32,740	175,410
1990	134,130	11,670	145,800	38,190	183,990
1995	157,500	60,000	217,500	18,250	235,750
2000	175,280	84,400	259,680	36,700	296,380
2001	167,530	87,360	254,890	29,870	284,760
2002	176,250	98,510	274,760	28,130	302,890
2003	163,850	90,830	254,680	30,280	284,960
2004	154,470	98,720	253,190	33,180	286,370

Source: MFAR, 2004[8]

The number of deaths and missing persons in fishing families have been estimated (in July 2005) as 5,006 (the earlier estimate was 7,900). The number of fishing households affected has been estimated as 71,544 households. More females than males died, by a significant margin (see Table 5).

Table 6 shows the damage to fishing craft and beach-seines. About 187 multi-day craft, 276 day fishing craft with inboard engines, 4,480 small mechanized craft with outboard engines and 11,158 traditional craft were completely destroyed; a national total of 16,101 destroyed craft. A total of 676 multi-day craft, 783 day fishing craft with inboard engines, 3,211 small mechanized craft with outboard engines, and 2,435 traditional craft were damaged (a total of 7,105 craft). In addition, 818 beach-seines and 9,207 outboard engines were destroyed, while 161 seines and 7,249 engines were damaged. In respect of losses of large mechanized craft, the most seriously affected were the districts in the southern province of Sri Lanka, while the northern and eastern districts suffered heavily in respect of losses to small fishing craft, traditional craft and beach-seines.

As indicated in Table 7, approximately 16,500 engines have been damaged or destroyed by the tsunami , the number destroyed exceeding the number damaged. The most adversely affected districts have been Gampaha, Mulathivu, Trincomalee and Ampara.

The number of engines reported damaged and destroyed is definitely an overestimation, because the total number of OBM craft in operation in 2004 was 12,300.

A huge discrepancy exists between data presented in Table 8 and more recent data used by the MFAR (as at December 2005) and the FAO in October 2005[14]. The latter reports the total number of OBM needing repairs as 1,341, whereas the earlier estimate was 7,249. The reasons for such overestimation could not be ascertained; estimates during the immediate post-tsunami period had been erratic and that there were overestimations of damages to fishing equipment. Personal communication with MFAR officials too revealed that the earlier estimates of engine damages have not been revised subsequently. Field visits during April 2005 to Tangalle, Hambantota, revealed that about 80 per cent of the reported damages to OBM were false.

The government has estimated the total value of damages to fishing craft and gear at LKR11, 696,068,000. Losses have been highest in respect of fishing craft, followed by gear (Table 8).

A total of 16,434 fisher houses were destroyed and 13,329 damaged. The worst affected was the 100-m zone (the area within 100 m of the shoreline), where 9,325 houses were completely destroyed (Table 11).

Displacement of Fisher People

The total population displaced by the tsunami is around 458,000. A proper assessment of number of fishing families displaced cannot be found, although

Table 4. Fisher People Affected by the Tsunami [9]

Boat Owners	Skippers	Crew Members	Divers	Ornamental Fish Collectors	Individual Fishermen	Fish Vendors	Net Menders	Dry Fish Processors	Others	Total
25,910	4,457	33,346	806	492	6,347	6,484	965	1,948	6,191	86,946

Source: MFAR, 2004[10]

the closest approximation of displacement is the number of fisher families living in camps and with relatives, which is 25,288. (see Table 12). Assuming an average family size of 4.6 (Table 9), the displaced population can be estimated as 116,325, which is roughly about a quarter (25 per cent) of the total population displaced.

Damage to Fisheries Infrastructure

Of the 12 fisheries harbours in the country, 10 were seriously damaged, with a total estimated loss of LKR1,441 mn. In addition, the Ceylon Fisheries Harbour Corporation also suffered a loss of LKR2,792 mn due to the destruction or damage of equipment, vessels and vehicles.

The Ceylon Fisheries Corporation (CFC), which is involved in the collection and marketing of fish, too suffered severe losses because of damage and destruction of ice plants, cold rooms, deep freezers, buildings and vehicles. The loss to CFC has been estimated as LKR2,146 mn.

The National Aquatic Resources Research and Development Agency (NARA) too suffered a loss equal to LKR348 mn. More than the equipment, the loss of information (data) is said to be irreparable.

Damages caused to the Batticalo Training Centre of the National Institute of Fisheries and Nautical Engineering (NIFNE) amounted to LKR186 mn.

The Coast Conservation Department (CCD) also suffered a loss of LKR555 mn due to damages caused to groynes, revetments, beach parks, equipment and buildings.

Losses to the Department of Fisheries and Aquatic Resources included the total destruction of radio transmission centres at Kirinda, Nilwella, Weligama and Kalmunai and damages to such centres at Tangalle, Kalametiya, Kudawella, Galle, Hikkaduwa, Beruwa and Trincomalee. The total loss has been estimated as LKR132 mn.

It is evident from the above that the total loss due to damage to structures and fisheries institutions has been nearly LKR7.6 bn.

Damage to Livelihoods

The FAO estimates that about 200,000 people have lost their jobs. The disaster has hit those who were already poor, the hardest – fishermen and other informal traders and micro-enterprises that were located closed to the sea, housed in often ramshackle conditions.

- About 90,000 to 100,000 active fishermen lost their livelihoods.
- Small businesses lost 25,000 jobs.
- 30,000 jobs were lost in agriculture.
- Approximately 40,000 jobs were lost in the informal sector, which includes fish selling/ transporting and drying, agri-business, agro-processing, food and beverages services, trading and manufacturing, curd-making, agriculture, animal husbandry, vehicle hiring, etc.)
- An estimated 25,000 jobs were lost in rural industries (carpentry, brick production, boatbuilding, weaving, batik making, coir industry, rural craft, etc.).
- Total job loss in the tourism industry is estimated at 27,000 (Out of 105 registered hotels in the affected areas, eight have been completely damaged, and 40 partially, leading to a room loss of 4,000, out of a total of 14,000. An estimated 8,000 staff have been rendered jobless and the future of at least 6,000 more jobs in the tourism industry is uncertain.

The coastal belt ravaged by the tsunami is largely inhabited by the poorer segments of the population in fishing villages and communities. The northeast region was doubly hit, since it was just starting a slow economic recovery, beginning with the signing of the

Table. 5. Number of Deaths and Missing Persons

No. of Deaths			No. of Missing Persons		
Male	Female	Total	Male	Female	Total
1,769	3,101	4,870	52	84	136

Source: MFAR, 2004[12]

ceasefire in 2001, after 20 years of civil war. Some villages and communities in the north and east have been almost completely wiped out.

Not only physical assets were destroyed by the tsunami. The destruction of public buildings means the loss of legal records and documents. Banks and other financial institutions are now faced with customers who have lost everything; or they have lost a large number of their clients. Moreover, the informal nature of trading in small market places has been disrupted, and many grocery shops destroyed. The means of transport, ranging from bicycles and three-wheelers, to buses and lorries, have been lost, and bus terminals destroyed. Many families and businesses lost their savings which were held as jewellery or cash, and cannot start rebuilding their livelihoods. Boatbuilders, carpenters, cement brick producers, etc. have lost most, or all, their tools. Fishermen cannot pay boatbuilders in advance to enable them in turn to buy new tools, as they need fishing craft to start earning money. Damaged cottage cement industries cannot satisfy demand, and sand and cement prices have already started to increase.

PART III

Re-building of the Fisheries Sector

Introduction

The post-tsunami reconstruction and rehabilitation of the fisheries sector required the following:

1. Provision of immediate relief aid to affected fishers and their families in the form of food and other subsistence goods.
2. The development of a programme of relief until medium- and long-term solutions are found.
3. Provision of psycho-social support.
4. A census of people affected and property damaged.
5. Provision of temporary houses.
6. Provision of craft and gear to commence fishing.
7. Provision of permanent houses.

The Role of the State

Task Force for Rebuilding the Nation (TAFREN)

Three task forces were formed by a presidential directive within weeks of the tunami: TAFRER (Task Force for Rescue and Relief), TAFREN (Task Force for Rebuilding the Nation) and TAFLOL (Task Force for Logistics, Law and Order). TAFREN had a clear mandate to facilitate, enable, co-ordinate and monitor the post-tsunami reconstruction efforts. TAFRER was responsible for, (i) collecting, analyzing and tabulating data of those affected and compiling an ongoing needs assessment for all sectors; (ii) co-ordination and facilitation of rescue-and-relief and emergency rehabilitation activities through relevant ministries, district secretaries and other authorities; and (iii) co-ordination of all international donor assistance, voluntary services and NGO support, abundantly and speedily made available by both local and international organizations. TAFLOL was involved in (i) co-ordinating the logistics of relief work; (ii) co-ordinating arrangements for securing food and other essential commodities to victims; and (iii) providing law and order and security in the tsunami -affected areas to ensure that relief activities were carried out speedily and effectively, and victims were protected from harassment and exploitation. The responsibilities of TAFRER and TAFLOL were transferred to one body, TAFOR (Task Force for Relief) after the successful initial rescue-and-relief effort.

The major activities carried out by the above task forces were the distribution of food (received from various donor countries) among the victims and the

Table 6. Fishing Craft and Beach-seines damaged by the Tsunami (July 2005)

District	Multi-day			Inboard Day			Outboard FRP			Traditional Craft			National Total			Beach-seines		
	Damaged	Destroyed	Total	Damaged	Destroyed	Total	Damaged	Destroyed	Total	Damaged	Destroyed	Total	Damaged	Destroyed	Total	Damaged	Destroyed	Total
Jaffna	0	0	0	47	41	88	694	887	1,581	0	1,318	1,318	741	2,246	2,987	49	64	113
Kilinochchi	0	0	0	0	0	0	0	0	0	18	168	186	18	168	186	0	0	0
Mullaithivu	0	0	0	0	0	0	0	848	848	0	936	936	0	1,784	1,784	0	356	356
Trincomalee	18	2	20	27	2	29	1,139	1,097	2,236	255	3,034	3,289	1,439	4,135	5,574	0	20	20
Batticaloa	0	0	0	278	4	282	189	494	683	264	2,107	2,371	731	2,605	3,336	0	119	119
Ampara	1	1	2	196	43	239	94	358	452	256	1,479	1,735	547	1,881	2,428	54	110	164
Hambantota	112	54	166	34	44	78	216	387	603	334	649	983	696	1,134	1,830	21	39	60
Matara	211	30	241	106	70	176	283	156	439	505	507	1,012	1,105	763	1,868	1	9	10
Galle	98	61	159	28	58	86	149	173	322	286	549	835	561	841	1,402	13	63	76
Kalutara	62	24	86	17	7	24	137	47	184	165	301	466	381	379	760	12	26	38
Colombo	14	0	14	9	2	11	102	5	107	144	45	189	269	52	321	11	12	23
Gampaha	85	5	90	36	5	41	124	14	138	153	50	203	398	74	472	0	0	0
Puttalam	75	9	84	5	0	5	76	14	90	55	12	67	211	35	246	0	0	0
Mannar	0	1	1	0	0	0	8	0	8	0	3	3	8	4	12	0	0	0
Total	**676**	**187**	**863**	**783**	**276**	**1,059**	**3,211**	**4,480**	**7,691**	**2,435**	**11,158**	**13,593**	**7,105**	**16,101**	**23,206**	**161**	**818**	**979**

Source: Ministry of Fisheries & Aquatic Resources Statistical Unit, 2005

co-ordination of NGO activities. While distribution of food was quite successfully carried out, with the involvement of the local-level level consumer co-operatives (*Grama Niladhari*), the District Secretaries did not have the capacity, staff and skill to monitor NGO activities. Most of the NGOs who attended district-level meetings were unhappy about the slow pace at which the district relief activities moved, and participated in district-level meetings only to have access to information on the extent of damage and locations of affected areas. Most of the NGOs went ahead with their own plans and strategies of providing relief to tsunami-affected communities.

TAFREN's role was quite important at the district level. The district-level co-ordinating committees consisted of the district secretary, divisional secretaries, representatives of the relevant government departments (including the Department of Fisheries and Aquatic Resources) and NGOs and, often working committees of Ministers and Members of

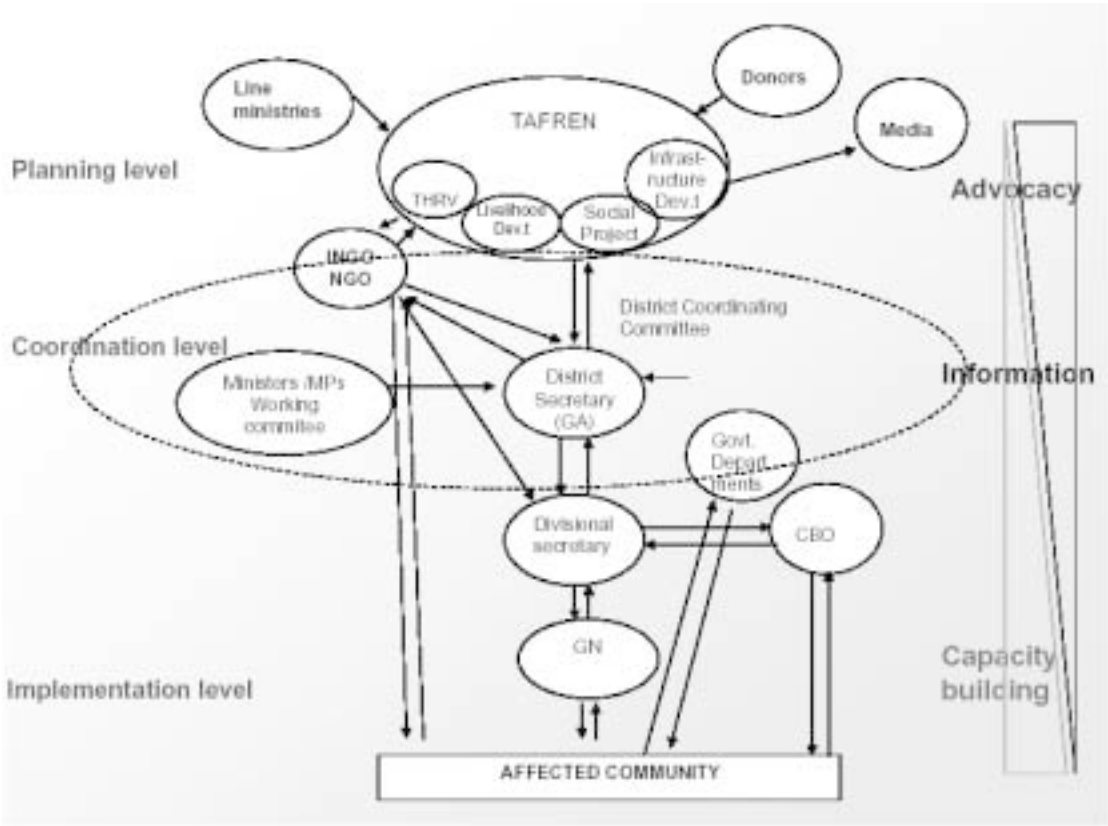


Figure 1. Modes of Operation by TAFREN[16]

Parliament in the district. District-level information on damages, relief needs and restructuring was disseminated at these meetings and strategies planned. More village-level activities were planned at the divisional level, where the divisional secretaries worked with the community-based organizations and NGOs. The *Grama Niladhari* (GN) was the State officer at the village level, the smallest administrative unit, and was expected to provide all relevant information in the division and co-ordinate activities there. It is to be noted that fisheries administrative divisions do not follow the same pattern and the smallest administrative unit is called the Fisheries Inspectors (FI) division, which may involve one or more GN divisions. Therefore, the FIs did not have much role to play at the village level and their services were not called for, in planning and implementation of certain fisheries relief programmes.

One of the serious problems associated with the TAFREN was that, it did not have, at the district level, the required experience and capacity to handle the crisis. At the top, TAFREN was inaccessible and kept a distance from the affected people, while, at the bottom, it suffered from lack of experience, which adversely affected the efficient implementation of programmes.

MFAR's Plans for Reconstruction and Rebuilding the Fisheries Sector

In order to deal effectively with the urgent needs of the Fisheries Sector, the Ministry of Fisheries and Aquatic Resources (MFAR) established a disaster management scheme, the structure of which is given below:

SPECIAL TASK FORCE
(AT THE MINISTRY LEVEL)

↓

SPECIAL DISASTER STEERING COMMITTEE

↓

DISTRICT DISASTER STEERING COMMITTEE
(AT THE DISTRICT LEVEL)

↓

DISASTER MANAGEMENT CENTRE
(AT THE FI DIVISION LEVEL)

Table 7. Outboard Engines Damaged and Destroyed by the Tsunami

Damaged engines	Destroyed engines	Total
7,249	9,207	16,456

Source: Ministry of Fisheries & Aquatic Resources[13]

The Special Disaster Steering Committee of MFAR consisted of senior administrative officers who were assigned with the task of looking into the needs of the tsunami-stricken populations and their needs in various districts of the island. The relevant officials attended the meetings of the District Disaster Steering Committees held at the offices of the District Secretaries. These meetings were attended by the district secretary, the Assistant Director of Fisheries, social development assistants and managers of various fisheries projects district, co-ordinating officers of the proposed fisheries projects, the provincial engineer of the Department of Coast Conservation, and representatives of the National Aquatic Resources Research and Development Agency (NARA) and the National Aquaculture Development Authority (NAQDA). The committee discussed all relevant current affairs and made decisions about actions to be taken in respect of reconstruction and rebuilding the sector. The Disaster Management Centres established at the FI division level, consisted of the Fisheries Inspector, Fisheries Co-ordinating Officers (newly recruited graduates attached to the Ministry), Fisheries Guards (newly recruited undergraduate youth), representatives of fishing community organizations, the *Grama Niladhari*, agricultural research and development assistants and the *Samurdhi* Guards.

Since their establishment in January 2005, these committees have met regularly to assess the situation and to decide the future course of action. The officers of the Special Disaster Steering Committee also made a number of trips to all districts in the country to attend the District Disaster Steering Committee meetings. The major problem was the ministry's inability to carry out the various decisions made at the district level, mainly because of its poor financial position and poor co-ordination of activities at the district and FI division level. Most of the actors, especially the NGOs, bypassed the above committees, and their activities contradicted the plans of the disaster management committees.

TAFREN did not work closely with the MFAR during the first half of the year 2005, probably for political reasons. However, since August 2005, it has begun working closely with MFAR. However, discussions with MFAR officials revealed that TAFREN's contributions have not been significant. Nevertheless, the Disaster Management Centres at the FI Division level, have conducted a number of studies recently and these provide valuable inputs for planning and policy-making purposes.

Provision of Immediate Relief

The major source of post-tsunami relief aid, in the form of food and clothing of debris, etc. has been the people in the immediate non-affected areas. An enormous amount of aid has been received by the tsunami victims in fishing communities, the most conspicuous being food and clothes. Clearing of debris has been carried out by various organizations, NGOs, government institutions from non-affected areas, the Sri Lanka defence forces, and various non-formal groups. Apart from food and clothing, people have received large quantities of bedding material, kitchen equipment, tents, etc. from various donors, and the people are unable to re-collect the sources of such help. No complaints have been made about the quantity and type of immediate relief aid received.

In the distribution of non-food aid, the temples, churches and mosques have played leading roles. It was common to see even local-level administrative officers, such as the *Grama Niladhari*, operating from such religious institutions. Where strong fisher community organizations existed, (such as the fisheries co-operatives in Godawaya, Kalametiya of the Hambantota District), they played a very important role in ensuring proper distribution of such relief aid.

Table 8. Value of Damages to Fishing Craft and Gear[15]

Damage to Engines (LKR '000)	Damage to Gear (LKR '000)	Damage to Boats (LKR'000)	Damage to Divers' Equipment (LKR '000)	Total Value of Damage (LKR'000)
196,468	2,780,714	8,046,620	672,266	11,696,068

The International Red Cross and Red Crescent have been some of the first NGOs to assume relief activities in the country. Most of aid received has been essential goods such as toothpaste, soap, medicine, etc. By February 2005, a large number of NGOs had assumed relief work.

Provision of Subsistence Goods

The most important immediate relief measures included the provision of LKR15,000 per person for funeral expenses, LKR2,500 per family to purchase kitchen utensils, a cash grant of LKR200 and a basket of food worth LKR175 per week per person for six months, and LKR5,000 as resettlement allowance per family. All these activities were co-ordinated by TAFREN. Cash grants were distributed at the offices of the Divisional Secretaries and food items were issued through multi-purpose co-operatives at the level of GN Divisions. This has helped the affected families meet their subsistence needs and survive until permanent solutions are found to their grievances. However, such help was promised by the government only for six months, but permanent solutions to the array of problems confronted by large numbers of affected families were yet to be found.

Provision of Psychosocial Support

Psychosocial support to seriously affected individuals, especially women and children, was felt a very important and urgent need. Immediate psychosocial support has been undertaken in many districts by doctors in government hospitals. Even months after the tsunami, some people were still suffering from psychological trauma and needed further support. Various NGOs like USAID, World Vision, Red Cross, UNICEF and the International Organization for Migration (IOM) provided such support.

Census of People and Property Affected

The initial census of the people affected and property damaged was estimated by the *Grama Niladhari*s, and the responsibilities lay with the Divisional Secretaries. The Fisheries Inspectors too took a census of the fisher people affected and the property damaged, including the loss and damage of craft and gear. The latter was more accurate and provided a clearer picture of the situation. In order to prevent any overestimation of craft and gear lost by fisher people in the area, the MFAR decided to carry out another census by employing youth from fishing villages as Fisheries Guards (*Dheewara Niyamaka*). Information obtained from this census is now accepted as fairly accurate. However, one of the problems of using village youth was their insufficient knowledge of fisheries. Therefore, even this census would have made an overestimation of craft and gear lost.

Settlement of Displaced People

Due to the colossal damage to houses and property in the coastal region, about 458,000 persons were displaced, who needed immediate assistance. Displaced persons in fisheries accounted for a quarter of this (116,335 or 22,885 families). Settlement of displaced families was one of the immediate tasks of all parties involved in tsunami relief. Initially, most of the affected families found refuge in schools, temples, churches and mosques. However, a number of NGOs provided temporary houses (tents, huts, houses built with planks/galvanized sheets, etc.) and helped move people away from public buildings and places of worship. Refugee camps (*Tsunami Sahana Madyasthana*) were established in almost all affected areas. However, the conditions in these camps were not satisfactory due to poor sanitation, shortage of water, inadequate space, high temperatures, lack of privacy (especially for women), etc. Incidences of young women being harassed sexually have also been reported in certain camps.

By mid-February 2005, 44 per cent of the affected people were settled with relatives (15 per cent) or in

Table 9. Fisher Houses Damaged and Destroyed by the Tsunami

Up to 100-m limit			100 to 300-m limit			Beyond 300 m			Total Houses		
Total houses	Damaged	Destroyed	Total houses	Damaged	Destroyed	Total houses	Damaged	Destroyed	Total houses	Damaged	Destroyed
13,839	4,514	9,325	8,382	4,164	4,218	7,542	4,651	2,891	29,763	13,329	16,434

Source: MFAR

welfare centres/camps (19 per cent). In fact, many people did not stay in welfare centres during the night, but returned to such centres in the morning, in expectation of aid.

"As on 31 May 2005, 32,858 transitional units were completed, and 8,715 more are under construction. Although pledges have been received from over 30 donors to construct 53,000 such units, the actual number needed is much lower. When all these units are occupied before end June 2005, all the affected persons who are at present living in welfare centres and emergency tents would have transitional accommodation"[17].

In January 2006, the United Nations High Commission for Refugees (UNHCR) reported that it had completed its post-tsunami role as the co-ordinator of a nationwide transitional shelter effort after the target of more than 58,000 shelters built by over 100 NGOs had been reached. The refugee agency formally handed over responsibility for permanent shelter to the Sri Lankan government on 15 November 2005[18].

IOM, UNHCR, World Vision, Red Cross, Red Crescent and Sewa Lanka have been some of the NGOs playing a dominant role in the provision of temporary houses. At present, transitional housing does not appear to be a major problem.

Distribution of Entitlement Cards

After identifying the fishers who have been affected by the tsunami, the Department of Fisheries and Aquatic Resources (DFAR) started issuing 'Entitlement Cards' (EC) to fishers. Only the owners of ECs were provided with State assistance. Moreover, even the NGOs were forced to provide assistance to EC holders because the ownership of ECs ensured that help was extended to those who were really affected by the tsunami, although many NGOs resorted to their own methods of selecting beneficiaries. One of the serious setbacks of this procedure is that, ECs were distributed only to those fishers who had registered their craft prior to the tsunami. Given the fact that more than half of the fleet was unregistered, a large number of affected fishers were deprived of assistance from the State and other donor organizations.

Another facet of the problem is that, once a craft, engine or a set of gear was distributed to a fisher holding an EC, this was not noted in the EC, allowing him to have further access to the same type of assistance.

Replacement of Fishing Craft

One of the immediate needs of the sector was the replacement of the destroyed fishing craft, engines and gear and repair of damaged fishing equipment. The President announced that she would get the Sri Lankan Navy to construct 2000 FRP boats (with OBMs) immediately, while MFAR was awaiting funds pledged by foreign countries. However, long before the local solutions were found, a number of NGOs and individuals, including religious organizations, started channelling funds to construct craft.

The FAO has made a comparison of the number of craft destroyed, replaced, the balance required and the total number pledged by NGOs, which is given in Table 10. It is evident that achievement in respect of craft replacement (no. of craft replaced as a percentage of the total number of craft destroyed) is greatest for FRP boat (96 per cent), followed by

Table 10. Number of Craft Destroyed, Replaced, Balance Needs and Further Pledges by NGOs

Boat Type	Destroyed	Replaced No./(%)	Balance Requirement	Balance Pledges
Multi-day boats	187	0 (0)	187	175
One-day boats	276	29 (11)	247	364
FRP boats	4,480	4,321 (96)	159	2,264
Traditional craft	11,158	8,636 (77)	2,522	3,037
Beach-seine craft	818	204 (25)	614	354
Total	**16,919**	**13,190 (78)**	**3,729**	**6,194**

Source: FAO, 2004[19]

traditional craft (77 per cent). The achievement in respect of beach-seines is low (25 per cent), while that of the large fishing craft (with inboard engines) is close to nothing. In general, the total achievement in respect of craft replacement has been estimated as 78 per cent. In other words, 13,190 of the 16,919 fishing craft have been replaced by December 2005.

Neither the government nor the NGOs took any initiative to replace multi-day craft even by November 2005. The NGOs, who seemed mostly interested in reaching more people, as required by their donors, are less interested in providing multi-day craft. Moreover, the owners of multi-day craft are supposed be financially strong enough to replace their destroyed craft.

With FAO as the implementation agency, the government has been able to secure funds from Japan (US$2,671,000) and Norway (US$3,078,668) to replace 3.5 tonne day fishing craft and multi-day craft. The government is offering a cash grant of LKR2.5 mn for multi-day boats and LKR1 mn for the 3.5 tonne day-fishing craft (about 60 per cent of the total cost of the fishing unit). Since the owners of most of the large craft (especially the multi-day boats) consist of more affluent individuals in fishing communities or businessmen, the owners are expected to secure the balance funds. The beneficiaries have already been selected and craft distribution have just commenced.

At the request of the MFAR, the FAO is currently providing the services of a naval architect to assess the strengths and weaknesses of the existing multi-day boats with regard to type, size and design features, to identify the necessary and desirable features of future multi-day boats suitable for the Sri Lankan fisheries and to prepare outline design(s) of multi-day boats proposed to be constructed under the tsunami reconstruction programmes.

One of the most popular and heavily affected craft is the FRP boat (with OBM). About 4,480 of these craft were destroyed, with the heaviest impacts felt in Trincomalee, Jaffna, Mulathivu, Batticaloa, Ampara and Hambantota districts. Most of the NGOs were interested in helping to provide such craft. They were seen as employing a good intermediate type of technology, with moderate costs and decent returns. Therefore, the NGOs immediately started to provide these craft to affected fishers. Unfortunately, many of the NGOs and individuals did not consult the DFAR in selecting beneficiaries and deciding on the number of craft to be offered. This resulted in the oversupply of fishing craft, as is well evident from Table 11. Of particular concern is the huge oversupply of fishing craft in Jaffna, Galle and Kalutara, which would add to the already experienced overexploitation of coastal fisheries resources. The story of Mulathivu, Trincomalee and

Table 11. Oversupply and Undersupply of Craft in Selected Districts

Outboard FRP			
District	**Destroyed**	**Replaced**	**Balance**
Jaffna	887	1,475	-588
Mullativu	848	282	566
Trincomalee	1,097	383	714
Batticaloa	494	97	397
Matara	156	88	68
Galle	173	376	-203
Kalutara	47	148	-101
Total	4,480	3,657	823
Traditional Craft			
Jaffna	1,318	125	1,193
Killinochchi	168	0	168
Mullativu	936	0	936
Ampara	1,479	1,655	-176
Hambantota	649	842	-193
Galle	549	633	-84
Kalutara	**301**	**562**	**-261**

Batticaloa districts is different. A large proportion of the destroyed fleet of FRP boats in these districts (Mulathivu: 67 per cent; Trincomalee:-84 per cent; Batticaloa: 80 per cent) remain to be replaced.

At the national level, about 82 per cent of the destroyed FRP boats have already been replaced (as at October 2005).

A similar situation can be observed in the replacement of traditional craft. Of the 11,158 craft destroyed, 8,443 have been replaced (by October 2005), which represent 66 per cent of the number destroyed. Oversupply of craft has been reported in the districts of Ampara, Kalutara, Galle and Hambantota. It is also to be noted that a large proportion of the destroyed fleet of traditional craft in Jaffna (91 per cent), Kilinochchi (100 per cent) and Mulathivu (100 per cent) remain to be replaced.

A tale of woe is heard from the beach;seine fishers. Except in some southern districts like Hambantota and Galle and Batticaloa Ampara of the eastern province, most of the seines that were destroyed by the tsunami have not been replaced. Of the 818 seines destroyed, 607 (74 per cent) are yet to be replaced. If it is assumed that one seine provides the means of living for about 35 families, then about 21,245 families have been deprived of their major livelihood activity. Some of the net-laying areas (*padu*s) have been heavily damaged by the tsunami. Efforts have been made by the government and some NGOs to clean the debris in *paduIs*, but with no significant results. No information is available on the status of the seine fisheries, to make further analysis of the situation.

Table 12 provides some interesting information on the contribution of various donors towards achieving the task of craft replacement. It is well evident that the government contribution towards this task has been quite low (3.5 per cent), amounting to only LKR159.51 mn, out of the total funds (LKR4,553.16) spent on craft replacement.

Replacement of Marine Engines

Information on the replacement of damaged engines is scanty. The number of OBMs replaced is hardly known, except for those provided by the FAO (see Table 13).

Table 12. Government and NGO Contribution towards the Issue of Fishing Craft

Type of Fishing Unit	Target (Replacement)	Funds Required (LKR mn)	Funds Received by the Govt. (LKR mn)	NGO Contribution (LKR mn)
Multi-day Craft	187	1,314.61	0.0	0.0
Day Boat	276	510.6	0.0	31.5
FRP (OBM)	4,480	1,478.4	159.51	1228.3
Traditional Craft	11,158	3,905.3		2,955.05
Beach-Seine Craft	818	818.0		211.0
TOTAL	16,919	8,026.91	159.51 (2.0 per cent)	4,425.85 (55.1 per cent)

Source: MFAR, 2005[20]

The FAO has imported a total of 655 outboard engines at a cost of LKR86,000,000 and 435 of these engines have already been distributed.

Repair of Craft, Gear and Engines

State involvement has been greatest in the repair of damaged craft and engines. A number of boat repair workshops were established in all affected coastal districts of the country and work on damaged craft was commenced immediately. Apart from the government, a number of NGOs too established their own repair workshops.

In order to profit from the available opportunities, a number of damaged craft from areas not affected by the tsunami have also been brought into repair workshops, which is why the number of craft repaired has exceeded the total number damaged, showing a degree of 'achievement' above 100 per cent.

The government contribution towards the total funds spent on repairs has been 36 per cent or LKR255.7 mn, while the major contributor has been the NGOs (64 per cent or LKR451.98 mn).

The FAO involvement as the implementation agency has contributed significantly to the repair of craft, engines, and beach-seines, which approximates 53 per cent (see Table 15). Of a total of 7,105 craft and 161 seines reported damaged, FAO has repaired 3,808 craft and 40 beach-seines.

In respect of repairs to inboard engines, which required more specialized skills and heavy financial commitment, the FAO has assisted (as the implementing agency) in the repair of 342 out of 400 engines damaged by the tsunami (a contribution of 86 per cent). However, in respect of repairs to OBMs, only 687 out of 1,341 engines damaged have been repaired with FAO assistance (a contribution of 51 per cent).

Field studies in mid-2005 revealed that there have been extremely long delays in repairs to engines undertaken by the government-owned company, CEYNOR. One major reason for such delays has been the inadequate capacity of CEYNOR to carry out such a task. The company simply did not have a large technical department to handle the repairs, nor any branch offices to undertake repairs at the local level. Moreover, compared to the number of repairs to be done, very little ex-stock engine parts were available. Either due to long delays in importation or due to restricted inflow of funds, CEYNOR was unable to deliver the goods in time. However, with the subsequent involvement of the FAO in assisting in

Table 13. Procurement and Distribution of Marine Engines by FAO

	Type of OB Engines			
	8 hp	*9.9 hp*	*15 hp*	*Total OBE*
Requirements of Marine Engines				
Quantity Procured	**125**	**260**	**270**	655
Quantity Issued	102	116	217	435

Source: FAO, 2005[21]

repairs, CEYNOR could provide 'satisfactory' service.

Notice should be made of the discrepancy between data presented in Table 16 and Table 7 in respect of the number of OBMs to be repaired. It should also be noted that a total of 2,790 outboard engines have been repaired, whereas the number damaged is 1,341. This is because even engines from areas not affected by the tsunami have also been brought for repairs.

Fuel Subsidy

It was realized by the MFAR that provision of craft and gear was not sufficient because the affected fishers were confronted with serious financial difficulties and were unable to secure funds for fuel and other variable inputs necessary to commence fishing. Therefore, by mid-2005, the MFAR decided to provide the fishers with a fuel subsidy. The subsidy amounted to LKR30,000 per multi-day craft, LKR7,000 per day boat, and LKR5,000 per OBM. This was a one-time subsidy aimed at helping the fishers commence fishing. The subsidy varied with the type of craft. A total of LKR102.5 mn had been spent on this subsidy by 31 August 2005.

Quite surprisingly, the fuel subsidy has not been distributed to fishers in Kilinochchi and Mulativu, two of the districts in the Tamil-speaking northern province. No apparent reasons for such maltreatment could be found from discussions with officials of the DFAR.

Net Subsidy

Unlike the process of replacement of destroyed craft, which took place at a steady pace due to the relative ease at which the number destroyed could be estimated, the same process did not take place with gear replacement. It was difficult to assess the extent of net losses and the estimations were unrealistic and too high. Moreover, there was a tendency for fishers to provide wrong information on gear losses, in expectation of free gifts of large volumes of more efficient gear. This made matters difficult even for the NGOs who were involved in assisting the recovery of the fisheries sector. Yet, fishing gear were distributed by them in a haphazard way, and there were even instances of distribution of banned gear (like monofilament nets) in some parts of the country.

Since there were long delays in the commencement of fishing in many affected areas of the country, the MFAR decided to distribute a net subsidy (along with the fuel subsidy) to the affected fishers so that they could commence fishing. This was given in the form of vouchers, the value of which varied according to the type of craft. By submitting these vouchers to CEYNOR, the fishers could obtain the required gear. A total of LKR75.2 mn has been spent on this exercise by the MFAR, but the results have not been very impressive.

Again, the southern areas have received preferential treatment in respect of the net subsidy. Fishers in the northern districts of Kilinochchi, Mulativu and the eastern districts of Trincomalee and Batticaloa have not received the net subsidy. This was also true with some of the northwestern provinces of Chilaw, Puttalam and Mannar.

Several problems associated with the net subsidy were noted. First, CEYNOR did not have ready stock of nets to meet the demands of the fishers receiving the subsidy. When the required nets were not available, the beneficiaries obtained whatever nets were available at CEYNOR and subsequently sold them to others. Second, the fishers had to travel to the DFAR and CEYNOR offices in Colombo to get the nets, which proved expensive. Third, the fishers complained that

Table 14. Status of Craft and Engine Repair

Repair of Craft/Engines	Target	Funds Required (LKR mn)	Govt. Contribution	NGO Contribution	Achievement	Per cent Achievement
Traditional craft	2,435				9,263 boats repaired	
FRP (OBM)	3,211					
One day (IBM)	783					>100 per cent
Multi-day boats	676					
Outboard Motors	1,341				2,790 engines repaired	
Inboard Motors	400					>100 per cent
TOTAL	8,846	707.68	255.70	451.98		

Source: MFAR, 2005[22]
*with external assistance with FAO as the implementing agency

the packages distributed did not comprise nets that were required by them.

Rehabilitation and Development of Fisheries Harbours

One of the major tasks in respect of rebuilding the fisheries sector was the rehabilitation, reconstruction and development of the 10 fisheries harbours and the 34 anchorages. It has been estimated that a total of LKR7,767 mn was required for this, for which foreign assistance was sought.

Immediate rehabilitation work was undertaken by the Ceylon Fisheries Harbour Corporation (CFHC), with a total expenditure of LKR67 mn, around 42 per cent of which was spent by end October 2005 (see Table 22).

The Chinese government has undertaken reconstruction and development of three harbours: Panadura, Beruwala and Kudawella. USAID has undertaken work on Mirissa, Puranawella and Hikkaduwa, the Japanese government on Galle and Tangalle, while the World Vision HANA (Korean) has undertaken work on the Kirinda harbour. Work has commenced only in Kirinda; the others are still at the design stage.

World Vision, the Greek government, and Nestle, along with the Coastal Resources Management Project of MFAR, have undertaken to improve the damaged anchorages. However, work has commenced only in Pinachchimunai anchorage.

It was noted that some of the repair work that could be undertaken by the CFHC, were also postponed in expectation of donor assistance. This has been a serious setback in bringing harbour services to normalcy.

In planning the rehabilitation work associated with fisheries harbours, several new facilities are to be incorporated to meet the needs of the industry. These plans are still under construction. However, evidence of consulting fishing communities in planning the development work is hard to find.

Interventions in the Post-harvest Sector: Fish Marketing

Fish marketing was seriously affected by the tsunami. A large number of ice plants, cold-storage facilities and freezer trucks were destroyed by the tsunami. One of the urgent needs in rebuilding the sector was the provision of ice and freezer trucks for fish preservation and transportation. The MFAR has

Table 15. FAO Involvement in the Repair of Craft and Gear

	Craft Type					
	Multi-day Boats	3.5-tonne Day Boats	FRP Boats	Traditional Boats	Beach-Seines	Total
Total no. reported damaged	676	783	3,211	2,435	161	7,266
Total no. repaired by FAO	562	644	1,214	1,388	40	3,848
No. repaired as percentage of craft damaged	83.14	82.25	37.81	57.00	24.84	52.96

Source: FAO, 2005[27]

estimated that LKR1,088 mn was required to install facilities to provide the required ice for fish preservation and to purchase 60 freezer trucks for fish transportation. Installation and commissioning of containerised ice plants at Mulativu, Batticaloa, Kalutara, Hambantota, Ampara, Trincimalee and Galle, containerised cold storages at Batticaloa, Kalutara, Ampara, Hambantota and Trincomalee, a 50 tpd block ice plant at Galle, a 300-tonne cold room complex with 0.5 tpd blast freezing in Galle district, and an EU/HACCAP-standard processing plant in Galle district have been undertaken by the Ceylon Fisheries Corporation. JICA has agreed to provide all required assistance for these facilities. About half of the planned activities have been completed by the end of October 2005. Non-availability of the required infrastructure in certain locations (where facilities are to be installed) has caused delays in implementing the programme.

Assistance to the small-scale fish trade has come exclusively from the NGOs. A large number of fibreglass fish boxes and bicycles have been distributed among the small-scale fish sellers throughout the country, both by international and local NGOs. However, the supply of ice is still inadequate.

Other Reconstruction and Development Needs

Apart from the abovementioned important spheres, a number of facilities are yet to be rehabilitated. These include the damaged structures and facilities of NARA (including the destroyed research vessel), DFAR (offices of Assistant Directors of Fisheries), the National Institute of Fisheries and Nautical Engineering (NIFNE), and the Monitoring Control Surveillance and Air Rescue Division of the Coast Conservation Department. Funds have been secured from JICA and an Italian NGO for work on NIFNE, and about 75 per cent of the work has already been completed. However, no donor assistance has so far been secured for rehabilitation and development of other institutions.

Permanent Houses for the Displaced

One of the serious issues in respect of reconstruction and development of the fisheries sector is the need to settle displaced fishing families by providing them with permanent houses. The MFAR initially planned for a housing programme, with plans drawn up, but they were abandoned for lack of funds.

The Tsunami Housing Reconstruction Unit (THRU), created under the Ministry of Urban Development and Water, is implementing a plan to help people move from transitional shelters to permanent housing. The government's decision to introduce a buffer zone of 100 m in the south and 200 m in the north and east made it necessary to implement two programmes: a donor-built reconstruction programme for affected families from the buffer zone, and a homeowner-driven housing reconstruction programme for partially and fully damaged houses outside the buffer zone. Finding suitable land to relocate people outside the buffer zone proved difficult. These relocated people still own the property they have left within the buffer zone. The homeowner programme is jointly financed by the World Bank, ADB, the German Development Bank

Table 16. Engines Damaged and Repaired

Damage and Repair	Inboard Engines	Outboard Engines
Total no. damaged in all districts	400	1,341
Total no. repaired	342	687
No. repaired as percentage of engines damaged	85.50	51.23

Source: FAO, 2005[24]

and the Swiss Agency for Development and Co-operation. Beneficiaries receive grants of US$2,500 [LKR250,000] for a fully damaged house and US$1000 [LKR100,000] for a partially damaged house. Some 5,400 houses have already been repaired. Repair or total reconstruction is underway on another 50,000 houses. Nearly 500 totally destroyed houses have been rebuilt. Donors are committed to expanding the programme to new areas made available by the recent revision of the buffer zone.

The status of permanent houses for fishers is given in Table 19.

The total number of permanent houses required for fishers remain at 13,890. Hundreds of NGOs have undertaken the construction of permanent houses. Only 1,436 houses (10 per cent) have been fully completed (by 31 October 2005) and about 4,000 by the end of November. A very high regional disparity is also observed in this sphere. Of the total number of houses completed, 73 per cent (1,048) are located in the Hambantota district. Availability of land, the existence of a large number of NGOs, and political considerations have all contributed to this privileged position of Hambantota. Jaffna, Trincomalee, Batticaloa, Matara and Colombo are some of the districts where the problem of permanent housing is yet to be resolved.

The number of houses completed and those under various stages of construction account for only 54 per cent (7,484 out of 13,890) of the requirement. This means that it would take much more time than expected to cater to the housing needs of fisher families.

There are several complaints that the country's laws have not been respected in the hastily designed and implemented housing schemes. The Urban Development Authority (UDA), which is the implementing authority for houses constructed for tsunami victims, has clearly laid down both construction and environmental standards. However, it was witnessed during field studies that some of these standards are not well respected. Most of the construction activities are being carried out by local subcontractors and the use of substandard material in house construction was noticed. Yet, one cannot refrain from mentioning that the newly constructed houses are much larger and better equipped than most of the pre-tsunami houses of fishers, especially those which were located within the 100-m zone.

Livelihood Assistance

Apart from cash payments and subsistence goods provided by the government as an immediate post-tsunami assistance measure, most of the livelihood assistance to the affected fishing families is provided by NGOs. The affected families were provided with producer goods needed to support livelihoods (craft, engines, gear, fish boxes, bicycles), goods required to generate non-fishery incomes (sewing machines, coir-rope making machines, etc.) and also cash (in the form of 'cash for work').

The ILO conducted a Needs Assessment Survey for Income Recovery (NASIR) in April 2005, in which 1,600 households in eight affected districts — Colombo, Galle, Hambantota, Ampara, Batticaloa, Trincomalee, Mullaitivu and Jaffna — were interviewed. Eighty-seven per cent of households suffered losses or damage of productive assets. The areas most affected were Mullaitiviu, Ampara and Batticaloa districts, where poverty levels are already high and people need development support. While 60 per cent of the householders have regained some source of income, more men (55 per cent) than women (40 per cent) are back to work. The situation

Table 17. Provision of Fuel Subsidy

Multi Day Boat @ LKR30,000		One Day Boat @ LKR7,000		FRP (OBMs) and Traditional Mechanized Craft @ LKR5000		Total of Subsidy LKR
No. of Vessels	Fuel Subsidy LKR	No. of Vessels	Fuel Subsidy LKR	No. of Vessels	Fuel Subsidy LKR	
2040	61,200,000.00	905	6,335,000.00	6989	34,945,000.00	102,480,000.00

*As at 31st of August 2005
MFAR, 2005[25]

is more worrisome for workers over 40 years of age, relatively few of whom have recovered their source of income.[27]

Impact of "Cash for Work"

A large number of international organizations (USAID, World Vision, ILO and many others[28]) were involved in providing the people with "cash for work". This programme intended at employing the economically displaced people in tsunami reconstruction and rebuilding work. The workers were paid LKR400[29] per day. Cash-for-work programmes implemented throughout the tsunami-affected areas provided the affected families with livelihood insurance for the initial six-month period following the tsunami. This was particularly true in areas where considerable debris was to be cleared. Moreover, from funds obtained from the Japan Fund for Poverty Reduction (JFPR), the ADB is planning to provide temporary income opportunities to about 4,500 tsunami-affected people by employing them to improve drainage systems for 500 km of local government roads damaged by the tsunami.

Although "cash for work" provided the affected families with some kind of insurance against falling into crises of subsistence, the work was poorly supervised and led to huge wastage of funds. Apart from this colossal wastage of resources, damage was done to the productivity of labour and attitude towards work. The large inflow of aid made people "lazy" and less "work conscious". Even after securing fishing equipment, fishers were less interested in fishing because they could live well on "cash for work" and other forms of tsunami relief aid.

Two separate US$2-mn grants from JFPR have been approved for tsunami victims in Sri Lanka. The first one will provide temporary income opportunities through a cash-for-work programme, and the second one will help tsunami-affected households access electricity and water.

Livelihood Assistance for Women

It is well accepted that women play a very important role in supporting their families to ensure sustainable livelihoods. Fish processing, especially drying fish, farming, animal husbandry, sewing and making garments, preparing food items for sale and rope making are some of the common livelihood activities of women in Sri Lankan fisheries. Following the tsunami, women have lost most of these livelihood opportunities.

PRA exercises carried out in Matara (Southern Province), Kalutara (Western Province), and Trincomalee and Ampara (Eastern Province) to find out the dominant alternative livelihood activities of the women in fisheries revealed that making garments, selling homemade food (especially sweets) and fish processing (drying fish) form the most important livelihood activities of women.

Of special significance is the importance of rope making (coir industry) in the south and animal husbandry in the east (Ampara district). Field studies have indicated that some a number of NGOs have distributed rope-making machines, sewing machines, weighing scales, and gas cylinders among the affected families. Yet, the livelihood assistance extended to women in fisheries has been quite minimal, as indicated by women during field studies.

One of the serious problems associated with women's involvement in alternative livelihood activities is the 'unsettled situation' in respect of housing. It was indicated earlier that that out of the total requirement of 13,890 permanent houses for fishers, only 1,436

Table 18. Provision of Net Subsidy

Boats < 16ft @ LKR10000		Boats16-21ft @ LKR20000		Boats Above 21ft and Mechanized *Vallams* @ LKR30000		*Vallams* above 30 ft @ Rs 35000		FRP Boat s with OBMs @ LKR40000		Total of subsidy (LKR)
No. of Vessel	Subsidy LKR	No. of Vessel	Subsidy LKR	No. of Vessel	Subsidy LKR	No. of Vessel	Subsidy LKR	No. of Vessel	Subsidy LKR	
714	7,140,000	665	13,300,000	331	9,930,000	71	2,485,000	1059	42,360,000	75,215,000

*As on 31 August 2005. Source: MFAR, 2005

have been fully completed (by October 2005)[30]. This means that, the majority of families still live either in camps or temporary houses and, under such a situation, it would be impossible to engage in the usual (pre-tsunami) livelihood activities. For example, women in displaced families cannot engage in fish processing because their dwelling places and sites of drying fish on the beach have been lost. Similar is the case with agriculture, or animal husbandry, which cannot be practised by displaced families. Therefore, if any support is to be extended to women under such conditions, these problems should be given sufficient concern.

The "unsettled" situation of affected families also highlights the importance of designing more longer-term strategies. This entails a correct understanding of the livelihood activities disrupted by the tsunami, and the possibility of returning to some of the pre-tsunami practices. Granted that there has been a destruction of human capital, it may be necessary to provide short-term courses or training for such persons, aiming at restoring their livelihoods. The potential to shift to new livelihood activities and the human and financial capital required for such shifts should also be understood and this may necessitates not only skill development, but also the provision of market links, building up the required management capacities and assistance in terms if financial capital. A good example is the existing potential for the reed industry (making of mats, baskets, ornaments, etc. out of reeds) in the Tangalle division of Hambantota district.

IOM has entered into an agreement with Pacific Asia Resource Centre (PARC), a Japanese NGO, to implement a project that will equip societies of women engaged in dry-fish preserving with technical and entrepreneurial training. The project implemented by PARC will assist between 90 and 150 beneficiaries in the Jaffna district.

A matter that has not received sufficient attention is the problems confronted by female-headed households. Widows and single-headed households are particularly vulnerable as they have to deal with their psychosocial distress as well as caring for children on their own. The loss of the male head of the family constitutes a serious blow to the economic livelihood of the household, significantly reducing its coping ability. However, no proper assessment of these households has been made yet.

To date, 770 families have received IOM livelihood assistance. Of these, 301 families were identified as single-headed households or otherwise extremely vulnerable and were assisted as part of IOM's Counter Trafficking Programme.

Other Livelihood Issues

The need for skill development

There is a need to look for new livelihood opportunities and train persons to replace the lost labour force. A number of NGOs are involved in providing the affected persons with vocational training aimed at ensuring sustainable livelihoods. For example, as an integral part of the livelihood programme, IOM has conducted business development workshops with tsunami-affected self-employed persons. Twenty-one tsunami-affected persons participated in a one-day workshop conducted by the Business Development Centre in Matara, to develop business management skills. IOM plans to continue to support the rehabilitation of the workshop participants' businesses by supporting further training programmes as needed, and through the provision of the equipment necessary for the business start-ups.

Table 19. Provision of Permanent Houses to Displaced Families

District	Permanent Houses for Fishers					
	Required Number of Houses	Completed Up to Foundation Level	Completed Up to Wall Level	Completed Up to Roof Level	Furnished	Fully Completed
Jaffna	2,252	148	197	76	10	11
Kilinochchi	8	33	108	5		
Mullaitivu		0	0	0	0	0
Trincomalee	3,350	210	221	115	28	25
Batticaloa	802	37				3
Ampara	1,279	198	160	98	18	41
Hambantota	722	373	696	197	436	1,048
Matara	1,473	479	122	37	2	11
Galle	1,172	282	479	260	55	221
Kalutara	977	305	144	73	62	76
Colombo	1,448	116	52		8	
Gampaha	232	32	176			
Puttalam	175	0	0	0	0	0
Total	**13,890**	**2,213**	**2,355**	**861**	**619**	**1,436**

As on 31 October 2005[26]

Strengthening community organizations

Displacement means severance of community ties and loss of 'inter-connectedness' of people in a community, which increase people's trust and ability to work together and expand their access to wider institutions. Such relationships develop trust, reciprocity and exchanges that facilitate co-operation, reduce transaction costs and may provide the basis for informal safety nets amongst the poor. This highlights the importance of the presence of strong community-based organizations (CBOs).

The most dominant type of fisheries community organization in Sri Lanka is the fisheries co-operative. The modern co-operative movement in Sri Lanka had its beginning after 1912 with the emergence of rural credit societies. Fisheries co-operatives date to the early 1940s. During 1941-1947, there were around 49 fisheries co-operatives, all of which shared the requirement that the fish catches be sold by the society on behalf of its members. Even at the early stages of their development, loans were distributed to co-operatives to meet the credit needs of their members, especially to enable them to adopt mechanized fishing. Most of the distribution of 3.5-tonne day fishing craft with inboard engines were made through fisheries co-operatives with a 50 per cent subsidy.

As a community-based fisheries management strategy, about 1,000 landing site fisheries management committees were established in 2002. These committees were hastily formed, without long-term plans and most of them were never involved in any productive activity. With the government pledging LKR1 mn for each committee, most of the existing community organizations collapsed. However, no funds were actually granted to the landing site committees and they remain in a dormant state. The only noticeable effect of the establishment of the landing site committees was the collapse of the fisheries co-operative system. The fact that the landing site committees were not established in the troubled areas of the north and the east ensured continuity of the fisheries co-operatives in these areas.

Table 20. Alternative Employment Opportunities for Women: Results of the Matrix Ranking Method

Job Alternative	*Rank* Ampara	*Rank* Trinco	*Rank* Kalutara	*Rank* Matara
Animal husbandry	1			
Making garments	3	1	1	3
Lace making				5
Selling homemade food (including sweets)		2	2	4
Home gardening	4			
Running boutiques	4			
Fish selling			4	
Fish processing (drying fish)	2	4	3	1
Coir industry (rope-making, etc.)				2
Weaving mats	5			
Packing condiments		3		
Candle making		5		

Of a total of 1,018 fisheries co-operatives registered, only 543 were considered as active[31] by 26 December 2004, and most of the active societies were located in the Northern and Eastern Provinces of Sri Lanka. The total membership in all societies is 123,735 persons, which is roughly about a fifth of the total fishing population. Few of the best functioning fisheries co-operatives, with high rates of savings and lending were restructured as Fisheries Co-operative Banks. While promoting savings among fishermen, these banks aim at improving the living standards of the members of fishing communities by collective efforts. There were about 116 such banks in operation by 26 December 2004.

The tsunami came at a time when fisheries community organizations in the south and the west remained dormant or weak. This had several negative impacts at the village level: Assessment of damages could not be carried out properly, due to the existence of high informational asymmetries between the officials and the community. Tsunami relief assistance reached even the non-affected persons. Community participation in deciding about the type, and volume of fishing equipment to be distributed remained weak. Decisions concerning relocation were made without proper consultation of the communities.

Many of these deficiencies could have been tackled had there been well-functioning community organizations representing the true interests of the communities. Where such organizations existed, they have often taken the leadership in identifying the affected people, assessing the damages, and distributing relief assistance among the affected persons and families by working closely with NGOs and government officials. This helped reduce transaction costs, and pushed reconstruction and rebuilding in a socially optimal direction.

These community organizations can also perform important management functions. Therefore, any medium-term and long-term plans of reconstruction and rebuilding should incorporate activities aimed at strengthening fisheries community organizations at the

Table 21. Problems Associated with Resettlement: Results of the Pair-wise Ranking Method

Problem	Rank Ampara	Rank Trinco	Rank Kalutara	Rank Matara
Inappropriate alternative housing and lack of permanent houses	3	4	1	1
Inadequate land	2		4	2
Lack of latrines	4			
Inadequate health facilities	3	5	3	2
Insufficient fishing equipment to engage in fishing	4		2	3
Lack of educational facilities	1		1	5
Difficulty of carrying gear to residence	2			4
Inadequate water	1			2
Transportation problems (including, unavailability of roads)	2		5	
Lack of electricity	4			2
Unavailability of alternative employment opportunities	2	2	5	
Insecurity (especially along the coast)		1	5	
Many of the affected not receiving the tsunami relief assistance		3		

landing-site level and increasing their participation in the process of decisionmaking.

Rehabilitation of the natural environment

According to FAO, the most significant environmental damage from the tsunami is expected to be marine-related. Based on damage assessments in other tsunami-affected countries in the Pacific region, it is expected that the damage to the inter-tidal and sub-tidal area will be extensive. This could result in drastic changes in the coastal marine ecosystems, with potentially irreversible destruction of some areas, as well as immediate loss of living coastal resources such as fish, lobsters and crabs. This will have serious implications on fisheries, as many of Sri Lanka's fishermen are dependent on nearshore resources. The pelagic environment is unlikely to be severely affected.

No serious attempt has been made yet by authorities to assess the damage to marine ecosystems. Many coral reefs are likely to have lost their structure and biota and may have even been reduced to rubble in certain areas due to mechanical damage. There could also be significant contamination by runoff from land, with large quantities of wastes and pollutants, debris, soil and organic matter. Many marine organisms that may have survived the tsunami, may now be adversely affected or killed due to deposition of debris and sand on reefs and seagrass beds. Mangrove areas, while having provided protection for property and life during the tsunami, have now been damaged. Even coral reefs that may not have suffered structural damage may be adversely affected by exposure to direct sunlight caused by the receding water as the tsunami approached.

In this context, two fisheries-related problems are significant. The first is related to the destruction of *padu*s (the smooth-bottomed areas near the coast, where seines are laid). It appears that *padu*s in many areas (for example, Mawella, Tangalle and Kalametiya of Hambantota district) were seriously disturbed and are now covered with debris, preventing the laying of nets. This could be a serious problem on account of the important contribution of beach-seine fisheries to the total landings of the district and the large number of families dependent on beach seining for their livelihood. Although the government had promised to take immediate steps to clean the debris in *padu*s, there has been considerable delay in implementing any such measure.

The second problem relates to coral reef damage. Studies carried out in Weligama by the University of Ruhuna have revealed that a large extent of coral cover is covered with sand and debris, and a fair extent of coral cover is dying. If the situation is similar in other areas as well, it could have serious negative impacts on coastal fishing and the livelihoods of coastal communities. Though researchers have recommended

Table 22. Problems Associated with the Distribution of Craft and Gear: Results of the Free Scoring Method of Ranking the Problems

Problems	Rank (according to the severity of the problem)			
	Kalutara	Matara	Trincom-alee	Ampara
1. Provision of inappropriate equipment	1	6	1	
2. Improper distribution of equipment[18]	3	2	2	1
3. Provision of several craft to one person	5			6
4. Oversupply of craft	5			
5. Provision of substandard craft	2	4		7
6. Issue of destructive gear	3			
7. Failure to provide assistance in time	4	3	4	
8. State assisting only the craft owner			3	
9. Use of destructive techniques			3	
10. Corrupt practices by officials (State/NGO)		1**		4***
11. Failure to bring communication facilities back to normalcy		5		
12. NGOs charging for equipment				
13. Distribution of fishing equipment without government intervention			4	
14. Political intervention in the distribution of fishing equipment			5	
15. Failure to provide all required equipment to commence fishing				5
16. Absence of a secure place to keep craft on the beach				2
17. Undersupply of craft				3
18. Supply of craft to groups (group ownership)				8

**Issue of craft to non-fishers or to those who did not own craft earlier

***Some NGOs have obtained the signatures of people stating that they have received assistance though such assistance was never extended.

a clean-up of coral beds, hardly anything has been done.

Resettlement Problems

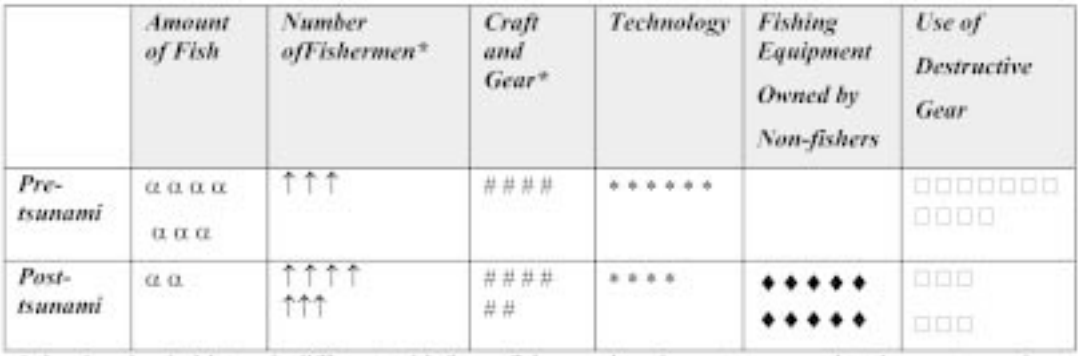
The problems of resettlement are numerous and are not confined to the provision of permanent houses. There are inter-related issues of community, livelihoods, land tenure, health, sanitation, market and productive assets among others, which cannot be considered in isolation.

PRA exercises carried out in the districts of Matara, Kalutara, Trincomalee and Ampara revealed a number of issues associated with resettlement, which are presented in Table 21.

Problems common to most of the areas are: lack of permanent houses or inappropriate houses, inadequate educational facilities, insufficient productive assets (fishing equipment) and unavailability of alternative employment. Transportation problems are acute in Ampara.

Most of the problems could be attributed to the failure of donor organizations and the government to obtain community participation in deciding about locations for resettlement, type and size of houses, facilities required, etc. Moreover, the heterogeneity of the coastal population was not given adequate attention, and common housing complexes were planned for all displaced families engaged in different

Figure 2. Status of Fisheries after the Tsunami: Results of the Application of the Historical Profile Technique



* the situation in Matara is different, with fewer fishers and equipment, compared to the pre-tsunami situation

vocations. Fisher families were settled alongside other people and their specific needs were not taken into account. Fishers in both Ampara and Matara find it difficult to carry fishing gear to the new locations. They would prefer to remain close to the coast.

In more urban areas with high population densities, finding alternative locations was difficult due to land scarcity. Land suitable for alternative housing was too expensive. So land had to be acquired in interior areas, away from the coast, where the required infrastructure for resettlement of families did not exist. Education, transportation and healthcare facilities are in short supply in these areas. Since the supply of electricity and water requires heavy investments, they are unlikely to be provided in the short-run to the more remote areas. Due to the highly saline water table, it is doubtful whether water could be supplied from wells. Even in the large and well-planned housing complex at Siribopura, in Hambantota district, the settlers are supplied with pipe-borne water for two hours a day, though only about 25 per cent of the houses have been occupied.

Most of the damage by the tsunami ccurred in water-deficient areas, where households were already facing water shortage. In the past, several NGOs and foreign-funded projects had helped large numbers of households in adopting rainwater harvesting (RWH) techniques. However, they have not been adopted in the newly built housing schemes for the families displaced by the tsunami[32]. Desalinisation tests carried out in a number of locations in Ampara and Hambantota districts by the Water Resources Board produced discouraging results.

Problems of School Children

Based on interviews with 230 children from seven schools in the Galle, Hambanthota, Ampara and Jaffna districts, the Save The Children Alliance[33] shows that while considerable strides have been made in education delivery, many schools still lack teachers, furniture and appropriate teaching materials. The Alliance has helped tens of thousands of children get back to school in Sri Lanka as part of its tsunami rehabilitation work, which included rehabilitating 21 schools (benefiting about 15,000 children), providing extra classes and equipment so that more than 11,000 children could catch up with schooling, providing bicycles, and building 80 early childhood development centres for 5,200 children, aged three to five.

Problems in Temporary Camps

Some of the problems confronting people, especially women and children, in temporary camps were identified during the PRA sessions carried out in Matara, Kalutara, Trincomalee and Ampara districts. These are enumerated below.

i. Insecurity and lack of privacy

Most of the temporary camps do not provide fully covered dwellings for the families. Women especially complained of the lack of privacy and security.

ii. Problems confronted by young girls

Many young girls have been subject to sexual abuse and harassment, and parents remain helpless, with nobody to complain to. Some girls have become pregnant, and the poor sanitary conditions and lack of regular medical

consultation add to their problems. The phenomenon of "tsunami marriages" among underage girls is common in some areas. Relief and rehabilitation efforts need to be carried out in a gender-sensitive manner, taking into account the special needs and concerns of women.[34]

iii. *Poor nutrition and sanitation and lack of medical care*
Infants and children in camps are often undernourished. Coupled with poor sanitation, shortage of clean water, high density of settlement and absence of healthcare, children find it difficult to lead healthy lives in the camps.

iv. *Drug addiction*
Increasingly, large numbers of young people in camps are getting addicted to drugs, which has also led to an increase in domestic violence.

v. *Poor educational facilities*
Parents are unable to send their children to school for lack of uniforms, books and transportation. In this context, the assistance provided to children by NGOs cannot be undermined. UNICEF, Sewa Lanka, World Vision, Save the Children Foundation, IOM and CCF have implemented several programmes for them, including provision of school bags, water bottles, shoes, bicycles, clothes, and furniture for children in camps.

vi. *Religious, social and cultural conflicts*
These are especially common in multi-ethnic and multi-religious communities, such as those in the eastern region, like Trincomalee and Ampara districts.

vii. *Mental health*
Depression among the more elderly people in camps is quite prevalent. Withdrawal from their own community and physical environment, and a forced dependence on outsiders are among the reasons for the poor mental health in relief camps.

Fishing after the Tsunami

After the repairs to craft and gear, and the distribution of new craft and gear, the fishermen were able to recommence fishing, but at a very low pace, especially during the first three months after the tsunami. However, fishing in the Western and Northwestern Provinces picked up faster. By May, most of the districts have recovered to some extent. However, the process of recovery appears to have slowed down since May. The total landings have been low during January-March 2005, but improved during May.

Figure 2 gives information obtained from PRA studies in Matara, Kalutara, Trincomalee and Ampara districts, in respect of the pre- and post-tsunami status of fisheries. Although the number of craft and fishers has increased, catches remain low. Although oversupply of fishing craft has not occurred at the national level, it has in certain districts, especially of traditional craft and FRP boats. The numbers of fishers indicated in Figure 5 would include those who are yet to receive craft and those non-fishers who have received craft. The low post-tsunami catches could probably be attributed to the fact that fishing units acquired with external assistance have not been sufficiently equipped to engage in fishing. It could also be the case that fishers are still in the process of outfitting their craft with buoys and weights, which are not freely available.

It is also interesting to note the decease in the diversity of fishing technology, revealing that in the distribution of fishing gear the great diversity of gear technology has not been given much concern by the donors. This is also an important matter needing the attention of donors willing to provide fishing gear to the tsunami victims. Had there been a concrete policy of the MFAR on the type of gear to be distributed, this problem would have been easily surmounted. Assistance in the form of craft and gear has also been received by non-fishers, which could also be a reason for the low fish catches post-tsunami.

PART IV

Major Issues, Constraints and Opportunities

Danger of Overexploitation of Coastal Fisheries Resources

Most coastal resources are said to be heavily exploited and stocks of some species are on the decline. Recent studies in the southern coastal fisheries using catch and effort data[35] revealed that coastal resources have been biologically overexploited (actual yield exceeding the maximum sustainable yield, MSY). Studies carried out along similar lines in the southern near-coastal fisheries (up to 15 km from the shore)[36] revealed that while coastal fish resources in Matara have been biologically overexploited, Galle and Hambantota near-coastal

fisheries were being operated just below the MSY. Research studies carried out in late 2004 in the west Hambantota coastal fisheries indicated that the coastal fishery is operating at just the MSY, estimated at 349 tonnes, whereas the actual catch was 347 tonnes)[37]. Already too many coastal craft have been supplied to Hambantota. Due to the danger of possible overexploitation of coastal fisheries, FAO has taken an initiative to monitor the process of distribution of craft and gear by the NGOs. Around June 2005, the FAO established its co-ordinating centres at every coastal district and located their offices in the premises of the office of the Assistant Director of Fisheries, the district-level officer of the Department of Fisheries and Aquatic Resources. The first task of the FAO monitoring teams was the preparation of reports on the quantity and type of craft and gear issues planned to be distributed by the NGOs and the type and quantity of craft and gear already distributed among the fishers.

Distribution of Craft and Gear: Oversupply, Undersupply and Malsupply

One of the dilemmas confronted by the government is that, while there exists an oversupply of craft in certain coastal regions of the country, undersupply and malsupply of craft are also evident in many other coastal districts. Malsupply is associated with the fact that some of the fishers who have lost their fishing equipment due to the tsunami have not been provided with craft and gear under the tsunami relief aid programmes. They still await replacement of their lost equipment. The major problem is the inability to identify beneficiaries, as indicated by PRA studies in Matara, Kalutara, Trincomalee and Ampara.

Of the problems common to many districts is the maldistribution of craft and inappropriate fishing equipment (including the distribution of substandard craft). The distribution of substandard craft is serious in certain districts than others. Field studies indicated that some of the FRP boats provided to fishers did not even function for one month due to damages to the hull. This is mainly attributed to the poor quality material used to build hulls and lack of adherence to standards. Even as early as in March 2005, the problem of the distribution of substandard craft was well recognized, although less attention has been paid to rectify this problem.

"Most of the smaller craft being given to fishermen do not even contain the necessary polystyrene fills in the buoyancy compartments that stop a boat from sinking if water enters whilst at sea," said FAO Naval Architect Oyvind Gulbrandsen".[38]

Malsupply of fishing equipment also includes the supply of destructive gear or banned gear, such trammel and monofilament nets. Another related issue is that, a large number of traditional craft have been distributed without the outriggers, which requires an additional investment of about LKR5,000 per outrigger; an investment most fishers are unable to meet. Even the more resourceful fishers find it difficult to get the scarce *lunumidella* wood required for outriggers.

The following is an FAO assessment of the Southern Province (Galle, Matara and Hambantota districts).[39]

- Of the 868 FRP boats delivered, only 272 (31 per cent) have gone to genuine beneficiaries.
- For every fishing craft received by a genuine beneficiary, two fishing craft have been delivered to others
- Of the 1,860 traditional craft delivered, only 757 (40 per cent) have gone to genuine beneficiaries.
- For every two traditional craft delivered to genuine beneficiaries, three have gone to others.

Identifying genuine fishers is not easy. Both regular and occasional beach-seine workers may identify themselves as fishers. Some fishers who had not registered their craft by 24 December 2004 were not issued entitlement cards, although they too fall under the category of genuine fishers. The best way to identify fishers would be through community consultation; either working with fisheries co-operatives or with other community organizations and FIs.

There are disparities among regions and even among adjoining FI divisions in the distribution of fishing craft — there may be oversupply of craft in a particular FI division while the adjoining division may complain of undersupply.

One possible solution is to buy back some of the craft and gear issued to non-genuine fishers and hand them over to genuine fishers, rather than resort to any new issues. Some of the newly built craft could be supplied to areas where undersupply of craft is reported.

The importance of a package approach

Apart from monitoring the process of craft and gear distribution, it is also of importance to ensure that fishers are provided a package of fishing equipment (rather than a craft or a few nets) so that they could commence fishing. The relief agencies aiming at helping fishers to commence fishing at the earliest possible should note that "a craft here and a net there" type of help will not work. What fishermen need is assistance to build a whole fishing unit (like a craft equipped with engine and gear). Therefore, those interested parties should adopt a package approach in providing assistance to fishers to commence fishing.

Setback Areas (Buffer Zones) and their Impact on Fisheries

Immediately after the tsunami, the TAFREN declared a no-build zone — buffer zone or setback area — of 100 m from the high-tide line in the coastal trip of the Southern and Western Provinces (which was expanded to 200 m for the Northern and Eastern Provinces).

The 100 m (200 m in the north and the east) regulation had adverse impacts on seine fisheries. Living in close proximity to the shore is important for beach seining because nets are often laid, when fish shoals are located in the nearshore waters, which calls for proper organization within a short duration. Fisher families could have been provided with elevated houses close to the net-laying areas in the coastal zone or provided with the required fishing assets to engage in alternative fishing activities. The new buffer zones also affected fish drying on the beach, usually carried out by women. The problem became worse when the affected families were relocated far away from the beach.

Due to the delay in the construction of permanent houses, some of the affected people who were staying in temporary houses and camps under harsh conditions have returned to their original compounds and have started re-building their houses. The Coast Conservation Department (CCD) has turned a blind eye to this due to the government's inability to offer any alternative housing.

The government failed to implement plans for conservation and permanent housing in the setback areas and was soon forced to relax the setback areas and consider individual and institutional applications for construction within the 100-m and 200-m zone, with the approval of the CCD. Most of the landholdings have no boundaries and the owners do not possess title deeds to the property. With the relaxation of the regulations on the setback areas, some of the displaced families are willing to move back to their original land. Field studies revealed that some fishers who have received permanent houses in Siribopura and Hambantota have moved back to their original land and have settled along the coast, while retaining the newly acquired permanent houses.

The displaced fisher people who have been living in the setback areas as laid down in the CCD Coastal Management Plan of 1997 would not be allowed to do so now. Even if they are willing to move back, they will have to wait for their land to be surveyed first. Title deeds have been destroyed and the government land registries located along the coastal belt have lost some documents. Not all fishers will find their old abodes as pleasant and comfortable as they used to be, because many facilities were destroyed by the tsunami.

Livelihoods or Sustainable Livelihoods?

The decision of MFAR to extend assistance only to those fishermen who have registered their craft prior to the tsunami poses a serious problem. While this appears to be quite rational, it should be noted that a large number of craft remained unregistered for a long time, a fact that MFAR ignored.

Cash-for-work programmes provide only short-term assistance, and there exists a need to ensure sustainable livelihoods. Gaps still remain between the long-term needs of the people and the assistance actually provided. Hence, identification of livelihood strategies, and supporting structures and processes are of paramount importance.

Assistance to women should be considered a priority. Due to the seasonal and highly fluctuating nature of fishing, many fisherwomen supplement their incomes with other activities like fish processing, farming and livestock breeding. Many of these self-employment opportunities are no longer available. The women now need to develop new opportunities, skills and capacities.

Lack of Community Participation

Community participation in making decisions concerning the distribution of craft and gear, and selecting locations for houses and beneficiaries, has

Box 1: Practical Action and the Fishermen of Panama Lagoon

The tsunami brought life to a standstill around the Panama lagoon in the Ampara District. Almost all the 40 boats and gear owned by the villagers were destroyed. Though a relief agency provided them with some canoes and fishing gear to restore their livelihoods, only a few benefited. But they soon realized that the canoes were ill-designed and prevented them from casting their nets.

It was at this juncture that Practical Action (formerly ITDG) decided to rebuild the canoes destroyed by the tsunami. The Practical Action team received the list of beneficiaries from the District Fisheries Extension Officer (DFEO). It was verified at an open community meeting with the lagoon fishermen, during which they were also made aware of the Practical Action approach to building canoes. As the forum was open and transparent, there was less misunderstanding and conflict.

Once the beneficiaries were selected, discussions were held to understand the type of canoe best suited to the needs and specifications of lagoon fishermen. The fishermen managed to recover some damaged canoes that they had been using before the tsunami. The most preferred design was chosen and four fishermen were trained in building canoes based on that design. The design specifications were sent to the DFEO for the government marine engineer's approval. All 40 canoes were constructed on the basis of these specifications. Financing was arranged by Practical Action, while the community chipped in with labour and food.

remained quite low. To a great extent, weak community participation in the decision-making process could be attributed, at least in the Southern and Western Provinces, to the absence of strong community-based organizations. Wherever strong CBOs existed, they had taken the leadership in distributing craft and gear among the affected members. Fisheries co-operative societies in Godawaya and south Batatha in the Hambantota district provide evidence of the important role played by CBOs in monitoring the distribution of tsunami aid among members. The NGOs too found such CBOs useful in helpling them understand the people's plight and assessing their needs. In the absence of CBOs, the NGOs were forced to resorted to other means of carrying out their relief measures, some of which would not have achieved the expected goals. Some NGOs have overcome this shortcoming by collecting information themselves. For example, ITDG (formerly the Intermediate Technology Development Group, now called Practical Action) held community meetings to identify needs and select beneficiaries (see box 1). Other NGOs used the FIs (the village-level fisheries officials who have strong links to the communities) to identify beneficiaries.

Lack of Long-term Vision

The tsunami can also be seen as a blessing in disguise for conservation and sustainable fisheries. The CCD, for instance, saw the tsunami as a good opportunity to introduce coastal conservation measures, which could not be properly implemented in the past. In the absence of a long-term vision for the development of Sri Lanka's fisheries sector, the post-tsunami recovery phase mostly involved a replacement process rather than measures to increase the productivity and sustainability of the resources and livelihoods.

Recognizing the urgent need for a national fisheries policy, MFAR had submitted a White Paper to the Cabinet of Ministers in December 2004, a few days before the tsunami hit the country. Unfortunately, it appears to have been since forgotten. The absence of a long-term vision hampered the organizations involved in the country's post-tsunami rebuilding. Without any idea of the future directions of the sector, they replaced damaged craft and gear with similar types, while the heavy fishing pressure on coastal resources warranted a shift of fishing effort to deeper waters, which was stressed in the White Paper (see box 2).

Box 2: ***Excerpts from the White Paper on Fisheries Policy***

1. ACCESS & ACCESS RIGHTS

1.1 Steps shall be taken to provide the fishermen engaged in harvesting overexploited resources with appropriate technology and support, to promote shifting to other diverse fisheries related activities.

……

2. FISHING TECHNOLOGY

2.1 Action shall be taken to develop selective type of fishing gear, in order to maintain bio-diversity, minimize waste, catch of non-target species, etc.

2.2 State subsidies, if available, be granted to fishermen through community organisations, to adopt eco-friendly, selective type of gear and techniques.

2.3 A complete list of prescribed gear and harvesting techniques shall be prepared by the state. Only such gear shall be allowed to harvest fish resources in Sri Lankan waters.

2.4 The State shall actively get involved, along with the private sector, in the production, importation and distribution of boat engines and fishing gear.

2.5 Standards for fishing crafts shall be established, and only crafts that meet such standards shall be eligible for registration.

2.6 Steps shall be taken to promote the exploitation of resources in the international waters by Sri Lankan fishermen, by developing the required technology.

2.7 All crafts and gear shall be registered annually, which shall be a pre-requisite for obtaining fishing licenses.

……

3. Fisheries Management

3.10 Community-based management structures called "Fisher Peoples' Councils" (FPCs) shall be established at the landing site level (or in reservoirs, perennial and seasonal tanks, lakes, lagoons), entrusted with the major task of managing fisheries resources. Powers shall be delegated FPC,s to carry out state laws and regulations and also to develop their own management strategies, in conformity to major fisheries management policy actions suggested by the state. The interests of FPCs shall be recognised by the state as representative of fisher community interests.

Problems in the North and the East

Half the country's fish landings come from the war-stricken northern and eastern districts. Fishing has been adversely affected in the Jaffna and Trincomalee areas. For security reasons, fishing craft are not allowed to go beyond certain limits. The distribution of tsunami aid among the affected families there became a problem due to the existence of a dual administrative set-up, with the government controlling some areas and the Liberation Tigers of Tamil Eelam (LTTE), other areas. However, since foreign aid to the victims was mainly channelled through the NGOs, the affected families benefited to a sizeable extent. A "joint mechanism" was suggested for the State and the LTTE to jointly decide on plans to rebuild the northern and eastern regions. However, the proposal was condemned by other political parties and the joint mechanism was never established. A number of international donors and agencies have since designed reconstruction and rebuilding plans for the northeast area with the help of the State government's ministries.

Yet, field studies indicate that the ethnic strife has resulted in unequal distribution of funds. Tension has also been rising in temporary camps where different ethnic groups are living together. Much of the problem lies in the absence of strong community participation in planning, designing and distributing permanent houses for the affected families.

Community and State Laws

The tsunami has led to a change in attitude towards community and State laws and compliance with them. Laws governing the entry and use of destructive gear, for instance, are no longer respected. The pursuit of individual interests seems to be the dominant trend. The government may find it difficult to strictly enforce

State laws in future if people get used to a "lawless" situation. This is especially troublesome in the context of a possible overexploitation of coastal resources, made worse, again, by the absence of strong fisheries CBOs.

Poor Co-ordination

Poor co-ordination of the activities of the government's ministries has been a past reality in Sri Lanka. During the first few months after the tsunami, MFAR did not take any initiative to co-ordinate the activities of the NGOs. Lack of funds, staff poorly equipped to handle a crisis, and the unprecedented influx of foreign delegations and relief workers slowed the pace of MFAR's work. In the absence of guidance and leadership from MFAR and TAFREN, the NGOs were left to do the relief work in their own fashion.

The FAO became involved in co-ordinating the activities of the NGOs by mid-2005. But intra-NGO co-ordination still remains quite weak, leading to duplication of activities and wastage of funds. There are instances of fishers with entitlement cards receiving similar craft from many NGOs. Alliances among NGOs dealing with similar relief activities would have prevented such duplication.

Women and Children

Many children lost their parents in the tsunami. Those who survived are unable to attend school for lack of permanent dwelling, uniforms and books. Though school books and writing materials have been distributed by many NGOs, large numbers are unsettled in respect of housing and employment; they live with their relatives at night and return to their temporary houses in the morning, to receive relief aid. There are no proper national or district-level programmes for the long-term needs of the children, although some NGOs have taken initiatives at the village level.

Although several livelihood assistance programmes for women have been implemented by NGOs, they are insufficient. Women's important roles in fisheries have yet to be recognized.

Cultural and Gender Insensitivity

Programmes and activities undertaken under the reconstruction and rebuilding process have not paid sufficient attention to differences in gender, culture and religion. This was evident during field studies in Trincomalee and Ampara districts in the eastern region. It is this insensitivity that led to settling groups with diverse backgrounds and beliefs in the same temporary camps. It is also such insensitivity that led to the sexual harassment of young women in camps. Cultural and religious differences should be well understood and given due concern before the beneficiaries are allotted permanent houses.

The Dependency Mentality

In the face of readily available aid, the tsunami-affected populations appear to have developed what could be called a 'dependency mentality'. During the early half of 2005, many tsunami victims refrained from clearing the debris from their own compounds, waiting instead for cash-for-work programmes to do so. Many fishers, even after having received craft and gear, displayed apathy in returning to fishing. The tsunami appears to have added to the dependency mentality among Sri Lanka's fishers, already used, since independence in 1948, to State subsidies and credit.

PART V

Recommendations

1. Malsupply of fishing equipment
   - Use funds to buy back the fishing equipment distributed to non-genuine fishers and distribute them among the genuine fishers.
   - Stop issuing fishing gear to areas where malsupply is noticed until the above strategy is adopted.
   - Try to provide fishing units to the affected fishers, rather than "a few craft here and a few nets there".
   - Wait for the FAO assessment of the status of the post-tsunami recovery of the fisheries sector.
   - Ensure maximum participation of CBOs and community leaders in assessment.
   - Consult CBOs and community leaders about the type and number of fishing equipment to be distributed and the beneficiaries to be selected.
   - Establish standards for fishing craft and gear. MFAR should also prescribe the type of fishing gear to be distributed among various

districts, based on resource availability and resource status.

2. Overexploitation of coastal resources
   - Enforce State laws on fishing gear.
   - Establish and strengthen fisheries CBOs, as also suggested in the White Paper on fisheries policy.
3. Set-back areas (buffer zones)
   - Try to settle beach-seine fishers close to their seine-laying areas. Explore the possibility of constructing elevated houses.
   - Let fishers settle along the coastal belt, in their own traditional homeland, if they are willing to do so. Institute a mechanism for the distribution of permanent title deeds or the houses already given out.
   - Get the Department of Surveys to survey the coastal zone and assist people in demarcating the boundaries of their land in the coastal zone.
4. Sustainable livelihoods
   - Make provisions for more human capital (through skills development) and social capital (by strengthening CBOs).
   - Recognize the important role played by women in fisheries and provide them with opportunities to engage in income-generating activities.
   - Try to identify new livelihood activities, based on the availability of resources in the new locations, and the market potential.
5. Long-term vision
   - The State should accelerate the process of preparation of a national fisheries policy.
6. Community participation
   - Ensure community participation in making decisions concerning rebuilding of the sector. If well-functioning CBOs are absent, seek the assistance of community leaders, GNs, FIs, religious organizations, and even heads of schools.
7. Sensitivity to gender, culture and religion
   - Be more sensitive to differences in gender, culture and religion while providing assistance to the tsunami-affected communities.
8. Problems of women and children
   - Pay greater attention to the problems of women in welfare centres/camps. Provide private bathing and healthcare facilities for pregnant mothers and infants.
9. Co-ordination
   - Ensure that NGOs work closely with State institutions responsible for implementing the rebuilding activities.
   - Form alliances among NGOs who provide similar assistance.
   - Encourage better co-ordination among State institutions.
10. Information asymmetries
    - Update data on damages and rebuilding activities, and improve data collection, in consultation with the affected communities.

Ultimately, the survivors' rights to dignity, gender equality and decent livelihood must be upheld and must guide all rehabilitation and reconstruction efforts.

Endnotes

[1] Senior Lecturer, University of Ruhuna, Matara, Sri Lanka.

[2] These districts were selected to have a fair representation of the regions that were severely affected by the Tsunami. They were also selected to represent different ethnic communities affected by the Tsunami [Trincomalle and Ampara are predominantly Tamil and Muslim areas, respectively, while the population in Matara and Kalutara is predominantly Sinhalese.

[3] Ministry of Fisheries & Aquatic Resources Development; Six Year Fisheries Development Programme 1999-2004.

[4] Ministry of Fisheries & Aquatic Resources Statistical Unit, 2004

[5] Including craft operating in inland waters

[6] Ministry of Fisheries & Aquatic Resources Statistical Unit, 2004

[7] Ministry of Fisheries and Aquatic Resources Statistical Unit, 2005

[8] Ministry of Fisheries & Aquatic Resources Statistical Unit, 2004

[9] Ministry of Fisheries and Aquatic Resources Statistical Unit, 2005

[10] Ministry of Fisheries & Aquatic Resources Statistical Unit, 2004

[11] The term 'affected people' mean those fisher people who have either lost [fully or partly] their houses, and/or fishing equipment and/or fisheries based livelihoods due to the tsunami.

[12] Ministry of Fisheries & Aquatic Resources Statistical Unit, 2004

[13] http://www.fisheriesdept.gov.lk

[14] 'October Progress', FAO Monitoring Unit, Ministry of Fisheries & Aquatic Resources, Colombo, 2005

[15] Ministry of Fisheries and Aquatic Resources Statistical Unit, 2005

[16] By courtesy of Madhavi Malalgoda Ariyabandu, ITDG, Sri Lanka

[17] Letter of Mano Tittawela, Chairman, TAFREN to the editor of *Daily Telegraph*, UK

[18] Story date: 22 November 2005, UNHCR Briefing Notes

[19] FAO Monitoring Unit, MFAR, Colombo

[20] Ministry of Fisheries and Aquatic Resources (2005), progress reports prepared by the Planning Division

[21] FAO Monitoring Unit at MFAR, information obtained November 2005

[22] MFAR, Planning Division, data as on 31 October 2005

[23] FAO Monitoring Unit at MFAR, information obtained November 2005

[24] FAO Monitoring Unit at MFAR, information obtained November 2005

[25] Ministry of Fisheries and Aquatic Resources Statistical Unit, 2005

[26]"Reconstruction and Development of the Fisheries Sector Affected by Tsunami, Progress as at 10th October 2005", Ministry of Fisheries and Aquatics Resources, 2005

[27] ILO Office in Colombo, 24.06.05

[28] A very large number of NGOs were involved in providing "cash for work" and it was not attempted at enumerating all of them.

[29] The average wage per 8-hour man-day for unskilled labour in the southern province is about LKR300.

[30] Information obtained from MFAR in December 2005 revealed that about 4,500 fisher houses have been completed.

[31] Fisheries Cooperative Development Plan. MFAR, 2005

[32] Note that the Urban Development Authority has identified the importance of including RWH facilities in the new houses to be built for tsunami victims (see Annex 3).

[33] 22 December 2005

[34] United Nations Commission on Human Rights, 19 Dec 2005

[35] Kotagama H., mimeo, Department of Agricultural Economics, Faculty of Agriculture, University of Peradeniya, Sri Lanka, 2000

[36] Amarasinghe O., *The economics of a fishery and optimal resource use* (mimeo), Department of Agricultural Economics, University of Ruhuna, Sri Lanka, 1999

[37] IDPAD project, (unpublished) "Public-private partnerships in the management of small-scale fisheries in South Asia-the case of Sri Lanka, Department of Agricultural Economics, Faculty of Agriculture, University of Ruhuna, Sri Lanka, 2005

[38] www.servesrilanka.net; New Item on 13 March 2005

[39] FAO, (unpublished) "Results of Beneficiary Verification" Ministry of Fisheries & Aquatic Resources, Colombo 10, Sri Lanka, December 2005

One Year After: A Report on Post-Tsunami Rehabilitation in the Fisheries Sector in Thailand

by
Federation of Southern Fisherfolk (FSF)
Save Andaman Network (SAN)
Sustainable Development Foundation (SDF)

January 2006

Contents

Executive Summary

The tsunami disaster on 26 December 2004 caused great damage to life, property and the environment in various countries. In Thailand, as of 25 July 2005, according to the Department of Disaster Prevention and Mitigation, the tsunami-affected areas include villages in 95 *Tambon* (sub-districts), of 25 *Ampurs* (districts) in 6 provinces of Thailand. The Community Organizations Development Institute (CODI) have quoted a slightly higher total of 418 villages. 43 villages were severely affected, with all houses and fishing craft being completely destroyed. The total death toll in Thailand was 5,395 persons (2,056 Thai nationals, 2,436 foreigners, and 900 unidentified persons); 8,457 persons were injured and 2,817 persons remain missing. 1,637 children became orphans (source: Ministry of Education, 2005). In terms of infrastructure, 4,806 houses were damaged, of which 3,302 were completely damaged and 1,504 were partially damaged. There was also damage to public utilities like piers, bridges and roads, electricity and water supply, and the telephone network. The preliminary estimate of the damage was put at 1,057.39 mn THB (approximately US $27.826 mn).

The most severely impacted sector was fisheries. (The Andaman coast accounts for 33 per cent of the overall fisheries production in Thailand, while the Gulf of Thailand accounts for the remaining 67 per cent). Based on the published data from the Department of Disaster Prevention and Mitigation on 25 July, 2005, the total value of occupational losses in the fisheries sector was 1,808,891,883 THB (US$46.4 mn). A total of 1,202 large craft, 4,783 small craft and 6,668 fishing gear (fish stakes, nets, fish traps) were damaged. 6,275 aquaculture operators were affected. (Source: In January 2006, the Thai Department of Fisheries presented updated figures of damages in fisheries during the 'Regional Workshop on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods', 18 and 19 January 2006). According to their presentation the final records of damages were 4,907 small-scale fishing craft and 1,795 large-scale craft, 27,000 fish cages, 111,129 units of fishing gear (gill nets, fish traps, squid traps, and crab traps), 300 shrimp hatcheries (15 mn square meters), and 55 ha of shrimp ponds. However, at the time these figures had not been published and no provincial breakdown was provided. Therefore this research paper uses the data of the Department of Disaster Prevention and Mitigation as published on their website. This is official data, and might not reflect the loss of fishing gear, craft and fishing equipment that belonged to non-registered small-scale fisherfolk.

The extent of damage has led to a drastic disruption of local livelihoods in the informal sector within the fisheries sector. The informal sector consists of small-scale fisherfolk, including the ethnic group known as the sea gypsies (Moken, Moklen and Urak Lawoi), migrant workers who constitute the largest workforce in commercial fisheries, and vulnerable groups such as women and children in the affected fishing communities. It is evident that these groups of people have been marginalized even more than earlier due to the loss of their livelihoods. Additionally, since they are considered as 'informal sector', the relief measures and programmes, particularly those from the government, national and international public organizations, have failed to reach them in sufficient and appropriate measure and ensure the sustainable rehabilitation of the fishing communities as a whole.

In the light of the losses caused by the tsunami, this study was conducted with the following aims:

1. Providing an overview of the affected people by focusing on the marginalized sector and describing the main actors in providing relief for these groups, including the relief measures, approaches and long-term policy trends.
2. Assessing the impacts of these approaches on the marginalized groups, and highlighting some key issues, particularly whether they have enhanced or hindered the chances of marginalized people being able to resume their livelihood sustainably and increasing their opportunities of participating in coastal resource management in the long run.
3. Identifying the key lessons learned based on one year's experience and making recommendations on public policies and measures to be taken by relevant agencies.

STUDY FINDINGS

Issues Arising during the Rehabilitation Phase

The experience of one year of post-tsunami rehabilitation measures leads to the conclusion that, despite a large number of organizations and actors

undertaking humanitarian programmes to help relieve the suffering of the victims, a number of important issues remained to be addressed during the rehabilitation phase. These issues threaten the sustainability of the community's recovery and weaken the community institutions by generating conflicts and misunderstanding. Some key issues are mentioned below:

Immediate Relief Measures in Fisheries

- *A lack of clear and accurate data and co-ordination on damage, resulting in duplication of support:* The duplication of support was caused by many organizations working in the field targeting the same activities, especially boat repairing. This has resulted in an increase in the number of fishing craft as compared to before the tsunami. This has occurred because of a lack of clarity on the actual number of craft and other data regarding the affected people. Further, relief measures have been seen to have gaps that allow people to make claims without these claims being widely acknowledged by a wider group. This has allowed multiple requests to be made. There has also been a lack of local mechanisms to manage the relief operations. The problem of over-supply of craft will lead to further problems in the fisheries sector as a whole, as the carrying capacity of the sea is being exceeded, increasing competition, and leading to a degradation of natural resources.
- *Diverse approaches and strategies lacking co-ordination:* This problem has led to conflict within the communities. For instance, one organization provides free assistance by distributing money and readymade craft, while another sees the importance of the community's mobilization and establishes a revolving scheme, whereby community members who receive assistance are encouraged to pay back the money to the community's central fund (to support community initiatives in future). If a community does not appreciate these values or does not have an awareness about this kind of sustainable rehabilitation and the concept of reliance, they are likely to enter into conflict among themselves.
- *Assistance for destructive fishing gear:* Before the tsunami, destructive fishing gear were widespread in the fisheries sector, particularly small-size nets. During relief, this type of net was again distributed widely, as some organizations did not have knowledge or understanding of fisheries.
- *Fair compensation for fishing craft:* It is also evident that the compensation given to the affected communities is too low for the community to be able to revive their occupations and support their families. DOF's support was given in the form of cash and not by the replacement of the boat, many who received the compensation from the government, were unable to afford new craft because the compensation was much too low for the price of the craft. Some people received additional assistance from private organizations or non-governmental organization to be able to purchase new craft or repair their old damaged ones. While many were unable to go out to fish and earn income, they were forced to spend the compensation money to sustain their daily livelihood, such as buying food for their family members. Without additional assistance from other organizations, it would be difficult for the affected fisherfolk to resume their fishing activities. The government's assistance cannot guarantee that the communities can replace or repair fishing craft; hence, the additional assistance from public organizations is important (assuming that there is no duplication). For example, in some cases, a deduction of 30 per cent would be made in total claims by the local DOF simply because the condition of the boat was poor before being damaged by the tsunami. This was discovered during direct community interviews in Krabi Province. It was not taken into account that fishermen had to procure new craft and gear, and that these needed to be paid for in full. This is indeed a critical problem for the poor.
- *Equality in relief distribution:* The government must not discriminate between affected communities who are registered and non-registered, by providing different relief measures for each group. Both these groups of victims are affected by the tsunami to the same degree, and must hence be treated equally.

- *Principles and guidelines for assessing scale of damage and identification of relief approaches:* Government regulations specify that there must be a committee appointed to assess the damage before determining the level of assistance. However, there are issues arising from this measure. The committees set up were often composed of official leaders and local authorities. The team received reports that because the principles and guidelines for assistance were mostly determined by outsiders and did not undergo community participation they were not widely accepted by the tsunami victims, the principles and guidelines sometimes did not reflect the real problems and needs of the affected people. The researchers also found that there was a phenomenon whereby the official relief committees in some areas provided assistance to their close networks and relatives first. It therefore becomes unclear how the scale of assistance is determined. There are often complains or doubts about why and how some receive more compensation than others. Furthermore, the work approach and principles are only known among the committee members, and not explained to the affected people. This has led to mistrust and increasing reports of injustice, unrealistic evaluation of damages caused to property, and inequality in assistance even though the level of damage is not very different. Due to this, internal conflicts among community members have occurred.
- *Relief measures overlook invisible labour and vulnerable groups in the fishing communities:* The relief measures not only lead to discrimination between the registered and non-registered fisherfolk, but also fail to protect and restore tsunami-affected people who are the main labour force in the fisheries sector. This group of people are not boat owners, but work as labourers, both in small-scale and commercial fisheries. The government relief measures were confined to the fisherfolk who own fishing craft (these are usually male fisherfolk). The labourers play significant roles during the pre-harvest, harvest and also the post-harvest phases, but they are not classified as a group of people who have a right to receive assistance from the fisheries sector or from the other sectors, except in case of death. It is necessary to ensure that assistance does not discriminate against them, and particular attention is paid to the 'invisible' labour in the fishing communities, especially women and children.
- *Inability of ethnic and migrant workers to access relief assistance:* These groups do not meet the government's criteria on relief measure because they are not Thai citizens. These are the groups that did not receive public attention even before the tsunami. In the case of the ethnic groups, particularly the sea gypsies, despite their long settlement in Thailand for 200 years and contribution to the national revenue as a labour force in fisheries and the tourism industry, they do not receive citizenship rights and are hence not entitled for welfare support from the government and have no land tenure and education rights, and are often being looked down upon by the Thais. The tsunami has impacted more than 400 sea gypsies in various ways. After the tsunami, a Moken village, Thap Tawan in Phang Nga Province, is facing land rights conflict, when a private landowner claimed that the land on which they have been settled for more than 60 years belongs to a private landowner. Because the conflict is between the community and a private person, and the Moken do not have land entitlement deeds, the government has refused to provide temporary shelter for them.

  Around 120,000 workers have been migrating into Thailand in search of jobs (this figure needs to be reviewed due to the fact that many have not registered with the government), and most of them are employed by commercial fishing fleets. Until the present day, there are very limited records about the actual death toll among the migrant workers, because many were displaced after the tsunami, hiding in the forest due to fear of being arrested and deported back home. The Ministry of Labour announced that there were 9 dead, 2 injured and 106 injured. However, the Network of Migrant Workers and IOM (International Organization for Migration) have conducted a

study that found that 217 migrant workers died in Ban Nam Kem and nearby areas alone. As for the survivors, they had lost their registration cards and other important documents, which were the only proof that they have a right to stay and work in Thailand.

Until the present time, there are still reports on arrest and assault of migrant workers by local officials, and reports of mistreatment when they seek help from the health services. The problem of labour law has also caused problems for the migrant workers, in the sense that it very much ties the workers to their employers. Whatever they have to do, including seeking government help after the tsunami, involves coming along with their employers to verify that they have a job. Especially after the tsunami, when everyone is suffering, employers have often not been able to make time to help. Furthermore, little effort is made in providing information for these people in their own language, hence many of them do not know what to do.

Immediate Relief Measures in Land and Housing

Housing and conflicts in land ownership:

- The government took measures towards provision of temporary and permanent housing for the tsunami-affected communities by constructing pre-designed houses in a new area. The total budget for a house is 100,000 THB, but there are reports of houses that do not meet the natural, cultural and family needs, and are too small. For the people that do not wish to live in the houses that the government designs and builds, they are given 30,000 THB to construct their own house with a design that they prefer.
- Another problem related to housing is that many communities cannot return to their village because of problems on land ownership, a problem that occurred long before the tsunami. 81 villages are reported to face such problems, mostly in Phang Nga Province. Conflict is mainly between the community and the government, as seen in Thung Wa Village and Ban Kor Muk in Trang province. There are also conflicts between community and private landowners, as seen in Thab Tawan Village.

Long-term Rehabilitation Policies

Policy trend towards long-term rehabilitation:

- The policy trend towards the rehabilitation of the fisheries sector is to promote offshore aquaculture under the name of the Seafood Bank Programme. This is a programme that started before the tsunami, but has been applied as a long term rehabilitation approach in the tsunami-affected areas. The idea of the Seafood Bank is to issue 'sea entitlement deeds' to fishermen who are interested in farming shellfish and other marine species, and to give support for investment, training, supply of seeds and marketing to the beneficiaries. The government is of the opinion that there is still potential for the coastal areas to serve as a large-scale seafood production sites for export. However, the marine fishery is very much degraded and furthermore, the programme would result in conflict among villagers who are reliant on the same resource pool. There are also concerns about threats to the community's access to natural resources and food security by converting public property—the sea—to private ownership when the sea entitlements are issued.
- The policy trend towards the development of the Andaman coast is to designate Special Economic Zones. These zones are in fact to be designated in other areas all over the country, but they have also been selected as tools for rehabilitating tsunami affected areas, for instance in Phi Phi Island, Krabi Province, by stimulating foreign investment and trade liberalization, and hence economic growth. The designation of this zone would cover area on which the small-scale fisherfolk are dependent on for sustaining their livelihoods. This powerful legislation that does not require a parliamentary process It can result in the removal of existing legal land ownership, seizure of land and the promotion of any kind of development that the government desires. Without the participation of the local communities, the zone will harm the interests of the small-scale fisherfolk who settle in the area with no land entitlement deeds. Despite a claim that it brings prosperity and employment,

it is obvious that the programme has no people's participation and does not recognize the pressing issues regarding degradation of natural resources and access to natural resources, and the poverty and land security of the marginalized groups.

- Tourism Development Policy to rehabilitate the tourism sector along the Andaman Coast: This has been one of the key development trends during the pre-tsunami period and has also been identified as a strategy to rehabilitate the economy of the Andaman Coast, especially on income and employment generation. It would also expect to bring in investment and real estate development . However, there has been no assurance that full and appropriate consideration of the grassroots economy and livelihoods would be sustained. Even though the impacts of tourism development in the tsunami-affected area is not obvious yet, it can be foreseen that the development, without community's participation could threaten the livelihood of the local communities as a whole.

It is recommended that relief and rehabilitation efforts must rest on a basis of self-reliance and equality whereby the affected communities are assisted with dignity and recognition of their rights to land and natural resources that correspond with the maintenance of their livelihoods. Through the promotion of communities' self-reliance, the relief and long-term rehabilitation approach must emphasize communities' participation in decision making. Furthermore, the principle behind rehabilitation must rest firmly on the interests of the marginalized in order to rebuild their local economies and conserve natural resources so that their food security and sustainable livelihoods are maintained.

Introduction

This study has been conducted in a macro context. This study focuses on assistance to tsunami-affected persons and issues arising from assistance. The majority of people affected by the tsunami are fisherfolk, and hence they are the main focus of the study. The study tries to understand the complex problems of local fishing communities and marginalized people (e.g., migrant workers, state-less people and ethnic groups) affected by the tsunami in the 6 provinces of southern Thailand.

Objectives

1) To provide an overview of the problems faced by fishing communities after the tsunami;
2) To assess the impacts on human rights and natural resource management issues faced by fishing communities after the tsunami; and
3) To draw lessons and make recommendations on public policies and measures of relevant agencies.

Research Methodology

This study is a qualitative study and utilizes community participation action research as the main methodology along with focus-group interviews to collect information. Techniques for data collections including organising group discussions in the tsunami-affected fishing villages in the 6 affected provinces. The informants include small-scale fisherfolk, people whose livelihood is related to local fishing, and marginalized people (e.g., migrant workers and ethnic communities living around the tsunami-affected areas). Additionally, attention was given to engaging local leaders, both formal (e.g., village head, district head) and informal (e.g., religious leaders, elders). Secondary literary review was also conducted.

Target Sites

The study was conducted in tsunami-affected fishing villages in the six affected Andaman provinces, viz. Satun, Trang, Krabi, Phuket, Phang Nga and Ranong Provinces. These villages are the current implementation site of the Save Andaman Network (SAN), which is a network of people's organizations, the private sector, and public organizations formed on 28 December, 2004 to provide immediate relief and long-term rehabilitation for the marginalized small-scale fisherfolk communities affected by the tsunami.

Scope of the Study: Rehabilitation of Fisheries-based Livelihoods

- Damage to craft, gear and livelihoods, based on government and other data
- Interventions in the pre-harvest, harvest and post harvest sector
- Nature of interventions that have been specifically aimed at women and at other vulnerable groups in fisheries

Experiences of Local Fisherfolk

We used to have the sea as our bank. Even though we had no savings, we always had food because there were plenty of fish in the sea. When the trawlers started coming by, they swept up everything, all big and small fish. Even the mangroves were ruined; we believe that they are womb of the sea. Our life has changed—the daily income has dropped from over 1,000 baht to 300 baht. My children must go to school, and we must borrow money to buy boat and net. We have to sell back the catch to him because we owe him money; it does not matter whether the price is good or bad. When the tsunami came, all the boat and the gears were gone. I have lost everything. The government came and helped, but the aid was too little to carry out repairs. Now I am still afraid of the sea, but I must overcome the fear and go out to the sea. Even if we catch something, the markets are ruined, because consumers do not want to eat seafood from here. They are afraid that the fish may have fed on the corpses. We must work together to rehabilitate the sea because we have nothing else.

– A comment from a fisherperson from a fishing community in Phang Nga, April 2005

- Key issues arising in rehabilitation
- Potential impacts of interventions on vulnerable groups (especially women) and on the sector as a whole (e.g., cold chain technologies and impact on women, supply of new trawlers/ destructive fishing gear and impact on small-scale fisheries, etc.)
- Some examples/case studies of best practices (e.g., technologies for post- harvest specifically targeting women, process used for deciding on and implementing rehabilitation)

Rehabilitation of fishing communities: Land and Shelter

- Number of fishing villages affected, based on government and other records
- Extent to which villages have been reconstructed *in situ* or have been relocated. Whether the decision to relocate was taken in participatory ways, and whether the new land is considered suitable
- Whether participatory processes or normal 'scientific' procedures are being followed with respect to housing
- Key issues in reconstructions and rehabilitation of fishing communities
- Some examples/case studies of best practices (e.g., participatory processes, use of sound technical inputs in making housing decisions, etc.)

Institutional aspects

- The role played by traditional institutions within fishing communities in response to the tsunami disaster, particularly with respect to the way they have mediated relief and rehabilitation efforts.
- A critical analysis of the roles and functions of traditional institutions, and the potential role they play in fisheries and coastal resource management during the post-tsunami work.
- A general overview of the roles being played by the government, civil society actors, and UN agencies in rehabilitation.

1.5 Research Team

(1) Mrs. Ravadee Prasertcharoensuk, Sustainable Development Foundation (SDF)
(2) Ms. Duangkamol Sirisook, Sustainable Development Foundation (SDF)
(3) Ms. Kesinee Kwancharoen, Sustainable Development Foundation (SDF)
(4) Mr. Wichosak Ronarongpairee, the Federation of Southern Fisherfolk (FSF)
(5) Mr. Parkpoom Witartirawat, Save Andaman Network (SAN)
(6) Ms. Sunan Ploeyjew, Action Aid, Thailand
(7) Mr. Adisorn Kerdmongkol, Network of Migrant Workers

Rehabilitation of Life and Communities after the Tsunami

Context

The tsunami disaster on 26 December 2004 caused great damage to life, and had severe impact on the economy and environment in various countries. In Thailand, according to the Department of Disaster Prevention and Mitigation, the tsunami-affected areas

Table 1: Number of Dead, Injured and Missing

Province	Dead				Injured			Missing		
	Thai Nationals	Foreigners	Unidentified	Total	Thai Nationals	Foreigners	Total	Thai Nationals	Foreigners	Total
Phuket	151	111	17	279	591	520	1,111	245	363	608
Pang Nga	1,389	2,114	722	4,225	4,344	1,253	5,597	1,352	303	1,655
Krabi	357	203	161	721	808	568	1,376	314	230	544
Ranong	153	6	0	159	215	31	246	9	0	9
Trang	3	2	0	5	92	20	112	1	0	1
Satun	6	0	0	6	15	0	15	0	0	0
Total	**2,059**	**2,436**	**900**	**5,395**	**6,065**	**2,392**	**8,457**	**1,921**	**896**	**2,817**

Source: Department of Disaster Prevention and Mitigation (25 July, 2005)

cover 412 villages in 95 Tambon of 25 Ampur in six provinces of Thailand (see Appendix 1). The Community Organizations Development Institute (CODI) has quoted a slightly higher total of 418 villages. 58,550 people from 12,017 families were affected by the incident. The total death toll in Thailand was 5,395 persons (2,056 Thai nationals, 2,436 foreigners and 900 unidentified). 8,457 persons were injured, and 2,817 persons are still missing (see Table 1). A total of 1,221 orphans (i.e., children who lost both parents) were identified.

Coming to losses of property, 4,806 houses were damaged, of which 3,302 were completely ruined and 1,504 were partially damaged. The main economic losses were with respect to people's livelihoods. Damage to agricultural land was estimated to have a total value of 6,625,174.50 THB, losses in aquaculture and fishing gear totalled 1,808,891,883 THB, losses in livestock were worth 17,625,605.5 THB, and losses to office buildings totalled 13,101,249,720 THB. There were also losses in public utilities like piers, bridges, roads, electricity, water supply, telephones, etc., which were preliminarily estimated at 1,057.39 mn THB. The provinces which suffered the greatest losses were Phang Nga, Ranong and Krabi (Department of Disaster Prevention and Mitigation, 25 July, 2005).

Losses to natural resources and environment are significant but not as severe as those given in Table 3. According to the official report, the tsunami destroyed some coral reefs, sea grass, and some protected species (see Table 4). Phang Nga province suffered the most severe damage to natural resources.

Coral reefs in the Andaman sea are the habitat for more than 183 aquatic species. Slight damage is reported to 3,000 *rai* (6.25 *rai* equals 1 hectare) and severe damage to 1,100 *rai* (around 625 *rai* of this is in Phang Nga province). The coral reefs damaged by the tsunami account for only 5 per cent of the total coral reefs in the affected provinces (UNDP/World Bank/FAO 2005). Coral reefs deeper than 7 metres were not affected by the tsunami.

As for the coastal area, damages were reported to over 6,000 *rai*, again mostly in Phang Nga province. Mangrove forests, an important natural resource in the coastal zone due to their function as breeding areas and their high biodiversity, to the extent of 1,860 *rai* were slightly damaged in Phang Nga Province (Takua Pa, Kuraburi and Thay Muang districts), and in Satun to the extent of 10 *rai* (Tarutaow national park), whereas severe damage was found in Ranong province (555 *rai*).[1] The damage to mangroves mainly comprises broken branches and tresses flattened due to the waves. The Thai Ministry of Agriculture and Co-operatives and the FAO reported that the damage to mangrove forests was less than 1 per cent of the total mangrove forests in the six provinces.

The most severe damage to forest resources was in Phuket province. From the field survey, it was found that forests on the coast of Phuket are wilted. In Phang Nga the damage is reported to cover 3,500 *rai*. However, other forest areas and ecosystems such as coastal forests and swamp areas were badly affected due to the wave washing away topsoil (see Table 4 for details). The Ministry of Agriculture and

Table 2: Number of Children/Students/Undergraduate Students who Lost Father/Mother/Foster Parents due to the Tsunami

Province	Number of Orphans	Number of Children/Students/Undergraduate Students Who Lost Father/Mother/Foster Parents								
		Father		Mother		Foster Parents		Father/Mother		Father/Mother/Foster Parents
		Dead	Missing	Dead	Missing	Dead	Missing	Dead	Missing	Dead/Missing
Phuket	174	73	1	60	9	12	5	10	1	3
Pang Nga	170	183	13	308	31	68	27	51	1	28
Krabi	129	70	5	31	9	1	6	3	1	3
Ranong	97	33	11	24	3	4	4	12	1	5
Trang	40	18	2	16	0	4	0	0	0	0
Satun	17	9	0	1	0	4	0	3	0	0
Other 55 provinces from every region of Thailand	1,010	150	14	173	36	70	3	53	5	12
Total	**1,637**	**536**	**46**	**613**	**88**	**112**	**50**	**132**	**9**	**51**

Source: Ministry of Education, 11 September, 2005: http://www.mis12.moe.go.th/tsunami

Co-operatives indicated that the survey of the damage was done on a preliminary basis to obtain quick information, and the Ministry plans to conduct more detailed surveys later, when the natural resource rehabilitation plan is to be formulated.

Local fishing communities tend to have their villages situated on the coastal areas of the Andaman sea. Most of the affected villages are in Phang Nga and Krabi Province. The other communities along the coastal line damaged by the tsunami are commercial fisheries, tourism and service sector workers.

Many of the tsunami victims were migrant labourers working in fisheries, rubber plantations and construction as well as in the service sector as housemaids and shop keepers. Some of them do not have work permits. A total of 88,558 migrant workers (Kerdmongkol 2005) were estimated to be working in the six provinces affected by the tsunami. There was however no report of migrant labourers dying in the tsunami. Another group of people that were affected by the tsunami is the ethnic groups who migrated from Burma, Malaysia and Indonesia. They have been scattered across the six affected provinces, but are mostly found concentrated in Phang Nga and Ranong Province. This group of people has not been granted citizenship, despite their long settlement in Thailand.

Immediately after the tsunami, assistance from within and outside the country flooded in. This helped to alleviate some suffering and losses, but a number of problems related to the management of the assistance arose. Unfair allocation of assistance between Thais and non-Thai nationals is prevalent. Also, there is unfair discrimination between fisherfolk who have and do not have fishing boat registration. Migrant and service workers were neglected. Also, other problems begin to surface, especially land disputes between local communities and other interests. Some of these disputes can be traced back to a long history of conflict, including encroachment of public land, conservation areas and coastal beach areas. Some of these problems can be resolved within the communities, while others need public agencies to actively participate because they involve legal sanction and public policies (e.g., land disputes and housing for tsunami victims).

Situation of the Andaman Coast Before and After to the Tsunami

Fishing Situation Prior to Tsunami

The Andaman coast has a total length of 954 km, covering six provinces of Ranong, Krabi, Phang Nga, Phuket, Trang and Satun. The coast is characterized by small beach areas with reef slopes and many small islands. Some areas are mudflats. The coast is in the path of the southwest monsoon from the Indian Ocean and the Andaman Sea. Overall, the Andaman ecosystem was very fertile and diverse, with mangrove forest, seagrass, and coral reefs making Andaman sea a unique breeding areas and habitat for aquatic life (Federation of Southern Fisherfolk, 1998).

Table 3: Livelihood Losses caused by Tsunami (in THB)

No.	Province	Occupational Losses in Monetary Terms				
		Fishery (THB)	Livestock (THB)	Agriculture (THB)	Business (THB)	Total Loss
1	Phang Nga	913,218,491	13,660,585	2,458,363	6,456,085,000	7,385,422,439
2	Krabi	191,696,510	325,240	342,900	2,683,651,780	2,876,016,430
3	Phuket	344,911,169	303,650	184,146	3,510,849,852	3,856,248,817
4	Ranong	170,737,983	3,049,138	636,065	830,000	175,253,186
5	Trang	68,934,000	43,292	1,838,700	6,600,000	77,415,993
6	Satun	119,393,730	243,600	1,165,000	N.A.	120,802,330
	Total	**1,808,891,883**	**17,625,505**	**6,625,174**	**12,658,016,632**	**14,934,159,194**

Source: Department of Disaster Prevention and Mitigation (25 July, 2005)

The fertility of natural resources and the diversity of the ecosystem in the Andaman area are important factors for the local fishing communities. According to FAO, in small-scale fisheries in Southeast Asia, there are a total of 621 fishing villages along the Andaman Coast, whereby Trang and Phan Nga Province have the highest number 132 villages each. The lowest number is found in Ranong (59 villages) (see http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/004/ab384e/ab384e05.htm). It has been estimated that there were 16,531 families with an estimated population of 83,000 persons They engage in local fishing practices for food as well as income. Some of them own small craft and practise traditional fishing, while others are engaged in commercial fisheries. There are also some large-scale fisheries owned mostly by investors living outside the villages (or even provinces). There are also related industries like seafood processing, trading and even tourism in the area.

Since the 1960s, the fisheries products produced in Thailand have risen spectacularly, from 305,750 tons in 1961 to 3,496,520 tons in 2002, with a market value of over US$ 4,444 mn. Thailand is now among the top ten fisheries products producing countries of the world (FISHSTAT, FAO, 2004). The Andaman area is estimated to produce slightly lower than a third (31.7 per cent) of the total fisheries production of the country (FAO 2005).

Fisheries are an important source of earning for Thailand. They also generate employment opportunities and income for workers. However, most of the workers working in commercial fisheries are migrant workers. The Labour Department estimates that there were around 120,000 migrant workers in the fishing industry, but only 70,000 of them are registered with the Ministry of Labour. An estimated of 20–50 per cent of workers are working illegally (IOM et al. 2005), most of whom are in the fishing industry. This is because a fishing craft needs around 30 men to crew the fishing craft and it takes around 30 days to go out fishing on each trip. Many female migrant workers work in seafood processing factories, e.g., shrimp processing. It is not possible to estimate how many migrant workers there are in the fishing industry, because there is constant change of employment.[2] Some other migrant workers are in employed in the tourism and construction sectors.

The Tsunami and Damage to the Fisheries Sector

The tsunami has significantly affected the fishing sector. The Department of Disaster Prevention and Mitigation estimated the damages in 3 areas—fishing craft, fishing gear and aquaculture (see Table 5). A total of 1,202 large fishing craft, 4,783 small fishing craft and 6,668 fishing gear were damaged. 6,275 aquaculture operators were affected (Throughout the rest of this paper the researchers have used the 25th July, 2005 figures of the Department of Disaster Prevention and Mitigation for an analysis. Although more up to date figures were presented recently by the Department of Fisheries, at that time these figures had not been officially published and did not provide provincial breakdowns). The Department of Disaster

Table 4: Impacts on Natural Resources and Environment Caused by the Tsunami

Province	Coral Reef	Beach	Mangrove	Forest	Wells and Freshwater Systems	Waste Dumping Group/Waste Water Plant	Area Degraded by sea water after tsunami
Phang Nga	Damage* to more than 625 *rai*	Severe damage covering an area of 5,000 *rai*	Minor damage to 1,900 *rai*	Minor damage to 3,500 *rai* is	6 *rai* is severely affected	Minor damage to 1 *rai*	3,500 *rai* damaged
Krabi	Minor damage (covering an area of 3,125 *rai*)	17 km of beach is severely damaged and 12 km is slightly damaged	No damage	Minor damage	126 wells and 50 tubewells are badly affected	No damage	Minor damage to 23.5 *rai*
Phuket	Shallow water coral reef damage around 5–20%	Minor damage	Minor damage to 10 *rai*	Beach forest is wilted and dried	32 wells, 99 tubewells and 50 water systems are damaged	Patong municipality and Tambon Karon water treatment systems damaged	22 *rai* damaged
Ranong	Minor damage (21 *rai*)	Minor damage	555 *rai* severely damaged	No damage	6 *rai* badly affected	Minor damage to 2 Rai	Minor damage to 412 *rai*
Trang	Minor damage	No damage	Minor damage to 20 *rai*	No damage	129 wells badly affected	No damage	No damage
Satun	Severe damage to 550 *rai*	1,200 *rai* severely damaged	Minor damage to 10 *rai*	No damage	90 wells badly affected	No damage	No damage
Total	**Minor damage to 3,146 *rai* of coral Reef, severe damage to 1,175 rai**	**6,200 *rai* of beach severely damaged**	**555 *rai* of mangrove severely damaged, while 1,860 rai is slightly damaged**	**4,000 *rai* of forest is affected**	**136 wells damaged, 149 tubewells damaged, 122 surface water systems destroyed and 50 water systems destroyed**	**2 water treatment plants damaged**	**3,857.5 *rai* of land has become saline**

Source: Department of Disaster Prevention and Mitigation (15 February, 2005) at http://61.19.54.131/tsunami/esmall.php?pack=report6 and Ministry of Social Development and Human Security (2005)
Note: 1 hectare = 6.25 *rai*

Prevention and Mitigation has also estimated the total economic damage of at 1,808 mn THB—most of the damage is to fishing craft and fishing gear. The Thai Shrimp Association and the Asian Development Bank estimate the damage to aquaculture farms (including fish, shell and shrimp) to be as high as US$ 500 mn.[3]

If we look at the damage to small-scale fisheries, we find that there are 2 levels of damage. A total of 43 villages were severely damaged, where all or the majority of the people in the village lost their craft, fishing gear and even members of their families. The severe damage areas were in Phang Nga and Krabi provinces.

Damage to Small-scale Fisheries

According to information collected by the Department of Disaster Prevention and Mitigation, as of 25 July, 2005 there were a total of 4,783 small fishing craft damaged by the tsunami. Table 5 also reports damages in each province. The highest damage to small fishing craft was in Phang Nga (22 per cent), followed by Krabi (20 per cent), Trang (17 per cent), Phuket (17 per cent) Satun (15 per cent) and Ranong (9 per cent). These figures were compiled by the Department of Fisheries, and they only represent the registered craft that had applied for government assistance. There are some village communities who have no access to this assistance and thus the information may not reflect the full reality. The NGO networks need to coordinate with the Department of Fisheries to identify the number of damaged fishing craft that have not been registered with the government.

The damage to fishing gear is often linked with the craft because most fishing gear are attached to the craft. According to Table 5, there were a total of 6,668 cases of fishing gear damaged—875 fish stakes, 3,632 purse nets and 2,161 fish traps. The highest damages were found in Satun (84 per cent) and in the rest only 2–4 per cent were damaged.[4] However, it is likely that some damaged fishing gear went unreported, especially illegal gear (e.g., air compressors used for coral reef diving) and traditional fishing gear used by local villagers.

The damages may not seem to be very high, but for local fisherfolk these damages were highly significant because fishing craft and fishing gear are the basis of their livelihoods. They need to have fishing craft and fishing gear to go out fishing to feed the family. According to Mr. Samair Jae Mudoor, the General Secretary of the Federation of Southern Fisherfolk, '*For the local fisherfolk, the boat is everything in their life. With a boat, they can make a living. They can commute*

Table 5: Losses in Fisheries Sector Caused by the Tsunami

Province	Damage Statistics Obtained in Field Survey								
	Aquaculture (Individual)			Fishing Boats		Fishing Gear (Individual)			Total Loss (in THB)
	Fish Cages	Fish Ponds	Nurseries	Small	Large	Fish Stake	Pursenet	Fish Traps	
Phang Nga	1,733	7	67	1,544	332	0	477	514	913,218,491
Krabi	890	2	0	1,034	10	345	643	402	191,696,510
Phuket	529	2	209	968	473	0	649	72	344,911,169
Ranong	1,229	0	0	420	356	56	522	267	170,737,983
Trang	480	0	0	816	1	200	761	322	68,934,000
Satun	1,126	0	1	1	30	274	580	584	119,393,730
Total	**5,987**	**11**	**277**	**4,783**	**1,202**	**875**	**3,632**	**2,161**	**1,808,891,883**

Source:: Department of Disaster Prevention and Mitigation at:
http://61.19.54.131/tsunami/overall.php?pack=report3

and earn. Even the house is less important than the boat. The boat is not just for livelihood, but also for family security. All business depends on the boat—travelling to market, to see doctor, to buy medicines … Local fishing folks really care about their craft because they have no other alternatives' (Save Andaman Network 2005).

Damage to Commercial Fisheries

In all, 1,199 big fishing vessels were reported damaged, representing 24 per cent of the reported cases, with total losses amounting to 331.9 mn THB. Phuket province has the highest number of cases (41 per cent), followed by Phang Nga (27 per cent), Ranong (17 per cent), Krabi (12 per cent), Satun (2.9 per cent) and Trang (0.1 per cent) (FAO and MOAC 2005). The cause of the damage was the tsunami wave pushing the craft to hit some structure, causing cracks or other damage to the boat.

A total of 342 *rai* of shrimp farms and 15 mn sq m of nursery ponds along the Andaman coast were reported to have been damaged by the tsunami. Most of the damage to the aquaculture sector consists of the loss of floating baskets used for raising aquatic species. Phang Nga province has the highest number of cases (29 per cent), followed by Ranong (20 per cent) and Satun (18 per cent). The aquatic animals raised in these floating baskets include groupers, snappers, and lobsters. The high wave twisted the baskets, causing a crack, or the aquatic species died after the tsunami wave.

Damage to shrimp farms covers 233 *rai*, mostly in Krabi and Phang Nga provinces. Most of the commercial shrimp farms are on the higher land areas, and were not damaged by the tsunami wave. However, there was serious damage to the nursery ponds, especially in the Muang District of Phuket as well as Takua Pa and Thay Muang districts of Phang Nga province. These areas produce a large number of young shrimps for pond farmers, and the damage to the nurseries would consequently disrupt the whole shrimp industry in the area later. The damage to the nursery ponds includes damage to water pumps and other farm equipment, and to young shrimp in the nursery. There were also reports of damage to shellfish farms covering 819 *rai*, with a production area of 165,013 sq m. The damaged farms include green mussel and ark shell producers. The damage was reported in Phang Nga, Phuket, Satun and Ranong provinces (FAO and MOAC 2005).

Marginalized Communities in the Fisheries Sector and Losses Caused by the Tsunami

The tsunami not only affected the fisherfolk in the fishing communities and the tourists, but also

Table 6: Villages with Severe Damage

Province	No. of Villages along Andaman Coast of Thailand affected by Tsunami	No. of Villages Severely Affected by the Tsunami	Names of Villages/Area Severely Affected By the Tsunami	Scale of Damage on Houses	
				Completely Destroyed	Partially Destroyed
Krabi	83	7	Hua Lame 1 Village*, Hua Lame 2 Village*, Phi Phi 2 Village • , Lame Tong Village •, Nai Rai Village •, Sang Ga U Village* , Kor Po Village*	414	275
Phang Nga	123	17	Nam Kem Village• , Kuk Kak Village •, Had Thapnwan (Thapnwan Community)* , Pak Weep • , Lame Pakarang* , Kayo Village • , Bang Sak *, Kor Kao Island• , Pak Jok * , Thung Dab *, Ban Nieng * , Sarin Island* , Pak Triam * , Bang Wan * , Thung Nang Kam*, Kor Ra Village *, Nai Rai Village *	2,267	-
Phuket	38	6	Tha Chachai•, Mai Kaow • , Kamala Beach• , Si Ray • , Rawai • , Chaeng Thalay•, Patong Beach •	42	299
Ranong	41	8	Had Prapad •, Had Sai Kaow Village•, Thab Naa •, Aow Kiet Village • , Bang Bane *, Thalay Nok Village* , Kam Puan Village•, Sai Dam Island*	221	-
Trang	37	1	Kor Muk Village (located on Muk Island)*	100	-
Satun	74	3	Ban Jed Look*, Tan Yong Uma Village* and Bakan Yai Village* Kor Sarai sub-district	33	-
Total	**418**	**43**		**1,968**	**1,408**

Source: **Community Development Institute**, http://www.codi.or.th/index.php?option=com_content&task=view&id=233&Itemid=45)

Notes: 1. • Denotes area of tourism, commercial fisheries and small presence of small-scale fisheries

* Denotes area of key small-scale traditional fisheries

2. According to the Save Andaman Network, severe damage means damage caused to houses and boats as well as fishing equipment that leads to disruption of a community's daily livelihood, particularly the local economy and income-generation activities (i.e., the extent of the damage leads to a setback of the whole community's or the majority of the community's members' ability to earn a living). On the other hand, minor damage refers to damage to houses or boats or fishing gears, but on a low scale, which does not have impact on the overall community economy and the majority of the community members are able to continue their normal livelihood earn sufficient income from this.

marginalized groups within the fisheries sector. These have received far less attention, but they were also severely affected by the tsunami. These groups include the stateless people, migrant workers and ethnic groups (the sea gypsies of the Moken, etc.). They are minority groups and are invisible in society, but are however part of the fisheries sector in Thailand. They are the labour force of the sector, both in small- and large-scale fisheries as well as in the service sector and the tourism industry. Therefore, in order to understand the impacts of the tsunami in the fisheries sector, one also needs to look into how these marginalized groups are impacted by the tsunami.

The sea gypsies or nomads are traditional fisherfolk, who have migrated from the Malayan Peninsula and Burma. In Thailand, there are 3 main ethnic groups among the sea gypsies. These include the Moken who live on Prathong Island and Kuraburi district in Phang Nga Province, and along the coast of Trakuapar district and Tai Muang district in Phang Nga province and Klang district in Phuket Province. The second group is the Mokren, living around Lam Lar in Phuket Province and Tai Muang district and Trakua Par district in Phang Nga province. The third group is the Urak Rawoi, who are nomads, moving around between Sirai Island and Rawai Beach in Phuket province and in Sagka U village and Hua Lame Village on Lanta Isaland in Krabi Province (Pratuang Kluerhong, 1998:2 in Action Aid Thailand).At the present time, there are around 6,900 sea gypsies living along the Andaman coast. The Urak Rawoi are the largest group among the three.

Despite their presence in Thailand for more than 200 years, the sea gypsies are still viewed as a marginalized group in society. This is because they do not have citizenship or identity cards and are thus not recognized as Thai citizens. They do not have any rights and are not protected by the Thai government. The majority of the sea gypsies do not wish to travel to the city, fearing arrest by the police, who might mistake them as illegal migrant workers from overseas. They do not have rights to establish settlements; hence they have very insecure land ownership that leads them into conflict. Because of a lack of land entitlement documents and many associated rights, the sea gypsies have been evicted from their land on many occasions. At the same time, the Thais tend to not have a good perception of the sea gypsies, resulting in incidents of discrimination. The Thais tend to view the sea gypsies as backward and uneducated. As expressed by Mr. Suriya Sitttipong, a villager from Lame Tuk Kae Village, *'They look upon us as a lowest class of human being. They talk to us as if they are bosses and we are uneducated. They want their land back, saying that they have the land documents (Sor Kor and Tor Bor).*[5] *But we don't have them. So this land that we have been living on belongs to somebody else, it is not ours.'*

After the tsunami, this group of people has been facing even greater problems. A report from Action

Table 7: Number of people in need of new housing and extent of damage to housing

No.	Province	Number of villages along the coast affected by tsunami	No. of villages severely affected	No. of people affected		No. of houses		Total
				Individuals	Families	Completely destroyed	Partially	
1	Phang Nga	83	7	19,509	4,394	1,904	604	2,508
2	Krabi	123	17	15,812	2,759	396	262	658
3	Phuket	38	6	13,065	2,616	742	291	1,033
4	Ranong	43	8	5,942	1,509	224	111	335
5	Trang	57	1	1,302	1,123	34	156	190
6	Satun	74	3	2,920	414	2	80	82
Total		**418**	**43**	**58,550**	**12,815**	**3,302**	**1,504**	**4,806**

Source: Community Organizations Development Institute and Department of Disaster Prevention and Mitigation, 2005

Aid on 'Ethnic Groups and Tsunami' reported that around 1,000 sea gypsies have been impacted by the tsunami. They have lost houses, fishing tools and craft, while some communities along the beach are now facing conflict with the government, which has announced a policy about beach land use regulation to 'improve the scenery for tourists' and for 'safety', resulting in a policy of constructing permanent and temporary houses 3 km away from the beach.

Another group that is considered as marginalized and has been living along the Andaman coast is that of stateless persons. They are the group of people who have been made 'stateless' as a result of a national boundary demarcation between Thailand and England, when the latter was taking over Burma. These people were living along the border of both countries and were left out from the survey. This has resulted in their nationality being unclear. They do not have an opportunity to be protected by the government due to a lack of birth certificate, no education, no registration, no protection with respect to labour rights as well as property rights, no practice of death reports and no right to vote in the country administration. They are therefore practically considered non-existent in Thailand. Many of these people are now living in Ranong Province. On the surface, these people look like Thais and speak Thai. There is yet no record of how many have died during the tsunami.

The migrant workers comprise workers who migrated from Burma, Laos and Cambodia (these three countries account for 99 per cent of the migrant workers), usually illegally. They are concentrated in Phang Nga and Phuket Province, where they are employed in commercial fisheries and the tourism sector. Initial statistics from the Ministry of Labour state that there are approximately 120,000 migrant workers along the Andaman Coast, of which 70,000 have been registered (Kerdmongkol 2005). However, it has been stated by the Network of Migrant Workers that there are more of them, approximately as many as 20–50 per cent of the number of registered migrant workers (IOM et al. 2005).

With respect to migrant workers that are working in commercial fisheries, males are in a majority and they largely work as fishing fleet crew. In the commercial craft, these workers have the responsibility of throwing nets into the sea and dragging the nets back out of the sea. As for women, they tend to work in shrimp and shellfish shelling.

The number of migrant workers in the fisheries sector is unclear, since there is a constant shifting of the workers. Income earned is usually sent back to their family and children once a month. Children of migrant workers do not have access to formal education. The registration of these workers is a painful process, full of red tape. It involves emigrant

Table 8: Villages Impacted by the Tsunami and Facing Problems of Land Conflict

Province	Fishing Villages/Communities that have not moved	Fishing Villages that have moved
Krabi	1. Hua Lame 1,2 Village 2. Phi Phi Village 3. Sang Ka U Village 4. Phu Island 5. Sri Laya Island	1. Lam Dong (Do not have their own land) 2. Rai Yai (moved to Yao Beach)
Trang	1. Muk Island	
Satun	2. Bor Jed Look Village 3. Tan Yong Uma Village 4. Bar Kan Yai Village	
Phang Nga	1. Kuk kak Village 2. Thap Tawan Community 3. Bang Sak Village 4. Surin Island 5. Nai Rai Village 6. Pak Triem Village 7. Ban Wan 8. Thung Na Kam Village	1. Nam KemVillage (some households moved elsewhere) 2. Pak Weep Village (moved to Tambon Kuk Kak) 3. Pakarang Pennisula (some households moved to Kuk Kak sub district) 4. Kaya Village (some households moved to Kuk Kak sub-district) 5. Kor Kao Island (some households moved to Ban Pru Tiew) 6. Thung Darn Village (some households moved elsewhere) 7. Ban Nieng Village (some households moved to another village) 8. Pak Jok Village (some households moved to other areas) 9. Rabang Island (some households moved to other areas)
Ranong	1. Prapad Beach 2. Sai Yao Beach 3. Tab Nuer Village 4. Kier Gulf 5. Bang Bane Village 6. Tha lay Nok Village 7. Kam Pruen Village 8. Sai Dam Village	
Phuket	1. Tha Chatchai 2. Sri Lae Village 3. Rawai 4. Bang Tao 5. Rayan 6. Pak Bang in Pathong Beach	9. Kamala Beach

registration, health service registration and migrant workers registration, wherein the employer must come forward as the employer of the worker. The registration fee is 4,500 THB per person and must be renewed every year, when another 3,500 THB must be paid. Because of this, many workers cannot afford to pay such a high price and must rely on their employer to assist them. This dependency has in many cases provided an opportunity for the employers to take advantage of the workers by paying low wages and demanding that they work extra hours.

After the tsunami, the migrant workers, especially those employed in the commercial fisheries, were affected badly, mostly due to a loss of employment and also due to loss of legal documents such as identification cards and other relevant registration proofs. Given that there is no clear baseline data about the population of migrant workers, it was very difficult till now to confirm the number of dead and injured. Despite saying this, the Ministry of Labour announced that altogether 9 migrant workers died, 106 were injured and 9 were missing. However, the Network of Migrant Workers and IOM have conducted a study that found that 217 migrant workers died in Ban Nam Kem and nearby areas alone. The discrepancies in the data revealed by the government and private organizations shows that damage assessment is not accurate (IOM et al. 2005).

Within the marginalized groups of fisherfolk, migrant workers and ethnic groups, there are also vulnerable people, particularly women and children. A report from the Ministry of Social Development and Human Security found that there are more than 1,000 children who have lost one or both parents, while data on the number of women who died or become widows because of the tsunami is not available to the public.

Fishing Communities and Land Conflict Issues

Land and housing are basic necessities for all families. In the case of the fishing communities that live next to the sea and engage in fisheries, especially the small-scale fisherfolk, land and houses close to the sea is as important as having fishing craft. Because of this, the small-scale fisherfolk are commonly found to build their settlement on the beach near the sea, where they can guard their craft closely during storms and in the night, and also have easy access to the sea. However, the land occupied by the small-scale fisherfolk is often public land, and therefore they settle on this land without any land entitlement deeds. They often get into conflicts over this with the government and private parties, as the land occupied by the small-scale fisherfolk is often a target for development, especially tourism. The livelihood of the small-scale fisherfolk during the pre-tsunami period, therefore, often encountered a number of problems, including coastal resource degradation, poverty and insecurity of land tenure.

After the tsunami, land conflicts along the coastal area came to public attention. In Thailand, the tsunami has washed away many fishing communities, but at the same time it has provided an opportunity for the government and the private sector to permanently remove the fishing community out of the coastal areas. In some areas, there are land conflict cases between two private sector parties.

'Our ancestors lived and died here. We have lived here from the day we were born. This is our home. We can never live anywhere else.' – Mrs. Larb Harnthalay, 47 years, a Moken from Ban Thab Tawan

'If we cannot keep our craft here, where could we do so? We cannot keep it on the beach because of strong waves and wind.' – Mr. Nuew Nawarak, a community member of Ban Thab Tawan, expressing his concerns over a ban by an entrepreneur, who claimed to have legal ownership of the land of Ban Thab Tawan village. The entrepreneur has banned the community from entering the area where they used to keep their craft.

Based on the data collected by Community Organizations Development Institute, which is a semi-government NGO, it was found that 81 fishing communities do not have land tenure security. The province-wise break-up of such communities is: Phang Nga 14 villages, Ranong 6 villages, Krabi 13 villages, Phuket 12 villages, Satun 23 villages, and Trang 15 villages.

Housing Issues

The tsunami completely destroyed 3,032 houses in the six provinces, many of them belonging to small-scale fisherfolk, resulting in homelessness. In response, the government provided assistance in constructing temporary shelters, and also rolled out a plan for building permanent housing in a new location away from the sea, close to the main roads. The new

Table 9: Temporary Shelters Provided by the Government and their Location

Provinces	Locations	Number of units
Phang Nga	1. Thung La Or Pier, Moo 1, Tambon Bang Wan, Kuraburi district	20
	2. Kuraburi Pier in Kor Prathong sub-district, Kuraburi district	150
	3. Kor Kao Island in Trakuapar district	73
	4. Ban Muang Tambon Administrative Foundation and Pru Tiew Village in Trakuapar district	500
	5. Child Development Center and Monks' Residence in Nam Kem Village in Trakua Par district	20
	6. 3 Moos[6] in Hin Lard Village, Kuraburi district	20
Ranong	7. Suk Sam Ran Sub-district	50
Krabi	8. Muang district and Kor Lanta district	100
Total		933

Source: Minutes of the Cabinet Meeting on 25 January, 2005 (www.thaigov.go.th) on progress of post-tsunami rehabilitation in six affected provinces

permanent housing scheme near the main road seems to be a good scheme, but for the small-scale fisherfolk the idea of living away from the sea is like a second blow following the tsunami.

Temporary shelter and permanent houses: After the tsunami, it was found that many houses along the beach and seashore were destroyed and damaged. Data from the DDPM on the 25 July, 2006 reported that 418 villages comprising 12,815 families were affected by the tsunami, 4,896 houses were destroyed (3,302 houses completely damaged, 1,504 partially damaged). If compared with the data from the Community Organizations Development Institute, it was found that of these 418 villages, 43 villages were severely hit. Most of these villages are fishing villages or engaged in fisheries as well as tourism activities. As well as being hard hit, they are also villages that experience land conflict problems because they are located on public land.

In trying to provide housing for the tsunami-affected communities, it was found that many of the communities have not been able to return to their original settlement and while others are able to. This is associate to the land ownership of each household in a particular community and also a determination of the community to remain in the same area. Table 8 provides an overview of number of fishing villages or communities that have not been relocated and the others that are forced to.

In regards to assistance on temporary shelters for communities whose houses were destroyed by the tsunami, the Ministry of Social Development and Human Security coordinated with the Royal Thai Army of Thailand in constructing temporary shelters for the affected communities of 933 units in three provinces, namely Phang Nga, Ranong and Krabi Province. Table 9 provides location and number of temporary units in each target province.

With respect to assistance for permanent housing, there are many government agencies involved in this kind of intervention. These are the Ministry of Defence, Department of public works and Town & Country Planning (Ministry of Interior) and the National Housing Authority all of which function under the guidelines and measures identified by the Ministry of Social Development and Human Security. The government took measures towards provision of temporary and permanent housing for the tsunami-affected communities by constructing pre-designed houses in a new area. The total budget for a house is 100,000 THB, but there are reports of houses that do not meet the natural, cultural and family needs, and are too small. For the people that do not wish to live in the houses that the government designs and builds, they are given 30,000 THB to construct their own house with a design that they prefer. (Ministry of Social Development and Human Security 2005, website of the Tsunami Help & Recovery Information System (THRI) of the Office of the Permanent Secretary at http://203.170.239.222/tsunami/index, 9 January, 2005). The outcome of such assistance in six provinces is summarized in Table 10.

Table 10: Number of permanent houses built in the six affected provinces (as of 18 July, 2005)

Province	Location	Number of Permanent Houses	Responsible body
Ranong	1. Ban Aow Kier	42 (41 houses are built on community land and 1 house is located inside Lame Son Marine National Park).	1) The Ranong Public Works and Town Planning Office was responsible for formulating housing layout. 2) The Royal Thai Air Force conducted the construction by following the house models of the Department of Public Works and Town & Country Planning at a budget of 100,000 THB per house.
	2. Ban Tha Lay Nok	22 (built on a land under the ownership of the Border Police)	
	3. Ban Had Prapard	67 (47 are built on state land and 13 are built on community land)	
	4. Ban Hard Sai Kao	52 (50 are built on community's original land and 2 were moved from elsewhere)	
Phang Nga*	5. Tambon Bang Muang	453 (located on state land)	1) The working group of the Department of Public Works and Town & Country Planning was responsible for formulating housing layout. 2) Treasury Department was responsible for house construction by following the house models of the Department of Public Works and Town & Country Planning at a total budget of 100,000 THB per house.
	6. Ban Bang Lud	150 (located on the land under the ownership of the Department of Highways)	
Trang*	7. Muk Island	25 (21 houses are built on new land and 4 houses remain on the same land)	National Housing Authority was responsible for improving house design made by the Department of Public Works and Town & Country Planning, at a total budget of 100,000 THB per house.
	8. Libong Island	2 (on the same land)	
	9. Sukorn Island	1 (on the same land)	
	10. Mod Tanoi Island	5 (on the same island)	
Phuket	11. Ban Lame Tuk Ta	24	1) The Phuket Public Works and Town Planning Office was responsible for formulating housing layout. 2) The Royal Thai Navy was responsible for housing construction by following housing models made by the Department of Public Works and Town Planning, at a budget of 100,000 THB per house
	12. Ban Kor Lone	5 (on their own land)	
	13. Tha Chadchai	36	
	14. Surin Beach	16 (on their own land)	
	15. Ban Pa Lai	10 (on state land)	
	16. Ban Saku	1 (on their own land)	
	17. Ban Klong Pak Bang	16 (on the land under the ownership of the Department of Land Transport)	

Krabi*	18. Ban Hua Lame	80 (located on state land)	1) The working group of Department of Public Works and Town Planning was responsible for formulating housing layout. 2) Post Engineer Department and the Royal Thai Navy responsible for house construction by following the house models designed by the Department of Public Works and Town Planning
	19. Phi Phi Island	278 (on the same land)	
Total		**1,284**	

Notes:* 1. Many villages in these provinces are engaged in the process for land conflict resolution; therefore they have not been able to reconstruct houses.
2. Blank cells indicate information not available.
Source: Department of Public Works and Town & Country Planning: Summary of Settlement Planning for Tsunami-Affected Communities and Tourism Development (http://www.dpt.go.th/48_Tsunami/contents.html)

Since there were a number of agencies responsible for constructing new permanent houses, there are many different models of houses used. For instance, houses built by the Royal Thai Airforce are tall houses, raised above the ground with a stair on the side. There is a small room on the ground floor, which some families convert into a kitchen and a toilet. There are two rooms upstairs, which families normally used as bedrooms. These houses are usually found in Ranong Province in Tab Nuer Village and Prapad Beach.

The houses built by the Royal Thai Army are one-storeyed houses with 2 rooms and are normally found in Phang Nga Province. Another style of the house is the Moken house, which is a house raised above the ground, with walls of wood and a balcony. The space underneath the house is left empty. These houses are normally found in Pakarang Pennisula and other affected areas in Phang Nga province.

At the present time, these different agencies are increasingly building similar models of houses. Discussions with NGOs, communities and academicians reveal that the government built houses without prior consultation with the intended occupants, and did not study the livelihood patterns of the local communities before undertaking the construction. The government houses were usually pre-designed and not based on communities' livelihood patterns. Furthermore, the government did not allow people to participate in the design and planning. However, the advantage of this kind of housing was that it could be constructed quickly and it was easy to calculate the required budget.

Land Disputes

While studying the work of providing temporary and permanent shelters, it was found that many communities face problems in that they are unable to return to their old areas because of problems of land conflicts. This is a problem that was found even before the tsunami. However, the tsunami has put the spotlight on these issues because in some cases the conflicts have worsened. Many of the communities are fishing communities who have depended on marine resources and access to the sea for many generations. The occupants around the area include the sea gypsies, Mokens, Uraklawoi, Thai-Muslims, and Thai Buddhists. These people have been living on their land without any land entitlement documents because it is public land supervised by many government agencies. Some of the lands are owned by private landowners, while some areas have land entitlement document issued through improper means. The study of the Community Organizations Development Institute (CODI) reveals that there are 81 villages with insecure land ownership. Details are given in Table 11.

The characteristics of the conflict and dispute can be divided into two categories. These are private sector vs. communities conflicts, and conflicts between the government and communities. The nature of the problems can be described as follow:

A) Conflicts between the private sector and communities: The number of areas facing this type of conflict is quite low. The majority of owners in the conflict areas normally have land

Table 11: Villages with Insecure Land Rights

Province	Number of Coastal Villages	Number of Villages with Insecure Land Rights
Krabi	83	10
Phang Nga	123	19
Phuket	38	9
Ranong	43	9
Trang	57	13
Satun	74	21
Total	**418**	**81**

Source: Community Organisations Development Institute (CODI) and Save Andaman Network (SAN) 2005

entitlement documents that have been issued in accordance with the land legislation, but the communities have encroached and settled in those areas, knowingly or unknowingly. After the tsunami, the landowners have been making ownership claims, resulting in disputes. This is a long-standing problem that has remained unsolved; it originated even before the tsunami, as in the cases of Lam Pom and Ampur Trakua Par in Phang Nga Province. At the same time, there are some communities that were not aware that the land occupied by them has an overlapping ownership with private landowners. They only discovered this when they finally returned to their villages, as in the case of Ban Thab Tawan, Tambon Bang Muang and Ampur Trakua Por in Phang Nga Province. In some cases, private owners have claimed ownership and tried to remove people from the land, as in the case of Rawai Village in Rawai sub-district in Phuket Province. Additionally, there are communities which did not legally own land and were leasing the land of from private landowners or friends/relatives for establishing their settlements. But after the tsunami, the landowner no longer wishes to lease the land to the tenants. This might also be because the tenants do not want to live along the coast due to fear of possible tsunamis in the future, coupled with a wish to build a new home further away from the sea. This pattern can be seen in the case of Ban Lame Ma Karm, Tambon Kao Mai Kaew and Ampur Sikao in Trang Province. When land conflicts between two private parties arise, both parties normally seek advice from legal counsellors and get into litigation to solve the conflict. Because of this, there is a lot of litigation, which often drags on for years, before a final verdict can be reached.

B) Conflicts between the government and communities: There is a problem of lack of clarity on the boundaries of government land use, resulting in confusion regarding the status of land ownership. It is commonly found that government agencies that deal with natural resource management have leased the rights to the land to the private sector—for instance, in the national reserved forest overseen by the Department of Forests; mangrove areas overseen by the Department of Coastal and Marine Resources; national parks overseen by the Department of National Parks, Wildlife and Flora; and the harbour area overseen by the Department of Sea Transportation and Commercial Navigation, the marine area overseen by the Royal Thai Navy and state properties run and managed by the Treasury Department. The usual adversaries in conflicts with these government agencies are the communities which have settlements or villages

Table 12: Number of Tsunami-affected Individuals in the Fisheries Sector (Damages to Aquaculture, Fishing Vessels and Fishing Gear) who Received Assistance from DOF (as on 26 December 2005)

Province	Affected Fish farmer engaged in aquaculture and received help from DOF			Fishing Boats Received Support from DOF							Fishing Gear- related Help from DOF		
	No. of Individuals Received Help from DOF			Total	< 10 meters			>= 10 meters			No. of Individuals Received Help from DOF		
	Total	Registered	Non-registered		Total	Registered	Non-registered	Total	Registered	Non-registered	Total	Registered	Non-registered
Ranong	1,336	304	1,032	840	536	218	318	304	162	142	97	-	97
Phang Nga	2,749	889	1,860	2,564	2,195	610	1,585	369	326	43	1,150	313	837
Phuket	536	421	115	1,246	1,070	400	670	176	148	28	761	319	442
Krabi	1,162	793	369	1,264	1,246	611	635	18	11	7	1,694	1,286	408
Trang	619	413	206	870	869	540	329	1	0	1	1,646	-	1,646
Satun	1,174	240	934	678	652	607	45	26	22	4	1,650	-	1,650
Total	7,576	3,060	4,516	7,462	6,568	2,986	3,582	894	669	225	6,998	1,918	5,080

Source: Department of Fisheries, 28 December, 2005 (website of Department of Fisheries at http://www.cffp.th.com/tsunami)

along the coast, especially the small-scale fisherfolk. In many cases, the communities have been settled for a long time without any land entitlement documents. The tsunami has become an opportunity for the concerned government agencies to put an end to the problem. One of the actions undertaken by the government while the communities were sheltered in the temporary camps was to 'fence off' the communities from being able to return to their villages. This action, instead of addressing the problem, aggravated the intensity of the conflict between the government and the community, as seen in the cases of conflict in the National Park areas, e.g.,in Kor Muk Village in Kor Libong sub-district and Kantang district in Trang Province. There are cases where communities have been settled in the area for a long time, but lack tangible and official proof of this, as in the case of Thung Wa Village in Kuk Kak sub-district and Trakuapar district in Phang Nga Province. There is evidence of overlapping of land ownership between the private and government sector. For example, the community has a land entitlement document that belongs to another private landowner who does not live on that land. At the same time, a reserved forest might be declared on that very land (e.g., Lame Sai village, Kao Mai Kaew sub-district and Si Kao district in Trang Province).

The government also promotes different kinds of land use in accordance with government policy. For example, the promotion of tourism development along the coastal areas and island groups resulted in an eviction of the community from these areas. Often, the government regulates land use to facilitate tourism development without considering if the change would suit the livelihood pattern of the local communities. This is seen in Klong Pak Bang Village and Patong Beach in Phuket province, and Phi Phi Island in Aow Nang sub-district, Muang district, Krabi Province.

Addressing Land Conflict Problems and Settlement in Tsunami-affected Areas

The process for addressing land conflict over the past 12 months was initiated by the affected communities which were unable to return and construct new permanent housing in Thung Wa village, Thap Tawan Community, Nai Rai village, Lam Pom community of Nam Kem Village in Phang Nga Province. The communities had put forward a proposal that there should be participatory land rights verification, especially in cases where the land ownership and the land title document overlaps. In the case of the government land and public land, the official body is the 'Sub-Committee on Land Conflict Resolutions in 6 Tsunami-Affected Provinces' (CODI 2005), which is headed by General Surin Pikunthing, Chairperson, since 2 March, 2005, and supervised by General Chaowalit Yongchaiyot. This sub-committee was set up by the government to address problems of land conflict.

The sub-committee has managed to resolve 13 cases, covering 1,156 families,[7] by issuing land title documents to lands that was not included during the land survey and those that have been purchased to establish a new community, certifying the rights to settle in the same area, and allocating public land for settlement.

There are 3 cases where the sub-committee has already identified the resolution approach, but the process is still on. These are land conflict cases between the private sector and communities in Lame Pom, Ban Nai Rai and Ban Thap Tawan in Phang Nga Province. Additionally, there is still a case in Phi Phi island, where the land use plan has not been finalized, and 11 cases in Satun Province where the sub-committee has agreed with the resolution approach and is in the process of organizing meetings with different relevant sectors.

While old cases have not been resolved, 12 new conflict cases have been reported in Krabi Province and in 12 villages in Phuket. The conflicts relate to cases where reserved forest/national parks overlap the community's settlements and farming land, and conflicts between private parties.

Nonetheless, the support of the sub-committee in addressing land conflict is possible only to a certain extent, because many of the cases were between private sector parties and communities. Therefore, they require a formal legal process, which is extremely slow. At the same time, it has also been found that the communities have been mobilizing themselves strongly, and have conducted many demonstrations to fight for their rights to land.

Land Conflict Case Studies: The Livelihood of Small-Scale Fishing Communities and Coastal Settlements: The Case of Hua Lame Village, Kor Lanta Yai sub-district, Kor Lanta Province , Krabi Province

Hua Lame Village is located in Kor Lanta Yai sub-district, Kor Lanta district in Krabi Province. It has 203 households and a total population of 941 people (447 male and 494 female) (Krabi Health Office, 2004). 98 per cent of the population is Muslim and the rest is Buddhist. 90 per cent of the total population is engaged in small-scale fisheries, while the rest are hired workers on craft and rubber plantations and also work in bungalows and resorts as well as staff of shopping centres and shops in Lanta Yai Island.

The community is located on the beach area, which belongs to the Department of Harbour. The village is a typical fishing village where each house is occupied by a large family with shared households. The households are scattered along the coast and have been there for more than 100 years. Around 500–600 years ago, the pioneer community that occupied this area was the Urak Lawois, the sea gypsies, who were the first group of people to migrate into Lanta Island after emigrating from the Saiburi. They occupied the southern peninsula, which is known as Hua Lame Village and Sang Ga U Village today.

The houses in Hua Lame Village can be found strung out over a long stretch of 3 km, which is divided into 3 small gulfs. The first is known as Klang Gulf or Hua Lame 1. The northern section of Hua Lame 1 is in the direction of Sriraya market and Kor Lanta Yai municipality, the southern section is near rocks and forests, with the eastern side towards the sea and the western side slightly elevated to a height of 5 m. The community is located 100 m away from the main road. The second gulf is called Hua Lame 2 Gulf, 1 km away from the Klang Gulf. The community's households are located along a stretch of 500 m. The northern-southern section is comprised mostly of orchards and rocks, the eastern section is adjacent to the sea and on the west is another pocket of orchards. The area is 200 m away from the main road. The majority of the community is Thai-Muslim, while there are some Buddhist and ethnic groups. The third gulf is Muta Gulf or Hua Lame 3, located 2 km away from Hua Lame Gulf 2. It is located 200 m away from the main road. Here too the majority of the community is Muslim, with some Buddhists and ethnic groups.

After the tsunami struck, 41 houses in Klang Gulf were destroyed, while 86 houses were partially damaged in the other two gulfs. A total of 75 craft were destroyed. The District Office offered to provide permanent houses in another location, Lanta School (old), for the affected community members. Here, either the Royal Thai Navy would be the key body in charge of house construction or the community could build their permanent houses on this same land with clear land title deeds with Royal Thai Navy support.

The community wished to remain in the same area. However, this was objected to by the District Officer, claiming that the area must be preserved for the sake of safety and to improve the scenery for tourism development under the policy of beach land use regulation. The objections became more prominent when a signpost, stating 'No Infrastructure or House Construction Allowed in this Area' was put up. The community was informed that they had to move out and relocate to the new permanent houses provided for them. Despite the availability of new houses, the community did not wish to be relocated because the new location is next to the Kor Lanta Temple and very close to the cemetery, which is contrary to the religion and culture of the Muslims. They were very upset and claimed that the government does not understand or value of their needs. It appeared that the government could move them wherever it desired, despite clear objections from the community. The government intervention had lacked people's participation, failing to take into account the actual needs of the victims and whether the new area is appropriate. Another problem lies in the relocating the community away from the sea, which is completely contrary to the livelihood pattern of the small-scale fisherfolk. The small-scale fisherfolk need to be near the sea to be able to guard their fishing craft, fishing gear and engines. In a location faraway from the sea, the community would find it very difficult to look after their property, and would require them to walk a long distance with their gear. Furthermore, during storms and strong winds, the community has to constantly come in the night to check if their craft are safe. If the houses are located very far from the sea, it would be very difficult for the fisherfolk to determine the strength of the wind, and hence they would not

be able to determine the risk to their fishing craft. Mr. Hat Thipbanjong. the community leader of Hua Lame Village, says, *'The fishing community demands that they be allowed to remain on the same land. Our lives have always been lived close to the sea. If the boat is here and we are there, we would feel absolutely miserable. The boat must be kept near the house so that we can look after it.'*

The community wished to build houses along the seashore and submitted a letter to the Vice-Minister of the Ministry of Interior, Mr. Sutham Sangpathum, on 20 January, 2005. This led to negotiations between the community representatives and the district officer of Kor Lanta Yai and the committee on Permanent Housing Construction of Kor Lanta district, at the district office. The second meeting took place on 24 January, 2005 at the district office. The current resolution is to allow the community to build new houses on the same land and for the community to accept a compensation of 30,000 THB per family. Indeed, this amount of money is not sufficient to build a decent house to live in. However, the Save Andaman Network (SAN) together with Community Organizations Development Institute (CODI), came and tried to understand the community's concerns and problems before providing additional support for the community to be able to build houses and infrastructure. At the current stage, the organizations are working with the community on occupational development.

Land Conflict Case Study: Community's Rights vs Private Sector Rights

Thap Tawan Community, Moo 7 is located in Bang Muang sub-district, Tra Kua Par district in Phang Nga province. It is a sea gypsy village, comprised of Moken gypsies who had emigrated into the area 100 years ago. The traditional livelihood of the Moken is small-scale fisheries, hence they are greatly dependent on the sea. During the last few years, the base of the Moken's livelihood has been transformed from sustaining their livelihood from fisheries to becoming hired labour around the locality.

The community of Thap Tawan has been affected by the tsunami, which had claimed all their houses and properties. In all, 74 houses were washed away. In Thap Thawa, the tsunami claimed 25 lives from 130 families and 14 craft were destroyed. Because the Moken community is poor, the Moken were unable to own individual fishing craft for every family. Each time they would go fishing, many families would go out to the sea together. Some of the Moken community members have no identity cards.

Mr. Nuai Nawarak of Thap Tawan community confirmed that the community migrated into the area 60–70 years ago. The community of Thap Tawan has been facing problems with securing their settlement in the same area after the tsunami. One week after the tsunami struck, the community went back to their area only to find out that their land has been claimed by a private landowner who also claimed that he is the legal owner of the land, and had tried to demarcate the area many times. The community strongly objects to such claims, resulting in a delay in the demarcation process and a delay in obtaining land title deed document. This has become a classic case of land dispute that has not been resolved until today. The private landowner has filed a lawsuit against the community in the hope that the legal process would evict the community, which has, with the support of many public, organizations already proceeded to rebuild houses after the tsunami. Today, community members to have attend a court hearing, even if a community member is 81 years old (field study on 26 February, 2006)

At the present time, the community has been threatened through various means, such as taking photos of the community and the house construction process as evidence for a lawsuit. Furthermore, the foreign volunteers who have been working in the village to help the community in building houses have also been threatened. Sewbee Leesakul, 52, community member of the community says, *'After the tsunami, there was a woman and some official staff who came to the village to conduct land demarcation. The women told us that she was the landowner, but we really have not seen her before.'*

Before the tsunami, part of the community was engaged in fishing and some of the others were hired workers on fishing craft and construction sites. During earlier times, the community members used to be employed in mining sites; when that activity ceased, the community members went back to fisheries, farming and raising livestock. Over the past 10 years, their engagement in farming and raising livestock has been declining because the land is no longer as fertile as it used to be, resulting in low output and income. Because of this, many community members began to

work as hired labourers, while consistently remaining engaged in small-scale fisheries.

Moreover, the Mokens in Thap Tawan community have also been facing problems in using the old mining site that is located adjacent to the village for keeping their craft. This area is located in the mangroves. It is commonly known that before the tsunami, this area was a public land that the community has been using on to keep their craft for more than 60 years. However, after the tsunami, unknown entrepreneurs came and claimed ownership of the area, erecting signposts to restrict the community from entering the area where the community kept their craft. They brought a number of large cement pipes to obstruct the community from entering and leaving the area. They have threatened that if this is not complied with, they would be prosecuted.

Land Conflict Case Study: The Community Response in Addressing the Land Conflict Issue

Thap Tawan community has submitted complaints to the National Human Rights Commission (NHRC) and highlighted their legitimate right to construct houses on the same land that they have lived on for many years. The Commission has conducted data verification on housing and settlements and the old mining area where they used to keep craft. From this verification, which included research and recording the testimony of witnesses, as well as satellite imagery, the Commission confirmed that the Moken community of Thab Tawan has been settled in the area for many decades. They received official house registration in 1980, and some of them obtained these documents in 1992.

Even though the rights of the Moken community to remain on the same land has been reinforced by the work of the NHRC, the person who claimed ownership rights denied this fact and decided to put forward a proposal to 47 families from the community to reduce their settlement and farming area from 24 *rai* to about 7 *rai*. If this proposal is not accepted, he would pursue a lawsuit against the community. Mr. Peerapon Traitasawit, the director of the Department of Land Development and a representative of the Committee on Land Conflict Resolution, came to the village together with a team to conduct a meeting with the community to try to find some solution to the conflict between the community and the landowner. Two approaches for addressing the problems were identified. First, they could engage in a lawsuit. This option would require a tremendous amount of evidence to prove that the community has been there for more than 100 years. The chances of winning the case are 50:50. The second approach is to negotiate with the landowner, which means that the community would have to surrender by reducing their occupied area from 24 *rai* to about 7 *rai*. So far, the community has refused to accept this arrangement. They insist that they would need 24 *rai*, which is the area they are occupying at the present time. The community says that each family is large, and if the land area is reduced, as proposed by the director of the Department of Land Development, the next generation would have not enough land to live on.

The case of Thap Tawan community shows that advice from other organizations, particularly the NHRC, is not being used as a tool for resolving the conflict. This is because the NHRC does not have legal powers and because the nature of the conflict is between two private parties. Therefore, the matter must be left to the legal system, which will give the final verdict.

Land Conflict Case Study: Urban Growth at the Expense of Marginalized People

'I grew up here and have lived here for many years. After the tsunami, the Municipality announced that we cannot go back to our homes and banned us from constructing anything there. It is good that the ITV company came to help us out. The District Officer and the Mayor have been very helpful by allowing ITV to come and help us. Because of this, the Mayor was reported by the Patong Municipality office, saying that the Mayor has no rights to make any approval who can come to help and where. They also threatened the community by using tractors, firing guns and publishing a letter and distributing it to the public, stating that 'there is no community on Patong'. I personally think that because the area is next to the sea, it is in high demand. We have 16 families in the community who are small-scale fisherfolks. We are a group of people that urban society does not want" – Mrs. Nisachol Wandee, community member of Klong Pak Bang Community, Tambon Patong, Ampur Kathu, Phuket Province

The land conflict issue in Klong Pak Bang is a conflict between the community and the municipality of Patong. The community has been trying to address the problem by tapping into the official mechanism

that has been set up to address land conflict problems, and independent organizations such as the National Human Rights Commission. The community has been able to receive new houses from a private sector company, ITV. However, they have no land security in the form of clear land entitlement, because there is no official acceptance of the community's rights from the official agencies that are involved in this case.

The community of Klong Pak Bang, Patong Beach,Kratu district in Phuket Province is a small fishing village of 16 families. There are 52 people living here, all of them inter-related. After the tsunami, 16 houses of the community were completely destroyed, along with craft that were left completely and partially damaged. During the first few months after the tsunami, when the community's houses had been washed away by the giant wave, the Patong Municipality took the opportunity to evict the community out of the area. Nonetheless, the community remains firm that they need to stay there.

The small-scale fisherfolk in Klong Pak Bang community have been settled in the area for the last 50 years. Being small-scale fisherfolk, a large proportion of their time was dedicated to work in the sea. The housing materials that were used for building houses were simple and could be easily found in the local area.

During the last 30 years, the expansion of tourism has led to encroachments on Patong Beach. These include housing, shops and recreation centres to serve tourists. The community of Klong Pak Bang has therefore moved away from the beach and resettled in another public area on the bank of a canal that enters into the sea. This was also the place where they originally kept their craft. The livelihood of the community of Ban Pak Bang continues as usual amid the buzz of city life and tourism development on Patong Beach.

Even before the tsunami, the settlement of the Klong Pak Bang community was the subject of a great deal of a discussion between the Tambon Administrative Organizations (TAO) and many other relevant agencies. This is because there was an opinion that the community should not settle there, claiming that the area should be used for basic amenities and infrastructure as well as making space for building roads. The plan was to construct a ring road around Patong Beach and a road to link the outer ring road, cutting straight through to the beach area. From the TAO's point of view, this project could not happen because the community was settled there.

The community sent an appeal to the NHRC to come and help resolve the conflict and verify the community's right to build in the same area. When the government set up the Committee for Land Conflict Resolution in the Tsunami-Affected Provinces, the community brought this burning issue to the committee which had come to review the case. The Committee concluded that the community can build houses in the same area where they used to live, as approved by the Land Law, Article 9, under a community village plan that takes into account environmental protection and improvement of scenery for tourism purposes.

The community has built 16 houses through the support of ITV. All construction is completed and the houses are already occupied. The community has returned back to their livelihood.

Land Conflict Case Study: Moken's Settlement Issues: A Joint Collaboration between Government and Private Sector in Addressing Problems of the Marginalized

Mr. Hong Klathalay, a Moken from Thung Wa Village, told us that the Moken in Thung Wa village has been there for the last 100 years without any land entitlement documents. If they were asked to move out, it would be extremely difficult. *'How can you expect us to get up and leave. All our ancestors are buried at the back of this community. Before they passed away, they insisted that we not leave them; and if we must go, then we must take them with us. Although this cannot be proved, but it is something that we feel in our spirit.'*

The Moken of Thung Wa were the pioneer settlers in Thung Wa village, Moo 5 is located in Kuk Kak sub-district, Trakuapar district, Phang Nga Province. They came 100 years ago and the initial number of households was only 30–40. They relied on the sea, creeks and swamps for food, and then shifted to work as hired labour in the local areas.

Before the tsunami struck, there were 64 households of the Moken people in Thung Wa village, living together with another 7 Buddhist households. There are 327 people who have been occupying and building their houses on the public land of 26 *rai*, which is an area overseen by the TAO of Kuk Kak. The

tsunami destroyed many houses, killed 42 people, left 50 injured and damaged 18 craft. The 285 survivors have now been relocated to the temporary shelter at Thun Kamin Village, located near the Child Development Centre and the TAO of Kuk Kak.

During the time they were sheltered in the temporary camps, many organizations came to discuss about designing new houses and developing the village plan for Thung Wa village. In this process, there was coordination between various organizations in order to organize a planning process, including the design of houses with the support of architects. However, after the construction took place, the Community Development and Social Security Office of Phang Nga province sent a letter stating that all construction must be terminated. It gave a reason that the TAO needs to use that particular piece of land for building a hospital with the support of the German government. The letter has as its subject, 'Construction Site for Hospital through the Support of German Government (Donation)'.

The community organized a series of meetings to discuss the incident and concluded that they would remain on the very same land, despite a fear that they would not be allowed to construct new houses on the same land. Later, the CODI compiled information together with the community, and brought the problems of land conflict before the Sub Committee on Land Conflict Resolution in 6 Tsunami-Affected Provinces to seek a solution. From the meetings and the consultation with the committee, it was concluded that the solution is to help the Moken community build houses on the same land by allocating 16 *rai* to be occupied and 10 *rai* land to be earmarked for communal purposes. It was also decided to carry on executing the community development plan formulated earlier. Additionally, the team also coordinated with the government sector in trying to arrange basic amenities such as drinking water, electricity and roads.

The process for addressing land conflict as seen in Thung Wa village is an interesting example of how collaboration between the private sector and the government sector can bring about change. The problem is made worse when the affected community is not only a traditional fisherfolk community, but is seen as a minority group and as outsiders (not Thai). Therefore, when they have problems they fear to approach the government for assistance. However, once the community began to mobilize themselves and come up with a clear statement of what they truly want, support from different sectors, including the government and the private sector and the government's mechanism for resolving conflicts, can be mobilized. All these factors contribute to a more productive outcome to the conflicts. This is a best practice case study that reflects people's participation in community planning to promote community self-governance, and collaboration between many sectors in addressing problems.

Relief and Rehabilitation Measures for Tsunami-affected Fishing Communities

Department of Fisheries and Relief Intervention for Tsunami-affected Fishing Communities: Immediate Relief

In delivering immediate assistance to the affected fisherfolk, the DOF acting as a key institution distributing aid to the affected communities. The DOF therefore set out guidelines and enacted a relief policy, covering both short-term and long-term measures to revive the affected communities and improve natural resource management. According to the report of the Joint FAO/MOAC, *Detailed Technical Damages and Needs Assessment Mission in Fisheries and Agriculture Sectors in Six Tsunami-Affected Provinces in Thailand,* the first steps of the assistance plan were immediately carried out by the DOF, which established the Fisheries Rescue Coordination Center at the Marine Fishery Research and Development Bureau in Phuket province, in order to collect all relevant data pertaining to the damaged fisheries and to rescue the affected people and craft in the six provinces. The DOF team comprised all DOF facilities and staff in those six provinces, supported by staff from headquarters. The mission basically involved 20 fisheries patrol craft, the Mahidol Research Vessel and the MV SEAFDEC Research Vessel, both of which managed to rescue 1,548 victims, 517 dead bodies, 189 fishing craft, 2,190 fish cages, 150 units of fishing gear and 43 engines. The Rescue Center also provided 3,636 first-aid kits and food to the victims (Source: FAO and MOAC, February, 2005).

The DOF, under the Ministry of Agriculture and Co-operatives (MOAC), has appointed an official from the Government to chair the Sub-Committee of

Tsunami Relief in Fisheries Sector. A total budget of 821,082,500 THB was approved from the Government's Tsunami Fund and the Central Fund during the Cabinet Meeting, which was presented in the Cabinet Resolution on 11 January, 2005 (Source: Permanent Secretary Office under the Ministerial Office) to provide relief assistance to the fisherfolk affected by the tsunami. The DOF released the official relief order, identified qualification criteria, procedures, methodologies and compensation to be distributed to the affected fisherfolk, especially on repairing fishing craft, engines, engine parts and fishing gear such as nets, traps. The relief approach also includes boatyards, fishing craft repairing services, providing seed funds for establishing community's fish landing markets, as well as repairing dockyards that have been damaged by the tsunami. Additionally, the DOF is also responsible for compensating for market-related equipment such as buckets and refrigerators for the pier. In the medium term, it aims to provide support and promote mariculture operations such as breeding farms and fish farming along with necessary equipment that might be required for such activities.

Department of Fisheries' Relief Measures

The DOF will provide relief assistance to fish farmers and fishermen upto an amount of not more than 20,000 THB. It has set a rule for identifying the target beneficiaries by verifying previous farming registration belonging to fish farmers and fishing craft registration recorded at the DOF provincial offices. The compensation would be given to the fishing craft owner, who defined as fishermen according to the Regulation of the Fisheries Department on *The Compensation for and Rehabilitation of the Tsunami-Affected Fisheries in Six Southern Provinces B.E. 2548 (2005)* and the compensation rates are as follows:

1. For a fishing craft whose total length is not more than 10 m, assistance will be given in case the fishing craft damaged. Expenses for repair of the craft and its equipment will be granted according to the actual damages, but not more than 20,000 THB per boat.
2. In case the fishing craft is salvaged or towed in for repairs, expenses for the salvaging or towing will be granted according to the actual damages, but not more than 10,000 THB per boat; repair expenses of the boat and its equipment will be granted according to the actual damages, but not more than 20,000 THB per boat.
3. In case the fishing boat is lost or damaged beyond repair, a grant will be given according to the actual damages, but not more than 66,000 baht per boat.

For a fishing boat whose total length is more than 10 m long, assistance will be given as follows:

1. In case the fishing boat is damaged, repair expenses of the boat and its equipment will be granted according to the actual damages, but not more than 70,000 THB per boat.
2. In case the fishing boat is salvaged or towed in for repairs, expenses for salvaging or towing will be granted according to the actual damages, but not more than 25,000 THB per boat; repair expenses of the boat and its equipment will be granted according to the actual damages, but not more than 70,000 THB per boat.
3. In case the fishing boat is lost or damaged beyond repair, a grant will be given according to the actual damages, but not more than 200,000 baht per boat.

In the case of an owner of fishing tools that were damaged, a grant will be given according to actual damages, but not more than 10,000 THB. An assessment of the actual damages of a fish farmer and an owner of a fishing craft in items (1), (2), and (3) shall be left to the discretion of the District Committee to Assist Disaster-affected Victims, or the Quasi-District Committee to Assist Disaster-affected Victims, or the Provincial Committee to Assist Disaster-affected Victims, respectively.

To apply for a grant, a fish farmer is required to submit his/her application to the provincial or district fisheries offices located in the tsunami-hit area, together with the following documents:

(1) Copies of his/her ID card and house registration, or a copy of the substitute document issued by the authorities;
(2) Copy of a death certificate, or a copy of an official document certifying as dead/missing person in the case that the application is submitted by the heir;
(3) Copies of the heir's ID card and house registration, or copies of the substitute documents issued by the authorities in the case that the application is submitted by the heir.

To apply for a grant, an owner of a fishing boat or his/her heir is required to submit his/her application to the provincial or district fisheries office located in the tsunami-hit area, with the following documents:

(1) Copy of the Thai registration;
(2) Copy of a valid licence for fisheries while facing the disaster, in the case that a license is required by the laws on fisheries;
(3) In the case that the document under (1) or (2) is not available, a certificate issued by the provincial fisheries officer and another certificate issued either by a fishing association or group, or by a member of a fishing co-operative or service co-operative to which the fishing boat owner belongs, or by a sub-district headman of the tsunami-hit area, verifying that the fishing craft has been damaged or lost, one way or another, while fishing, shall be attached.
(4) Copies of his/her ID card and house registration, or copies of the substitute documents issued by the authorities;
(5) In case the heir of boat owner is making a claim, copy of a death certificate, or a copy of an official document certifying as lost person in the case that the application is submitted by the heir;
(6) Copies of the heir's ID card and house registration, or copies of the substitute documents issued by the authorities in the case that the application is submitted by the heir.
(7) Copy of the local police blotter recording the damage or the loss of the fishing craft.

In approving compensation to claimants, the Department specifically identifies that it will only approve a compensation only to '*"fisherman", meaning owner of a fishing craft or an owner of a fishing tool, as the case may be; and "fishing craft" meaning a craft used for fishing, which is registered as a fishing craft by the Fisheries Department, and shall also mean a craft of any other person who uses the craft (apart from the owner).'* Furthermore, eligible claimants should meet the following conditions:

(1) Being a fish farmer listed in the provincial registration of aquaculture farmers, or a fisherman who owns a fishing boat, which is registered with the Fisheries Department, or other earner who uses a boat as vehicle to earn his/her living;
(2) Being a person who informed the authorities of his/her damages caused by the tsunami disaster within 30 days from the date of its occurrence;
(3) Being a fish farmer or a fisherman who the District Committee to Assist Disaster-affected Victims, or the Quasi-District Committee to Assist Disaster-affected Victims, or the Provincial Committee to Assist Disaster-affected Victims, respectively, has verified and applied to the provincial governor for immediate assistance in the presence of an emergency. In the case that a fish farmer or a farmer is dead or lost, his/her heir is entitled to receive the assistance. In the case that an eligible grantee thinks that his/her damages are greater than the grant received, he/she shall be entitled to receive the grant according to this Regulation for the time being. For the deficient amount, a committee of not more than seven persons—consisting of the provincial governor as its chairperson and other concerned government officers—shall be set up to consider if the victim is entitled to further grants and the amount to be given. The committee's decision shall be presented via the provincial authority to the Steering Committee on the Provision of Assistance to the Tsunami Victims in Six Southern Provinces for reconsideration.

(*Source:* Regulation of the Fisheries Department on The Compensation for and Rehabilitation of the Tsunami-affected Fisheries in Six Southern Provinces B.E. 2548 (2005)

With respect to long-term occupational rehabilitation, the DOF has identified medium- and long-term policies with an emphasis on strengthening the capacity of fishermen. This includes providing training on disaster prevention and sea safety through the use of radio communications and escape routes, providing training on boat repairing, improvement of financial management skills for administering community revolving funds, providing training on alternative activities such as mariculture operations, livelihood rehabilitation planning, etc. Human resource development training will also be given to DOF staff, especially on toxicology analysis to address concerns on food safety and food standards that might influence

that price of seafood, training of trainers (DOF's staff and representative from the local government unit such as the TAO) on disaster management, participatory planning and participatory coastal resource management or responsible coastal resource management and aquaculture.

Relief Measures in Other Areas

Aside from providing compensation for damaged craft, fishing gear and engines in accordance with the criteria described above, the members of fishing communities affected by the tsunami would be compensated in other areas according to the measures identified by other government departments:

- Department of Local Administration, Ministry of Interior
- Ministry of Health
- Office of Permanent Secretary of Prime Ministry's Office
- Office of Permanent Secretary of the Ministry of Labour
- Office of Permanent Secretary of the Ministry of Social Development and Human Security
- Tambon Administrative Organizations (TAO)
- Department of Marine and Coastal Resources

These government departments have identified the following relief measures:

1. Support for funerals to families that have lost family members, or payment of compensation in cases where the body was not found. The compensation rate is as follows:
   a) Funeral: 20,000 THB/person
   b) Death (head of household): 40,000 THB/person
   c) Immediate compensation for injuries (severe): 3,000 THB/person
   d) Immediate compensation for injuries (disability): 10,000 THB/person
   e) Immediate compensation for injuries (minor): 2,000 THB/person
   f) Immediate compensation for the unemployed: 2,000 THB/person; the Ministry of Labour also provides unemployment benefit of 175 THB/day/person over a period of 30 days
2. The provision of permanent housing for the victims is to be undertaken by the Ministry of Social Development and Human Security, Ministry of Defence and other agencies such as local administrative organizations or interested parties in the private sector, at the rate of 100,000 THB per house. The victims, who want government agencies to build a house at the price of 100,000 THB, must waive the right to receive 30,000 THB as compensation for damage to the house, as prescribed by the 2003 regulations of the Finance Ministry.

The provision of temporary shelter and accommodation will be done in co-operation with the army in two provinces:

- In Phang Nga province, four temporary shelters are to be built at Bang Muang and Khuek Khak Tambon Administration Organization areas, as well as at Pak Weep village school and Khura Buri district.
- In Krabi province, 100 temporary shelters are to be constructed in Muang and Lanta districts.

3. Basic necessities such as medicine and occupational equipment to be distributed by the Department of Disaster Prevention and Mitigation in accordance with the following compensation rate:
   - Occupational equipment 10,000 THB/family
   - Kitchenware 3,500 THB/family
   - Daily necessity goods 300 THB/family
   - Clothes 1,000 THB/person
   - School uniforms 1,000 THB/person
   - Bedding 500 THB/person
4. Compensation for students affected by the tsunami, given by the Ministry of Education, Permanent Secretary Office of Education, based on the following rate:
   - Students who have lost both parents: 25,000 THB/person
   - Students who have been affected: 15,000 THB/person

Roles of Public Organizations in Providing Relief to Tsunami-affected Victims in Fisheries Sector

There are a large number of local, national and international public organizations that have been working in the affected villages. The implementation

approach of each organization is diverse in terms of concepts and philosophies, in accordance with the objectives and nature of work undertaken by each organization. Additionally, there are volunteers who are private individuals from among the public.

The work approach of the public organization and the volunteers at the early stage emphasized on providing immediate relief and resolving immediate problems, such as distributing basic goods like medicines, food and daily necessities to the tsunami-affected victims. The approach and working methods of each organization was different. Some organizations work directly in the communities, providing assistance on an individual basis; some work through the Tambon Administrative Organizations; some work in collaboration with the government agencies; some work directly with the community with an aim to mobilize communities to establish local mechanisms and relief management systems so that they can identify their own requirements and manage relief assistance, so as to prevent duplication and unequal distribution of relief. Some agencies plays an important role in coordination, while the others provide support to local organizations, so that they can in turn redistribute relief aid to people who are truly affected by the disaster.

During the first six months after the tsunami, there were an enormous number of public organizations working in the target communities. For example, there were organizations working with women and children, as well as organizations with specific expertise on mental rehabilitation or occupational rehabilitation. Nonetheless, it was found that these organizations slowly withdrew from the affected areas. Today, the number of the organizations working closely with the affected communities has reduced dramatically. At the present, there are a few key public organizations that continue to work closely with the communities in the villages, continuing their work on rehabilitation of the community's livelihood, occupation, fisheries, and the natural resources and environment in the affected fishing communities. These organizations include the Save Andaman Network (SAN), Children Foundation, Foundation for Women, Community Organizations Development Institute (CODI), Chomchon Thai Foundation, CARE, Sustainable Development Foundation (SDF), Sueb Foundation, Supanimit Foundation, Wildlife Fund Thailand (under the Royal Patronage of the Queen), the Four Regions Slum Network, Network of Migrant Workers, etc. The national public organizations that provide support on long-term rehabilitation in fisheries work closely with the government, e.g., Chaipattana Foundation, Red Cross, Lotary Association, etc, while international public organizations that work closely with the fishing communities and provide support on fisheries-related occupational development and natural resources includes the Maltesers, Action Aid, ARC International, Save the Children and many others. Apart from this, there are international public organizations that work through the national public organizations. These include Oxfam, Direct Relief International, Global Giving Foundation, Heinrich Böll Foundation and others.

Apart from the public organizations, there are volunteers, youth from schools and universities in Thailand, and students and undergraduates who were interested in working in the form of volunteers and participating in many community-based activities. During the first three months, the number of volunteers and public organizations working in the affected areas was enormous. The atmosphere during those times clearly shows a sense of solidarity in Thai society. Nonetheless, it was found that because there were many people and organizations working in the affected areas, the working condition were chaotic, with a great deal of duplication and differentiation of relief support. This led many people from the affected communities to wonder how families that did not lose much got a lot of help, but people who are really affected did not get any help.

There were initiatives in trying to organize a system to manage the relief assistance, and this study found that many organizations tend to approach and get in touch with this local system. However, it was also found that during the first 6 months after the tsunami, when the relief operation was extremely chaotic and complex, it was difficult to clearly and effectively see or understand one single management system. This is because there were no measures or mechanisms that were commonly agreed or accepted as operational guidelines. Even though there have been many initiatives towards coordination and collaboration with many organizations, the situation has remained chaotic. Most importantly, it was clear that the local mechanisms remained weak and unable to manage relief assistance or handle natural disasters that occur.

Despite this, many organizations had been working with affected communities before the tsunami and had hence an established a relationship with the communities. Given the prior experience gained through working with each other, it was found that these organizations were able to organize and structure their management systems for managing and distributing relief effectively. The study also found that this effectiveness has been a critical factor in reducing problems of duplication of support and also creating a realization among the community members that they have the capacity to be self-reliant instead of waiting for support from outsiders. There are a number of successful cases where local relief management systems were set up and functioned effectively.

Public Organizations and Networks

There are a large number of public organizations or non-governmental organizations that have been operating directly in the affected communities. For instance, the religious organization, World Vision Foundation of Thailand, and many other organizations that have put in an effort in coordinating with each other to provide support in the fisheries sector. There has also been an effort in setting up a coordination system as well as in supporting a series of consultation processes to identify directions and methods of work that are most appropriate. There are various networks, each of which has its unique work approach, but also a willingness to reconcile differences and coordinate with the others. These are:

A) **Volunteer Co-ordination Centre from Thai Public Health:** The centre established a coordination centre in Koa Lak, Phang Nga Province, with the objectives of coordinating the work of volunteers from Thailand and overseas to go and work in an area in need of support. Secondly, the centre also serves as an information clearing house and dissemination centre to communicate with volunteers and the public, reinforcing best practices and reducing misunderstanding during field operations. The centre has played a significant role in facilitating work in different sectors, including among small-scale fisherfolk. The volunteers have been helpful in helping the communities with labour, organizing community activities, organizing mental rehabilitation programmes and helping to build houses.

B) **The Save Andaman Network (SAN)** is a collective of community organizations, private sector organizations and public sector organizations that work in Southern Thailand. The members of the network include the Federation of Southern Fisherfolk, the NGO-Coordinating Committee on Development (Southern Region), the Community Organizations Development Institute (Southern Office), Rakpaktai Projects (Dab Ban Dab Muang and Rian Ru Yu Dee Tee Pak Tai), Four Regions Slum Network, Foundation for Children, Thai Volunteer Service, Wildlife Fund Thailand (under the Royal Patronage of the Queen), San Saeng Arun Foundation, etc. Sustainable Development Foundation, NGO-Coordinating Committee on Development (NGO-COD) and the Siam Cement Foundation are the secretariat and serve as a coordination unit. Additionally, SAN also works closely with Chumchon Thai Foundation and the Community Organizations Development Institute. The network's operation has been reinforced by support from private international organizations and the public sector. The work approach of the network has also been further strengthened by the national network of the non-governmental organizations that formed itself into the Collective Network for the Rehabilitation of Andaman Communities and Natural Resources, centrally coordinated by the NGO-COD, Bangkok.

Like other public organizations, SAN aims to build the capacity of the affected communities to be able to stand on their own feet, govern their own relief system and receive assistance in a way that maintains their dignity and does not view them simply as victims. The approach of self-governance is a fundamental approach to ensure a fair, equal, non-repetitive and transparent distribution of aid among the community members, which would otherwise lead to unbearable internal conflicts in the community. Through the above philosophy, SAN works very closely with the affected

communities and the Small-Scale Fisherfolk Societies operates in the 6 affected provinces under the Federation of Southern Fisherfolk, Thailand. At the same time, it also tries to reach out to communities that have never been organized as a group, before encouraging them to design and establish their own relief distribution system. In the long term, the network aims to promote the community's participation in natural resource management, while recognizing the importance of encouraging the communities to be able to link problems and issues arising from ineffective relief efforts and share these lessons with a wider audience. Furthermore, it also encourages the community to participate in public policy development.

C) **U Volunteer**, which is a group of volunteers from the University all over the country, centrally coordinated by Thammasart University. This aims to collaborate with the more than 5,000 student volunteers to provide assistance to the affected communities. The group has been coordinating with the non-governmental organizations, which in turn facilitate these students' work with the affected communities in response to the needs and problems faced by the communities. The differences between the skills and experiences of the students have been discussed with the communities, and generated more meaningful sharing between two groups of people. The outcomes of the operations have improved the understanding among the young people about the livelihood and problems of the small-scale fisherfolk through serving and working alongside the communities.

Relief Activities by Public Organizations and Non-Governmental Organizations and the Fishing Communities

The non-governmental organizations that have been working with the fishing communities implement a number of activities including construction of permanent houses and temporary shelters; providing support for repairing damaged craft, engines and fishing equipment. SAN, which is a core network that has been working with the communities, especially small-scale fisherfolk, has provided support to the communities in setting up 36 boatyards to provide service for 121 villages and repairing 1,578 craft. It has also provided support for the establishment of revolving funds in a number of target communities, in order to encouge community's saving fund to support community's initiative in the future. . In some cases, the network provides support for free, without expecting the community to repay back to the community's central fund. But this condition only applies to occupational rehabilitation-related activities. The network facilitates the establishment of a community revolving fund and promotion of the community's interests in natural resource management. This programme has a total budget of 49,698,933 THB as of 31 December, 2005.

With respect to assistance from other organizations that are also working on community and Fisheries rehabilitation, the support has focused on replacing fishing craft, boat engines and fishing gear.

Some organizations that have not been working with the small-scale fisherfolk or do not have much knowledge of fisheries have been providing assistance for repairing and replacing fishing gear, resulting in a phenomenon whereby the communities receive fishing gear that are not appropriate for some areas. For example, some types of crab traps have an adverse affect on the marine population and the environment. It is also seen that in some areas, organizations with large budgets help people who have already received help previously.

Apart from this, there are also business groups that have been providing support to the affected fishing communities. Some groups coordinate with the government, while there are other business groups that work with SAN but are not themselves the actual implementing agencies.

One year After the Tsunami: Progress of Immediate Relief in Fisheries

During a period of one year, the DOF under the Sub-Committee on Assistance For Tsunami-Affected Victims in Fisheries sector has provided assistance to fishermen and fish farmers amounting to 523,891,575 THB, or 63.8 per cent of the total budget of 821,080,500 THB. From the report on progress of relief assistance conducted by the DOF, it can be seen

that there is an adjustment of relief measures to reach out to affected fisherfolk whose craft were not registered with the DOF.

There are altogether 7,576 fish farmers (aquaculture) to whom the DOF has provided assistance. 3,060 of these beneficiaries were registered and 4,516 were non-registered. The fish farming activities that received support were fish cages, shellfish, shrimp farming and breeding. From the figures presented above, it is seen that the amount of assistance is higher than the actual number of damage reported by the DOF on 25 July, 2005, when it stated that there are 6,275 fish farmers affected by the tsunami. The highest assistance went to Phang Nga (2,749 persons, 36.29 per cent), followed by Ranong (1,336 persons, 17.63 per cent), Satun (1,174 persons, 15.50 per cent), Krabi (1,162 persons, 15.34 per cent), Trang (619 persons, 8.17 per cent) and Phuket (563 persons, 7.07 per cent).

The DOF has provided support and compensation for 6,568 damaged small-scale craft (less than 10 m), which are operated by small-scale fisherfolk. 2,986 of these craft were registered (45.46 per cent) and 3,582 were non-registered (54.54 per cent). In this type of assistance, the study found that it was highest in Phang Nga Province where 2,564 craft have been replaced (34.36 per cent), followed by Krabi Province (1,264 craft, 16.94 per cent), Phuket (1,264 craft, 16.70 per cent), Trang (870 craft, 11.66 per cent), Ranong (840 craft, 11.26 per cent) and Satun (687 craft, 9.09 per cent).

When this is compared with the total of the overall damage reported by the Department of Disaster Prevention and Mitigation on 25 July, 2005, it is found that the assistance exceeded this damage by 2,679 craft. On the other hand, assistance to fishing craft longer than 10 m (both registered and non-registered) is less by 308 craft than the damage reported as of 25 July, 2005. This undersupply may be because the large-scale boat owners did not follow up with the government's assistance scheme due to its long bureaucratic process and excessive paperwork. Nonetheless, it was discovered that the support given to the non-registered large-scale fishing was as high as 225 craft; most of these are push nets and trawlers (most of the large-scale craft in Thailand are pushed net and trawlers, but the DOF has not categorised the type of craft in the data provided on their website).

Assistance for Fishing Gear Provided by Department of Fisheries

The DOF provided support for fishing gear that were damaged. This assistance covered 6,998 beneficiaries, both registered and non-registered. The province that received the highest amount of support was Krabi where 1,694 individuals (24.21 per cent of all assistance) received assistance, of which 1,286 beneficiaries were registered and 408 were non-registered. The next province is Satun with 1,650 beneficiaries (23.58 per cent of all assistance), with all 1,646 beneficiaries being non-registered. In Phang Nga, there were 1,150 beneficiaries (16.43 per cent) with 313 beneficiaries being registered and 837 non-registered. In Phuket, 761 beneficiaries received assistance (10.87 per cent); 319 were registered and 442 were not registered. Last of all was Ranong, where 97 people received help (1.39 per cent); all of them were not registered.

Apart from this, the government also provided support to fish landing sites that were destroyed. This support covered 60 sites. 25 sites (41.67 per cent) were in Ranong, 24 (40 per cent) in Phang Nga, 6 sites (10 per cent) in Phuket and 5 (8.33 per cent) in Satun. No assistance of this kind is reported in Trang.

Assistance for Tourism Boats

The tourism boats were usually longer than 10 m and belonged mostly to small-scale fisherfolk who had moved from fisheries to tourism-related occupations, while some were engaged in operating speedboats for tourists. In this category, the government provided assistance to 1,074 boats (both registered and non-registered). The province that received most help was Krabi with 820 boats (76.35 per cent) of which 565 were registered and 225 were non-registered). This was followed by 187 boats in Phuket (17.41 per cent) of which 69 were registered and 118 non-registered. In Phang Nga, 44 boats got assistance (4.10 per cent), of which 13 were registered and 31 non-registered. In Ranong, 10 tourist boats were assisted (0.93 per cent) and 1 boat in Satun (0.09 per cent), all of which were non-registered. In the case of large-scale tourism boats, 138 have been assisted, mostly found in Phuket (59 boats, 42.75 per cent, mostly registered), followed by 32 boats in Krabi province. In total, 1,212 tourist boats have been assisted.

It is observed that even though the assistance of the DOF has increased to cover fisherfolk who were

non-registered, it has not been able to cover all the fisherfolk affected by the tsunami. This is partly because there are many fisherfolk who do not own boats but are the fishworkers on the medium-size or commercial fishing craft.

Fishworkers in small-scale fisheries are considered poor and do not have the capacity to purchase their fishing gear. Because of this, they rely on other's craft to fish and share the catch or the labour wage. These groups of people are not included among the affected people in the statistics. Most of the assistance would go towards the cases where family members have died and sufficient evidence of this can be provided. This exclusion has further marginalized the informal fishworkers. After the tsunami, the equipment and craft were being repaired, so these people did not have incomes. Thus the women in these families found themselves under even greater pressure to ensure food security and look after the welfare of the family members and meet daily expenses. This has meant that many women were forced to look for alternative livelihoods, but during the past one year many sectors were undergoing rehabilitation. The number of tourists had declined drastically, and the hotels were in the process of reconstruction. Therefore, employment could only be found in the construction sites, restaurants and housekeeping. These alternative livelihoods could not provide livelihood security, because there were many people who were unemployed, all of whom were looking to be employed in the same jobs. There were only a limited number of vacancies due to low demand in the tourism market. It can also be observed that many migrated to other provinces to seek employment.

Migrant Workers in Commercial Fisheries Sector

There are both registered and non-registered fisheries workers in Thailand. The tsunami has destroyed a number of large-scale fishing craft that resulted in a loss of employment for these fishworkers. This has lead to further marginalization for the migrant workers. Before the tsunami, they were already facing many social problems due to low wages, long working hours, and the bureaucratic system of the government with high cost (3,800-4,000 THB), which does not encourage registration. With the loss of employment, these workers did not receive support from the government. After the tsunami, it was found that 10 families of the migrant workers were forced to stay in a small bed-sit because of a sharp increase in house rent in the affected areas. The living conditions were extremely poor, with no sanitation. This does not include some workers who became displaced and hid in the forest, fearful of being arrested by the police because they lost their identity cards during the tsunami. Some who have already found a place to live refuse to walk around the street.

Long-Term Post-Tsunami Rehabilitation

Aquaculture and Mariculture: Approach of Department of Fisheries towards Long-Term FisheriesRehabilitation

Initially, the government of Thailand promoted mariculture under the name of the Seafood Bank Programme, which was conceived following the ministerial meeting of 27 January 2004, under the policy on capitalization of natural resources and poverty alleviation. The programme is managed by the DOF, the Fishery Co-operatives Organization, Asset Capaitlalisation Bureau, the Bank for the Development of Small and Medium Enterprise and other financial institutions. The project expects an annual production from such mariculture of 1.5 mn tons.

The concept of the programme is to create new fishery production sites to substitute the marine fisheries. The Seafood Programme aims to produce seafood products that meet international food safety standards and claims not to destroy the environment. The government states that because the harvest from the marine fisheries has faced a constant decline, the coastal areas must tap into its capacity to the maximum.

The programme is based on the capitalization of coastal resources, whereby the government will issue a sea entitlement document for mariculture to the main beneficiaries, which will grant rights for people to conduct mariculture in a particular plot for 3 years. These are the people who have signed on the poor people registry and wish to take up mariculture but do not have any area to do so, fishing farmers who formerly conducted mariculture, and members of the general public who are interested. The procedures include survey of potential areas, demarcation and mapping of potential target sites (which includes former mariculture plots and areas that are currently being used for mariculture and area that have the capacity for this). 284,492 *rai* were identified. Of this,

107,000 *rai* will be allocated to the communities and each family that signed on for the programme is entitled to receive between 3–10 *rai*, depending on what marine species are to be cultured. The certificate or sea entitlement deed is considered an absolute right for the plot owners, who can lease the plot or use it as a guarantee to others and even bequeath it as an inheritance.

The beneficiaries must mobilize themselves and form co-operatives or private organizations and take training on mariculture techniques to ensure that their products meet international food safety standards.

The contract farming in the case of the Seafood Bank is a system whereby the fishing co-operatives have an administrative role in the project. They will be similar to middlemen, who find funding sources for the beneficiaries to take loans, who will also provide markets to sell their products. This means that the beneficiaries will sign a contract with the lenders, whereby a guarantee price is fixed.

There are a number of fishing communities who have shown interest and become beneficiaries. However, there are groups of people who think differently. The Seafood Programme has been objected to by a large number of fisherfolk because there was a lack of people's participation during the planning process and there is lack of clear information. The Federation of Southern Fisherfolk, a network of fisherfolk in the 13 provinces of Thailand, stated, 'The sea is the public property. No person can claim full ownership. The former method of mariculture only allowed use of the sea year by year, and the persons who conducted mariculture were not allowed to treat the sea as their private property. In the fishing community too, fishing gear or equipment are the only things that can be claimed as private property. The fact that someone can claim full ownership would hinder the access to natural resources for the small-scale fisherfolk.' Furthermore, there are issues related to the central role of the government in managing the project. This is contrary to the constitution under article 46, which states, 'Individuals who form traditional communities have the right to conserve and rehabilitate the natural resources according to their customs or culture, as well as being able to participate in the sustainable management, maintenance and utilisation of natural resources and environment. The Seafood Bank Programme therefore does not respect the community's rights to natural resource management, hence threatening food security at the community level.'

Policy Trend on Andaman Development in the Post-Tsunami Period: Trade Liberalisation and Investment in the Tsunami-affected Area

The tsunami resulted in significant losses, both in the short term and the long term, which has further affected the development and poverty situation on the Andaman coast. During the pre-tsunami period, fisheries and tourism were the major driving forces for economic development; these were also the hardest-hit sectors. The Andaman coast contributes as much as 3.7 mn metric tonnes to the fisheries produce in 2000, while the tourism sector earns revenue to the tune of 10 billion THB per month. The tourism market in Thailand accounts for 27 per cent of the tourism revenue in Southeast Asia. Because of the tsunami, 120,000 people lost their livelihoods and income.

The push towards economic rehabilitation in the post-tsunami period has become the main priority for the Thanksin Administration. A few days after the tsunami struck, the leader of the affected countries—India, Maldives, Indonesia and Thailand—met in Jarkarta to seek co-operation and support for rehabilitation. The outcome of the meeting was mass co-operations in economic rehabilitation, which received support from international organistions, particularly UNESCAP, which suggested that it have a role in facilitating and coordinating such co-operation. The approach to be adopted is to stimulate trade liberalization and international trade in the tsunami-affected countries. The report on Economic Impact of the Tsunami written by UNESCAP states that assistance through donation can only help the affected countries in the short term. Therefore, to be able to ensure long-term revival of the area, the government must promote trade and investment in the area, as this subsequently brings in employment and income-generating activities. The document further states that trade liberalization and investment are critical measures in stimulating the economy, and that the tsunami has provided the opportunity for the government to undertake these measure so. In order to go about this, a regional and international trade mechanism must be set up to identify medium- and long-term assistance to the private sector, especially the small and medium

enterprises that have a potential role in attracting investment and trade. The European Union and America are suggested to be the key receiving markets. There is a need to eliminate all trade barriers that hinder the affected countries in trading freely (UNESCAP 2005).

In terms of international trade, a mechanism has been set up to respond to the need of the affected countries, according to which the European Union has announced a new Generalised System of Preference (GSP), a global trade mechanism to lift all trade barriers that were in place before the tsunami. For instance there is to be a reduction of import tariff on fabric and Fisheries products, as well as an adjustment of the anti-dumping policy (e.g., in the case of Thai shrimp, which was blocked by the American market), and measures on food safety and environment. The European Commission further emphasized that assisting the affected countries through establishing trade mechanism is the most sustainable way of assistance. Creating a favourable trade environment means that benefits will also be distributed to other developing countries. The results of a reduction in import tariff will facilitate a new trade system. For instance, Thai shrimp will receive a tariff cut from 12 per cent to 4.2 per cent. In India, there will be a policy on tariff reduction, particularly on garment products, from 12 per cent to 9.5 per cent. The cut for shoe products in Indonesia and Thailand will be from 17 per cent to 13.5 per cent. All these signify that the expansion of trade between countries would be worth 3 billion Euros (SAAPE-ICSF 2005).

With respect to promotion of investment, there has been a development of regional co-operation in ASEAN and BIMSTEC to serve as mechanisms to promote industrial trade and investment. UNESCAP has suggested that these mechanisms serve as a regional hub which links foreign investor to the member countries of the ASEAN where small and medium enterprise development as well as increased investment from the transnational co-operations could be stimulated. These mechanisms would also mean that transnational co-operation would be able to access the market. The paper goes on to say that such regional co-operation would benefit tourism and attract investors to come and build hotels and resorts. The same theory can also apply to fisheries. Basically, the government should create an enabling environment for investment and trade with absolutely no barriers. UNESCAP has proposed 4 measures which the governments of the tsunami-affected countries should adopt. These are the Special Investment Regime, granting of special company status, granting special temporary LDC status to benefit from trade measures identified for developing countries, and the designation of a special economic zone.

Among these four measures, Thailand has made progress in development and designation of the special economic zone, which is one of the controversial issues related to post-tsunami rehabilitation.

Thailand is in the process of drafting a Special Economic Zone Bill, which is a prerequisite for designating zones for industrial, agricultural and tourism development in the tsunami-affected area. The Thai government sees that the designation of Special Economic Zones is the best approach to promoting trade and investment.

Special economic zones are areas with a special privileges in being able to import raw material and equipment without tax. The entrepreneurs located within this area receive tax exemptions, and products from this special area receive special rights under the tariff reduction regime for export to the developed countries. Furthermore, any land ownership and any kind of existing ownership pattern that appears to hinder smooth access to natural resources needed for raw materials can be removed, or some of land can be reclaimed or exchanged.

The area is also equipped with basic infrastructure and has a centralized administration system to ensure that investment is facilitated and not restricted by bureaucratic requirements. Because of this, the administrator of the special economic zone has greater authority. The special economic zone will provide a one-stop service, whereby all decision making can be done by the director, who has more authority and power than the local administrative organization. This will attract foreign investment, including transnational corporations, triggering economic growth. The highest authority is the Prime Minister, who acts as the chair of the special economic zone committees. A case in point is the special economic zone of Phi Phi Island in Krabi Province. The government plans to rehabilitate the island after the tsunami by designating it as a special economic zone. The whole of the island area has been transformed into a high-class tourism area run by the

director of the special economic zone, instead of the local authority.

Even though the government is planning to enforce this bill and aims to promote trade and investment that corresponds with the international policies, the special economic development bill has very broad objectives. It opens up channels for industrial, agricultural, and tourism-related development. There is a likelihood that this will result in adverse environmental impacts and affect the livelihood of the local communities. The designation of the zone also violates human rights by overlooking the importance of people's participation. Even the drafting process of the bill has no involvement of the people in deciding the location of the zone, environmental and social impacts assessment, the decision to claim ownership or utilize reserved forest area, the adjustment of town plans, and decisions on how to develop irrigation system and implement other development such as industry, settlement, tourism etc. Additionally, it is found that the bill does not specify the need to conduct impacts assessment for all these interventions (except for sea reclamation) and also did not specify the need to conduct environmental impact assessment at the strategy level. Instead, it went on to change the existing environmental plan by stating, *'When there is a designation of a special economic zone in any province, the governor of that province must amend its strategic city development plan, action plans and other associated plans so that they correspond and promote and support the operation of the special economic zone.'* From this it is evident that the special economic zone threatens decentralization and does not recognize the importance of people participation. It is not transparent and does not promote the role of local administrative organizations in managing or participating in the scheme. The context of the Bill does not mention 'measures for addressing impacts on local communities' but clearly highlights 'special rights or benefits of the business operators or dwellers located inside the zone'.

Such a bill will enormously impact the environment and the livelihood of the marginalized people. The marginalized people will be further excluded from natural resources which are fundamental livelihood assets. Additionally, the fact that the bill supports 'free access' for business operators to natural resources means that the condition of the natural resources and the environment will worsen, resulting in worsening of food security. The removal of existing land ownership in the zone will results in more serious conflicts for security of land tenure among the marginalized groups in the long term, while increasing the gap between the rich and the poor even more.

Issues of Relief Assistance and Rehabilitation in Fisheries Sector: Justification and Sustainable Development

Measures and Regulations for Relief: Formal and Non-Formal Fisherfolk: Equality of Relief Distribution

During the early phase after the tsunami, the government identified measures and regulations for channelling relief assistance to the affected communities. The main target beneficiaries were fisherfolk whose craft and fishing gear were already registered with the DOF. This measure has become a key constraint for distributing relief assistance to the actual tsunami-affected victims in a fair manner. This measure has allowed only the registered fisherfolks to be included in the official system to access relief, while excluding the fishermen who were not previously registered from gaining access to the government assistance, even though both these groups of fisherfolk are affected by the tsunami. At a later stage, the DOF had tried to amend its relief measures and regulations by enlarging the target groups to include fisherfolk whose craft, fishing gear and aquaculture equipment were not registered in the government records, as well as unregistered tourism boats. This amendment of regulation had provided opportunities for the affected fisherfolk, both registered and non-registered, to be able to access assistance better. Nonetheless, it was found that the relief measures for the registered craft and non-registered craft were different. Those fishermen whose craft were not registered were only entitled to receive 70 per cent of their total claims, despite the fact the degree of damage between the registered and non-registered craft is not much different. This reflects the fact that the relief measures still discriminate between people in the formal and the non-formal system. It was also found that, through the interview with the community members that because many (delete many) DOF's support was given in the form of cash and not by the replacement of the boat, many who received the compensation from

the government, were unable to afford new craft because the compensation was much too low for the price of the craft. (insert) Some people received additional assistance from private organizations or non-governmental organization to be able to purchase new craft or repair their old damaged ones. While many were unable to go out to fish and earn income, they were forced to spend the compensation money to sustain their daily livelihood, such as buying food for their family members. Without additional assistance from other organizations, it would be difficult for the affected fisherfolk to resume their fishing activities.

Marginalized Groups and Access to Relief Assistance

The relief measures not only lead to discrimination between registered and non-registered fisherfolk, but also fail to protect and rehabilitate tsunami-affected people who are the main labour force in the Fisheries sector. This group of people are not boat owners, but supply labour in small-scale and commercial fisheries. Fishing activities conducted by small-scale fisherfolk usually involve more than the husband and wife of the fisherfolk family. In some cases, friends and relatives come to join fishing activities because they do not own a boat themselves. These fisherfolk are usually invisible as labour in fisheries because they are viewed as informal labour and were forgotten even before the tsunami.

The government relief measures restricted assistance only to fisherfolk who own fishing craft, normally male fisherfolk. In fact fishing activities would engage both men and women in the family as well as the children and neighbours. These people play significant roles during the pre-harvest, harvest and also the post-harvest, e.g., removing the catch from the nets, bringing the catch to the market for sale, etc. This group of people is not viewed as tsunami-affected people, despite their role and contribution to fisheries production.

They are not classified as a group of people who have legitimacy to receive assistance from the Fisheries sector or from the other sector, except in cases of death. In cases where a female family member died, the family would receive compensation towards the death of the female family member. However, the amount of compensation is higher if the dead person is male. Although this differential treatment between males and females is not clearly stated in the government's relief regulations, it can be seen in the mindset of the officers.

A Common Ground in Assessing Scale of Damage and Identification of Relief Approach

The government regulation has specified that there must be a committee appointed to assess the damage before determining the level of assistance. However, because a common ground in identifying the level of relief is not widely accepted by the tsunami-affected victims and the committee, it become unclear how a scale of assistance is determined. Furthermore, the work approach and principles are only known among the committee members, and not explained to the affected people. This has led to mistrust and increasing reports of injustice and unrealistic evaluation of damage caused, resulting in unequal assistance even thought the level of damage is not much different.

It is also evident that the compensation given to the affected communities is too low for the community to be able to rehabilitate themselves and their families. If no additional assistance were to be given on top of the assistance from the government, the chance that the communities would be able to resume their livelihoods and rehabilitate themselves is minimal. A case in point is the system whereby 30 per cent of the total claims would be deducted simply because the condition of the boat before the tsunami was poor. This finding was found during a field interview, but it is a statement made by the tsunami-affected fishermen who were responded by the local DOF staff. Such an approach does not take into account the fact that for the fisherfolk to be able to repair and replace fishing craft, they need to buy new equipment at a price that is the same as those whose craft in good condition were damaged by the tsunami. This measure is seriously inappropriate, and has been a critical problem to the poor. It also shows that lack of participation of the affected communities in identifying appropriate measures is likely to result in further conflicts within the community and may not necessarily lead to a sustainable rehabilitation programme.

Ethnic Groups and Migrant Workers in the Fisheries Sector: An Inability to Access Relief Assistance

The ethnic groups and migrant workers are marginalized groups that have not been included in

the government assistance scheme because they do not have Thai citizenship. After the tsunami, it was found that these people had to seek shelter in temples or live on the streets because their houses had been completely destroyed. The migrant workers had to go into hiding in the forests and mountains. Their identity cards and other important belongings were washed away, and they are therefore frightened of being arrested by the police.

It was found that during the distribution of aid and basic goods in the early days after the tsunami in Phang Nga Temple, the Mokens would only receive small amounts of aid in kind, while the Thais received higher amounts. In Ban Rawai, Phuket Province, the Ulakrawoi were left watching other people receiving goods donated from the public without themselves receiving anything. It is very difficult for the sea gypsies to access assistance from the government because they do not have Thai citizenship. For the compensation for craft, the government requested the claimants to prepare a number of documents and receive a confirmation from the Fishery Association. The village heads and the provincial heads at the district level feel that the Moken that they are not Thais but Burmese. The only support reaching the sea gypsies came from the non-governmental organizations. In some areas, the sea gypsies have not been able to return to the sea, but their names have been used to attract funding. This is especially the case with funding for infrastructure, but after receiving the funding, the projects were never implemented. Furthermore, there has been a lack of monitoring of the assistance. There has also been a report that there were some Christian groups that tried to provide assistance to the communities, but with the condition that the community must convert to Christianity before being able to receive help.

For the migrant workers, non-governmental organizations from Burma called Grassroots HRE& Development Committee (GHRE) has been working in the affected areas and providing education to Burmese children by setting up schools or learning centres in Phang Nga and Ranong. Apart from this, there are also projects of national NGOs such as the Network of the Migrant Workers, MAP Foundation and the Tsunami Action Group (TAG) and the Save Andaman Network, all of which provide some assistance to migrant workers and ethnic groups.

During the initial days after the disaster, the NGOs made great efforts to find these affected migrant workers, because they were in hiding. The role of the NGOs during that time includes interpretation for the migrant workers who need to communicate with government officials about the problems during the disaster, disseminating information about relief and measures, etc. Apart from this, there is also an initiative to promote long-term rehabilitation for the migrant workers. For instance there was a project conducted in collaboration between GHRE, SAN, and SDF in facilitating the issue of identity cards for 100 migrant workers through the participation of the employers in the medium-sized fisheries. The Network of Migrant Workers played a role in facilitating discussions to reach an agreement on the practice of holding cards. They insisted that the workers must keep their cards at all time. Usually, the employers retain the cards, fearing that the workers would run away and seek jobs elsewhere, now that they have been registered. Additional support from these organizations also includes supporting the migrant workers to mobilize and set up revolving funds, so that they can have a saving system that they can manage by themselves, through which they can support their own welfare without becoming too dependent to the employer.

Recommendations for the Government

Immediate Relief

- Relief measures identified by the government or aid organizations must not be tied in with the official system, but must be open for marginalized people who are normally in the informal sector. For example, registered and non-registered fishermen, ethnic groups and migrant workers, both registered and non-registered, must receive equal and fair assistance. Disaster relief must be conducted on a humanitarian basis.
- Relief measures must promote and support the community's participation and self-governance, through establishing their own relief management mechanisms, rules and regulations. Monitoring and evaluation mechanisms in particular must not be predetermined by outsiders. This is a community empowerment approach that encourages communities to solve

their problems collectively and work together as a team, reducing problems of unequal and duplicate distribution of assistance. Additionally, aid organizations must respect the existing community's management mechanisms.

- Steps must be taken to enhance the community's capacity to be transparent in financial management, by developing skills in financial management and accounting. Through participatory approaches, every community must be able to set a clear organizational structure, delegate roles and responsibilities and carry out effective internal and external audits. Furthermore, youth in the communities should be supported to carry out accounting. This will promote the transfer of knowledge and build a new generation of quality leaders for the communities.
- Citizenship must be granted to ethnic groups based on appropriate conditions, so that they can be protected and receive support as well as having the rights to participate in decision-making regarding development and natural resource management.

Occupational Rehabilitation in Fisheries Sector

- The government must recognize the importance of the community's participation in coastal resource management to ensure recovery of natural resources, an important asset for sustaining livelihoods and source of income for the fishing communities. It must be ensured that occupational rehabilitation during the post-tsunami period ensures food security, increased access to natural resources and poverty alleviation at the community level.
- The government must promote and support the mobilization of existing communities, in order to take part in designing occupational rehabilitation activities and natural resource management activities.
- Relief measures must support the establishment of community-based revolving funds to address problems of occupational rehabilitation. To develop good systems of administration of community funds, the participation of all affected villagers in the community should be promoted. Rules and regulations formulated by the community should be standardized in a flexible manner according to the particular needs, conditions and potential capacity of each community. Further, aid organizations must play a supporting role in providing advice and in assisting in monitoring each community in order to ensure maximum benefit for the entire community in future.

Land Conflicts

In order to be able to meaningfully assist the communities, policies must strongly view rehabilitation in the context of sustainability by:

- *Developing a community-based land ownership system*: Many of the communities' settlements are located on public or state land, e.g., Thung Wa Village. A joint land ownership mechanism of the community—neither individual nor that of the state—needs to be established, as this ties in with community rights.
- *Developing and improving the process of rights verification* by taking the following points into consideration: (1) There were a number of fishing communities residing in the reserved forests or national parks before the tsunami. The rights verification process must grant rights for such people who have settled on those lands first, (2) People who have obtained land through illegitimate means must go through the land rights verification process again to limit their land ownership, (3) Due to the diversity of nature of fishing villages, re-housing must correspond to the needs, family size, culture and traditions of the communities, and not follow one single standard, (4) The development of any Exclusive Zone must be implemented from perspective of the needs of the communities. As citizens, communities must be informed and consulted about matters of development.

Long-term Rehabilitation: Coastal Resource Rehabilitation

- The government must identify measures and regulations based on good governance, so that Fisheries management is coherent, benefits all relevant sectors, and is aligned with the

objectives of sustainability and conservation of natural resources.

- The government must allow the communities to participate in coastal resources rehabilitation, conservation, management and planning for utilization of natural resources. This is because the ecosystem and natural resources vary from one community to another. Thus, rehabilitation and conservation must be undertaken in consultation with the respective communities, as only this will lead to activities that are in harmony with the local environment and the livelihoods of local communities.
- For long-term coastal resource rehabilitation, the government must also take the tsunami as an opportunity to reduce and ban trawlers, pushed nets and other form of destructive fishing gear.
- Fisheries and aquaculture must be governed through sound regulation, good governance and effective management institutions that ensure equitable development and are environmentally sound.
- Promotion of people's participation in developing policies that encourage natural resource management and development of fishing communities.
- Support collective management, to prevent over-exploitation of natural resources due to economic investment with a business motive.
- Facilitate the capacity building of communities and enhance skills and knowledge to participate in management of natural resources and the environment.
- Promote collaboration between all relevant stakeholders, including communities, non-governmental organizations, and governments.
- Terminate the Seafood Bank Programme.

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Endnotes

[1] Information from Mangrove forest Conservation Office, Coastal and Marine Resource Department, Ministry of Natural Resources and Environment.

[2] According to the Foreign Labour Service Office, Department of Labour Placement, Ministry of Labour, a total of 127,925 illegal migrants are living in the tsunami-affected provinces. It is believed that the migrant workers have been migrating into Thailand and have been registered with the government in the 6 affected provinces. Of these 127,925 people, 88,558 people have been registered with the Ministry of Labour. However, it is believed that around 20–50% of registered migrant labourers are working illegally in the area (Kerdmongkol 2005).

[3] However, there was another report from public agency indicating that there are not that many shrimp farming along the Andaman coast compared to Gulf of Thailand areas.

[4] Source: FAO and Ministry of Agriculture and Co-operatives, 2005.

[5] Sor Kor is an abbreviation for Sitti Krob Krong, which means the right to own. This is not a document as such, but when a person applies for land ownership, they have to work through different levels of land rights before they finally attain the land entitlement document. Sor Kor is one of these steps.

Tor Bor is an abbreviation for Tha Bien Thee Din. It refers to the land certificate, which is also the land entitlement document.

Sor Kor and Tor Bor also have different series, such as Sor Kor 1, Sor Kor 2, Sor Kor 3 or Tor Bor 5, etc.

[6] Moo is an administrative subdivision of a village. Under the policy of the Ministry of the Interior, a village that has more than 70–100 households is grouped as a different village, identified as 'Moo'. Therefore, one village may be made up of different Moos, depending on the number of households. Each Moo is treated as a different administrative unit. So one can have, for example, Thap Tha Wan Village, Moo 8, Tambon XX, Ampur XXX, Phang Nga Province.

[7] These are Pak Triem village, Thung Wa village, Hua Lame village in Phgan Nga Province, Sang Ka U village in Krabi Province, Pak Bang village, Nok Lae village in Phuket, Kor Muk village in Muk Island, Ta Sae village, Lame Sai village, Chang Lang village, Kuan Thung Ku village, Mod Ta Noi village, Pra Muang village and Had Sai Thong village in Trang Province.

List of Villages*, Districts and Sub-Districts Affected by the Tsunami

No.	Province	Ampur	Tambon	Moo	Villages/Communities	Note
1	Phang	Tra Kua Thung	Kok Kloy	5	Harn Bua Village	
	Nga			6	Na Thai Village	
				7	Tha Nun Village	
				11	Tha Pak Wang Village	
				14	Kao Pi Lai Village	
			Lor Ngu	6	Lame Hin Village	
				7	Ban Chan Village	
				9	Ba Kan Village	
			Klong Kien	1	Klong Kean Village	
				2	Hin Rom Village	
				3	Chao Kluy Village	
				4	Yarn Saba Village	
				5	Tee Tae Village	
				6	Klong Sai Village	
				7	Hard Sai Pluak Hoi Village	
				8	Aow Ma Karm Village	
			Ka Lai	2	Kuan Village	
				11	Kor Klang Village	
		Tra Kua Par	Kuk Kak	1	Pak Taweep Village	
				2	Bang Kaya Village	
				3	Kuk Kak Village	
				4	Thung Kamin	
				5	Bang Nueng	
				6	Bang Nueng	
				7	Lar Own Village	
			Kor	1	Muang Mai Village	
			Kor Kao	2	Nok Nar Village	
				3	Pak Klor Village	
				4	Thung Tuk Village	
				5	Ban Nuang Village	
	Phang	Trakuapar	Bang	2	Nam Kem Village	
	Nga		Muang	3	Bang Mor Village	
				6	Bang Lud Village	
				7	Bang Sak Nuer Village	
				8	Bang Sak Tai Village	
		Kor Yao	Kor	2	Chong Lard Village	
			Yao	3	Yar Mee Village	
			Yai	4	Klong Born Village	
			Ban Kor	1	Tha Kai Village	
			Yao Noi	4	Tha Kao Village	

List of Villages*, Districts and Sub-Districts Affected by the Tsunami (contd.)

No.	Province	Ampur	Tambon	Moo	Villages/Communities	Note
				5	Rim Thalay Village	
				6	Lame Yang Village	
				7	Han Pao Village	
			Pru Nai	1	Lo Po Village	
				2	Pru Nai Village	
				3	Lo Pa Lai Village	
				4	Tha Luar Village	
				5	Klong Din Nuew	
				6	Ook Village	
				7	Lo Pa Rade Village	
		Tai Muang	Tai Muang	9	Thap Yang Village	
			Na Tai	7	Nai Rai Village	
			Lam Kan	1	Sam Ru Village	
				2	Kao Lak Village	
				4	Tha Din Daeng	
				5	Thap Lamu village	
			Thung Maprao	2	Kor Nok Village	
		Kuraburi	Kor Prathong	1	Thung Dab Village	
				2	Tha Pa Yoi Village	
				3	Kor Ra Village	
				4	Pak Jok Village	
			Kura	4	Pak Triem Village	
				5	Thung Nakam Village	
	Phang	Kuraburi	Bang Wan	1	Bang Wan Village	
	Nga			4	Thung Ong Village	
		Muang	Bang Toei	6	Klang Village	
				8	Bang Pad Village	
				9	Tai Village	
			Kor Pan Yee	3	Kor Mai Pai Village	
	Total		**6**	**19**	**69**	
2	Krabi	Muang	Aow Nang	1	Chong Plee Village	
				2	Aow Nang Village	
				3	Klong Haeng Village	
				4	Na Deen Village	
				5	Thung Village	
				6	Klong Son Village	
				7	Kor Phi Phi Village	
				8	Lame Thong Village	
			Kao Karm	1	Thung Village	
				2	Nong Jik Village	

List of Villages*, Districts and Sub-Districts Affected by the Tsunami (contd.)

No.	Province	Ampur	Tambon	Moo	Villages/Communities	Note
				3	Nai Nang Village	
				6	Koa Kom Village	
			klong Prasong	1	Kor Klang Village	
				2	Klong Prasong Villge	
				3	Klong Kam Village	
			Sai Thai	1	Suan Prik Village	
				2	Nong Kok Village	
				3	Klong Ji Lar Village	
				4	Sai Thai Village	
				5	Aow Nam Mao Village	
				6	Lame Pod Village	
				7	Klong Hin Village	
			Kao Thong	1	Nai Sa Village	
				2	Kao Thong Village	
				3	Tha Lane Village	
				4	Nam Krom Krom Village	
				5	Tha Pru Village	
				6	Tha Ang Thong Village	
	Krabi	Muang	Nong Thalay	1	Nong Thalay Village	
				2	Klong Muang Village	
				3	Kor Kwang Village	
				5	Nai Rai Village	
				6	Din Daeng Noi Village	
				7	Kao Krom	
		Nuer Klog	Nuer Klong	1	Nai Rai Village	
				2	Ban Klong Nuer Village	
				3	Sai Po Tai Village	
			Klong Kanan	3	Klong Mark Village	
				5	Klong Kanan Village	
				8	Lame Kluid Village	
				9	Tha Yang Village	
			Kor Sri Borya	1	Klong Tor Village	
				2	Kor Phu Village	
				3	Kor Cham Village	
				4	Kor Hang Village	
				5	Thing Rai Village	
				6	Kor Sriboya Village	
				7	Lang Kor Village	
			Taling Chan	1	Klong Luai Village	
				2	Tha Ling Chan Village	

List of Villages*, Districts and Sub-Districts Affected by the Tsunami (contd.)

No.	Province	Ampur	Tambon	Moo	Villages/Communities	Note
				3	Klong Yuan Village	
				4	Had Yao Village	
				5	Pak Lar Village	
			Klong Kamao	2	Klong Kamao Village	
				3	Kuan Tor Village	
				4	Hua Non Village	
		KorLanta	Kor Lanta Yai	1	Hua Lame Village	
				2	Sri Raya Village	
				4	Kor Por Village	
				5	Klong Hin Village	
				6	Klong Nin Village	
				7	Sang Ka U Villge	
				8	Klong Tobe Village	
	Krabi	Kor Lanta	Kor Lanta Noi	1	Lang Sod Village	
				2	Klong Mark Village	
				3	Thung Village	
				4	Lao Yai Village	
				5	Kong Tanode Village	
				6	Non Libong Village	
			Kor Klang	1	Ra Phu Village	
				2	Ra Mard Village	
				3	Pak Lar Village	
				4	Ya Nad Village	
				5	Liki Village	
				6	Klong Chap Village	
				7	Ang Thong Lang	
				8	Hua Hin Village	
				9	Tha Klong Village	
			Sala Darn	1	Sala Darn Village	
				2	Pra Ae Village	
				3	Lo Bara Village	
				4	Thung Yee Peng Village	
				5	Lo Tu Yong Village	
			Klong Yang	2	Klong Yang Village	
				3	Kok Yung Village	
				7	Sang Ka U Villge	
		Klong Tom	Klong Tom Tai	2	Klong Tom Tai Village	
				3	Klong Karn Village	
				6	Wang Hin Village	
				7	Tai Village	

List of Villages*, Districts and Sub-Districts Affected by the Tsunami (contd.)

No.	Province	Ampur	Tambon	Moo	Villages/Communities	Note
				2	Thung Samet Village	
				3	Nam Ron Village	
				4	Tha Pradu Villge	
				5	Klong Kae Village	
				7	Na Village	
				8	Kuan Village	
				9	Thung Kuan Village	
	Krabi	Klong Tom	Klong Pon	1	Klong Pon Village	
				5	Mu Sa Village	
				9	Than Mapraw Village	
				12	Thung Yor Villag	
				13	Klong Yee Lae Village	
			Sai Kao	4	Sai Kao Village	
		Aow Luk	Lame Sak	1	Hin Kao Village	
				2	Aow Nam Village	
				3	Lam Sak Village	
				4	Samilang Village	
				5	Klong Lad Village	
				6	Nai Sai Village	
			Aow Luk Noi	2	Ba Kan Village	
				3	Aow Luk Noi Village	
				6	Kerewong Village	
	Total	**5**	**22**	**112**		
3	Phuket	Muang	Karon	1	Karun Community	
				2	Kata Community	
				3	Bang La Communiyt	
				4	Kok Chang Village	
				5	Kok Tanod Village	
			Wichit	1	Na Born Tai Village	
				3	Teen Kao Village	
				6	Bor Lae Village	
				7	Aow Makarm Village	
				8	Lame Pan Wa Village	
				9	Tha Klang Bon	
				3	Par Lai Village	
				5	Na Kok Village	
				7	Wad Mai Village	
			Radasa	1	Kor Sirae Village	
				4	Lame Tuk Kae Village	
				7	Tha Luer Mai Village	

List of Villages*, Districts and Sub-Districts Affected by the Tsunami (contd.)

No.	Province	Ampur	Tambon	Moo	Villages/Communities	Note
	Phuket	Muang	Kor Kaew	1	Sapam Village	
				3	Bang Nuew Village	
				4	Kor Kaew Village	
				5	Kor Kaew Village	
				6	Lang Kong Sri	
				7	Lame Hin Village	
			Rawai	1	Sai Yuan Village	
				2	Had Lawai Village	
				3	Kor Loan Village	
				4	Bang Kana Tee Village	
				5	Har Yak Village	
				6	Lame Prom Thep Village	
				7	Sai Yuan Village	
					Sam Suk Community	
		Tha Lang	Cheang Thalay	2	Bang Tao Village	
				3	Had Surin Village	
				4	Par Sak Village	
				5	Bang Tao Nok Village	
				6	Kok Tanod Village	
			Saku	1	Nai Yang Village	
				2	Trok Muang Village	
				3	Saku Village	
				4	Nai Thong Village	
				5	Bang Kar Lao Village	
			Mai Kaow	1	Mark Prok Village	
				3	Suan Mapraw Village	
				4	Mai Kaow Village	
			Par Klok	1	Pak Cheek Village	
				2	Pa Klok Village	
				3	Bang Pae, Bang Rong Village	
				4	Para Village	
				5	Kor Naka Village	
				6	Aow Por Village	
				7	Ya Mu Village	
	Phuket	Tha Lang	Pa Klok Village	8	Bang Lar Village	
				9	Aow Kung Village	
			Theb Krasattri	3	Leang Village	
				4	Don Village	
				6	Lame Sai Village	
		Krathu	Pathongwithing the mulnicipality			

List of Villages*, Districts and Sub-Districts Affected by the Tsunami (contd.)

No.	Province	Ampur	Tambon	Moo	Villages/Communities	Note
			Kamala	1	Bang Wan Village	
				2	Nuer Village	
				3	Kok Yang, Nakakae Village	
				4	Kamala, Klang Village	
				5	Hua Kuan Village	
				6	Naka Village	
	Total	**3**	**14**	**63**		
4	Ranong	Muang	Kor Payam	1	Kor Payam Village	
				2	Kor Chang Village	
			Pak Nam	1	Pak Nam Village	
				2	Kor Kanatee Village	
				4	Kor Sin Hai Village	
				6	Kor Lao Village	
			Ngaw	3	Tha Chang Village	
				4	Lang Village	
				5	Had Sai Dam Village	
			Ratchakrud	1	La Oong Village	
				2	Lang Village	
				3	Kao Yuak Village	
				4	Huai Nam Sai Village	
				5	Nok Ngang Village	
				6	Klong Kong Village	
				7	Huai Pling Village	
				8	Kajadpai Village	
			Sai Daeng	1	Sai Daeng Village	
				2	Hin Dard Village	
				3	Nam Tok Village	
				4	Bang Sri Kum Village	
	Ranong	Kapur	Muang Klang	1	Muang Klang Village	
				2	Bang Bane Village	
				3	Sam Nak Village	
				4	Aow Kiey Village	
			Kapur	1	Darn Village	
				2	Huai Sied	
				5	Kong Sri Village	
				7	Bang Prulang Village	
				8	Chee Mee Village	
				10	Kok Chang Village	
			Bang Hin	1	Char Klee Village	

List of Villages*, Districts and Sub-Districts Affected by the Tsunami (contd.)

No.	Province	Ampur	Tambon	Moo	Villages/Communities	Note
				2	Bang Hin Village	
				5	Klong Sai Village	
		Suk Samran	Kam Puan	1	Thalay Nok Village	
				2	Nuar Village	
				3	I2'3"	
				4	Phu Kao Thong Village	
				5	Suk Samran Village	
				6	Ton Kloi Village	
				7	Had Sai Kao Village	
			Naka	1	Ban Man Village	
				2	Na Pru Village	
				3	Bang Kluei Nok Village	
				4	Kuan Sai Ngam Village	
				6	Lame Nao Village	
				8	Thung Toa Village	
	Total	**3**	**10**	**47**		
5	Satun	Muang	Kor Sarai	1	Tanyong Uma Village	
				2	Bar Kan Yai Village	
				3	Tan Yonng Kling Village	
				4	Yala Tod Nui Village	
				5	Yala Tod Yai Village	
				6	Ta Lo Nam Village	
	Satun	Muang	Pu Yu	2	Tan Yong Ka Boi Village	
				3	Phu Yu Village	
			Tan Yong Poi	1	Tan Yong Poi Village	
				2	Had Sai Kao Village	
				3	Bar Kan Kei Village	
			Jae Libong	2	Jae Libong Village	
				3	Pa Tae Village	
				4	Ban Nang Pulao Village	
				6	Pa Tae Nuer Village	
			Kuan Kan	6	Tha Hin Village	
			Klong Kud	2	Tha Jeen Village	
				3	Kor Nok Village	
		La Ngu	Pak Nam	1	Bor Jed Look Village	
				2	Pak Bala Village	
				3	Kor Bulone Village	
				4	Ta Lo Sai Village	
				5	Tha Yang Village	

List of Villages*, Districts and Sub-Districts Affected by the Tsunami (contd.)

No.	Province	Ampur	Tambon	Moo	Villages/Communities	Note
				6	Tha Malai Village	
				7	Tha Payom Village	
			La Ngu	1	Tha Cha Muang Village	
				2	Pak La Ngu Village	
				3	Kor Yuan Village	
				4	La Nga Village	
				6	Hua Thang Village	
				7	Bar Kan To Thid Village	
				14	Lorm Puean Village	
				15	Nai Sai Village	
				18	Kok Payom	
			3A	1	Kuan Sai Village	
				2	Lae Lar Village	
				3	Kuan Village	
				4	Kuan Yai Village	
				5	Pi Yai Village	
				6	Pluck Mala Village	
	Satun	La Ngu	Kam Pang	10	Pak Ping Village	
				11	Thung Samet Village	
				12	Tu Tae Lam Village	
			Lame Son	1	Tan Yong Lanai Village	
				2	Kar Bang Village	
				3	Buboi Village	
				4	Son Klang Village	
				5	Su Ngai Mu So Village	
				6	Son Mai Village	
		Thung Wa	Korn Klang	1	Klon Klan Tawan Ok Village	
				2	Rawai Tai Village	
				3	Kon Klang Village	
				4	Rawai Nuer Villag	
			Na Thong	3	Chong Sai Nuer Village	
				4	Wang Thong Village	
			Thung Bu Lang	1	Thung Ma Ngag	
				2	Thung Sapo Village	
				3	Thung Tha Nan Village	
				4	Thung Na	
				5	Thung Bu Lang	
		Tha Pae	Sakorn	1	Thung Rin Village	
				2	Sakorn Village	
				3	Klong Leedee Village	

List of Villages*, Districts and Sub-Districts Affected by the Tsunami (contd.)

No.	Province	Ampur	Tambon	Moo	Villages/Communities	Note
				4	Teen Village	
				6	Klong Ban Village	
			Tha Luar	3	Rai Thong Village	
			Tha Pae	7	Sai Kuan Village	
				8	Da Lao Village	
	Total	**4**	**17**	**70**		
6	Trang	sub-district	Ta Sae	1	Na Thalay Village	
		Had Samran		2	Na Chum Hed Village	
				3	Thung Plaew Village	
				4	Ta Sae Village	
	Trang	sub-district	Had Samran	1	Pak Pron Village	
		Had Samran		5	Lame Por Village	
				6	Kok Kwa Village	
				10	Kok Kai Village	
				11	Narapod Village	
				12	Kok Kien Village	
		Kan Thang	Libong Island	1	Kok Thon Village	
				2	Muk Village	
				3	Mod Ta Noi Village	
				4	Ba Tu Bu Tae Village	
				5	Lang Kao Village	
				6	Choa Mai Village	
				7	Sai Kaew Village	
			Ban Sak	3	Kuan Thung Ku Village	
				4	Nam Rab village	
			Na Klier	1	Had Sai Kao Village	
				4	Pra Muang Village	
			Kan Tang Tai	4	Kor Kiem Village	
		Si Kao	Kao Mai Kaew	3	Lame Sai Village	
				4	Bang Kang Kao Village	
				5	Lame Makarm Village	
				7	Thung Thong village	
			Mai Fard	3	Mai Fard village	
				4	Had Pak Meng Village	
				5	Chang Larng village	
				7	Na Lae Village	
			Bor Hin	2	Pru Jud Village	
				6	Hua Hin Village	
				8	To Pan Village	
				9	Ban Pak Klong Village	

List of Villages*, Districts and Sub-Districts Affected by the Tsunami (contd.)

No.	Province	Ampur	Tambon	Moo	Villages/Communities	Note
	Trang	Pa Lean	Tha Karm	1	Tha Karm village	
				2	Yong Star Village	
				3	Teen Village	
				4	Thung Ruang Thong Village	
				6	Thorn Harn Village	
				7	Tok Village	
				8	Tha Kam Tok Village	
				9	Kuan Lam Petch Village	
			Su So	1	Su Sar Village	
				4	Tha Klong Village	
				7	Thung Kor Village	
				11	Nai Thong Village	
			Ban Nar	7	Lame Yang Village	
			Kor Sukorn	1	Saim Mai Village	
				2	Lame Village	
				3	Klang Na Village	
				4	Sai Thong Village	
Total		**4**	**13**	**51**		
Grand Total		**25**	**95**	**412**		

* Of the 418 villages affected by the tsunami, 412 are listed here. Source: Department of Disaster Prevention and Mitigation, Secretariat of Supporting Center for Tsunami Affected Victims in Phuket

Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods in Tamil Nadu, Kerala and Andhra Pradesh, India

by Venkatesh Salagrama
Director, Integrated Coastal Management, India

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Contents

Introduction

The objectives of the study were:

- to provide an overview of major interventions related to rehabilitation of fisheries-based livelihoods and analyze some of the key issues/ challenges arising from their design and impact on fisheries resources and fishing communities; and
- to provide an overview of shelter and reconstruction interventions specific to fishing communities, and discuss their merits and demerits

Duration and Coverage of Study

The study was conducted during October-December 2005, covering the three coastal States of Tamil Nadu, Kerala and Andhra Pradesh. In Tamil Nadu, the study covered five districts (four on the Coromandel Coast and one – Kanyakumari – further south). In Kerala, two affected districts – Alappuzha and Kollam – were covered, while in Andhra Pradesh, the study covered five coastal districts in the central and southern zones of the State. For logistical reasons, the study concerned itself only with the marine fishing communities, and the people in other subsectors – for example, inland capture and aquaculture – were not covered. The list of villages visited during the study is provided in Annexure I.

Some Clarifications

In the post-tsunami rehabilitation programmes, there were far too many initiatives with much diversity in their approaches, directions and outcomes; attempting to draw generalisations right across the board, even within a State, is extremely difficult. That many activities were still in various stages of progress also means that they could develop differently from the way foreseen by this study. It is also too early to understand and explain the long-term implications of the different interventions – such as changes in fishing patterns (at sea and on shore), costs and returns, relative importance of different players in the production and market chains, etc. – and the poor fishing that characterized operations during the last few months also made it difficult to ascertain how some of the interventions worked in reality.

It thus needs to be acknowledged that the conclusions arrived at in this report necessarily come with a string of exceptions and qualifiers that may not always be explicit. Time and logistical constraints also meant that the visits to the tsunami-affected areas were necessarily brief and covered only some locations; linguistic barriers further constrained a free exchange of information. All the same, the study strove to draw its conclusions from a wide range of sources and validate the same in various ways, in order to present the best possible evidence on the many issues discussed here.

This diversity also necessitated focusing on certain areas – for example, Tamil Nadu, especially the Coromandel Coast – more than on others, and charting the progress of rehabilitation programmes in these areas in more detail. The discussion about the other areas (Kerala and Andhra Pradesh) had perforce to be confined to highlighting certain features that were specific to those areas or differed significantly from the rehabilitation programmes – in terms of content, planning, implementation or uptake – in Tamil Nadu.

For a variety of reasons, this study focused on the qualitative aspects of rehabilitation and this may have been at the expense of providing robust quantitative data. It was also found to be very difficult to verify the data obtained from different implementing agencies at the village level, either because the programmes were still in various stages of implementation or because (in several instances) the informants in the village did not know the provenance of some kinds of assistance they had received. Under-reporting the assistance received was an endemic problem in most villages visited during the study, and physical verification was not always possible.

Finally, it has to be made clear that this study is an effort to take stock of what was happening on the rehabilitation front and to explore how things could be improved, and is certainly not an exercise in pointing fingers, which is why all mention of specific persons or organizations have been avoided in the report. If some conclusions are critical about particular aspects of the rehabilitation work (particularly on the issue of giving boats), they are presented with the belief that the situation could still be improved. Dealing with the tsunami was a totally new experience for everyone, and the magnitude of the disaster was unprecedented, which naturally meant that people had to invent the systems to cope with it by trial-and-error and, that too, in the shortest possible

time; under the circumstances, the issue was not that there were some mistakes, but that there were so few of them.

Structure of the Report

The next chapter focuses on the impact of the tsunami on the fisheries sector in the three States. The third chapter discusses the components of the post-tsunami rehabilitation programmes related to fisheries livelihoods, and the following chapter addresses some key issues related to rehabilitation of fisheries livelihood programmes. The fifth chapter summarizes the issues concerning the shelter programmes and their relevance for the fisheries-related livelihoods in the three States. The sixth chapter discusses the institutional context in which the rehabilitation programmes took place, and the final chapter summarizes the findings of the study.

Impacts of the Tsunami on Coastal Fishing Communities

Extent of Damages

In India, the tsunami of 26 December 2004 affected the States of Tamil Nadu, Andhra Pradesh, Kerala and the Union Territories of Pondicherry and the Andaman & Nicobar Islands. Approximately 2,260 km of the coastal area (besides the entire Nicobar Islands) was affected, and the fisheries sector bore the brunt of the tsunami, accounting for 85 per cent of the damages.

According to the Government of India's Report to the Nation in June 2005, as many as 12,405 lives were lost: 8,009 in Tamil Nadu, 3,513 in Andaman & Nicobar Islands, 599 in Pondicherry, 177 in Kerala and 107 in Andhra Pradesh. The toll included 14 Indians overseas, including 13 in Sri Lanka and one in the Maldives (Joint UN Report, 2005:3).

Among the three States covered by this study, Tamil Nadu was the worst affected, with the Coromandel Coast taking the most losses. The coastal areas south of the Coromandel Coast, that is, the Palk Bay and large parts of the Gulf of Mannar were spared, but the southernmost district in the State, Kanyakumari, was hit badly along its west coast. In Andhra Pradesh, the impacts of the tsunami were felt by six southern districts (from Nellore in the south, extending up to East Godavari). In Kerala, the effects of the tsunami were felt in a relatively small area, consisting of villages in Kollam, Alappuzha and Ernakulam districts, with most damages concentrated in Kollam district. However, compared to the scale of damages in coastal Tamil Nadu, the physical and economic losses inflicted by the tsunami on Andhra Pradesh and Kerala were fewer. This was apparent from the fact that people in these areas (especially in Andhra Pradesh) seemed to have largely overcome the effect of the tsunami, except for rehabilitation purposes.

Impacts on Craft, Gear and Infrastructure

The ADB/UN/World Bank report summarizes the fisheries-related losses due to the tsunami as follows:

> The tsunami destroyed or damaged nearly 5,000 mechanized boats, causing damage valued at Rs. 663.1 crore ($152.4 million) – a total of 7,933 FRP boats/ vallams valued at Rs. 50.1 crores ($11.5 millions); about 24,580 boats of other categories, mainly motorized, valued at Rs. 121.0 crore ($27.8 million); and 35,483 wooden catamarans valued at Rs. 90.0 crore ($20.7 million). In addition, 2,342 outboard motors worth Rs. 10.1 crore ($2.3 million) were damaged or lost… Nets sets valued at Rs. 44.4 crore ($10.2 million) were damaged or lost. Boat seines worth Rs. 19.9 crore ($4.6 million) were lost in Kerala.
>
> Damages have been reported on both coasts to about 388 ha of shrimp ponds (worth Rs. 8.4 crore or $1.9 million), and five hatcheries (Rs. 0.25 crore or $57,500), and to 102 small-scale oyster farms in Kerala valued at Rs. 0.102 crore ($23,500).

Losses Related to Fishing Implements in the Three States

The main impacts of tsunami related to marine fisheries included: loss or damage to fishing boats, nets and engines; infrastructure for landing, fish processing and trade-related activities, apart from loss of lives of active fishers.

Tamil Nadu

According to the Department of Fisheries, the total number of boats damaged by the tsunami was 51,078. Besides the fishing boats, 78 shrimp aquaculture farms, with a total area of 370 hectares, were damaged. The Department of Fisheries puts the number of shrimp hatcheries damaged at 22.[1]

Table 1: Damages to fishing equipment in Tamil Nadu

	Catamarans		Vallams	Mechanized boats	Fishing Nets
	Wooden	FRP			
Chennai	1493	169		568	2992
Cuddalore	5530	862		505	4935
Kancheepuram	1994	784	19	8	2873
Kanniyakumari	6582	0	694	385	7236
Nagapattinam	6144	0	1761	869	7604
Pudukottai	191		473	30	2342
Ramanathapuram	0		290		180
Thanjavur	47		232		522
Tiruvallur	516	570			2888
Tiruvarur	0		19		19
Tirunelveli	1285		82		1160
Thoothukudi	644		600		2203
Villupuram	1691	1017		26	3223
	26117	3402	4170	2391	38177

Source: Lost and Damaged Property: Boats. Extracted from the table on page 16. "Tiding over tsunami", Government of Tamil Nadu, 2005.

Andhra Pradesh

According to the internal[2] documents of the Department of Fisheries and *Velugu*, the nodal agency for tsunami rehabilitation in the state, the total number of boats affected by the tsunami was 11,394. Of these, 2,418 were lost and 8,976 were damaged.

Kerala

In Kerala, losses to fishing equipment in the four affected districts were as shown in Table 3.

Losses to Infrastructure Related to Fishing

The losses to economic infrastructure – access roads and bridges, transport systems, communication facilities, harbours and jetties, fish landing, processing, marketing, packing and transporting infrastructure etc – were quite significant on the Coromandel Coast. This proved to be a serious handicap to undertake rescue and rehabilitation activities as well as to resume fishing operations subsequently[8]. The tsunami also highlighted the fact that, for many fishing communities along the Coromandel Coast (as elsewhere), poor access to infrastructure continued to be a serious handicap, adding significantly to their physical and economic vulnerability.

Losses Related to Housing

According to the ADB/UN/World Bank, the estimated numbers of damaged houses in the three states were as follows:

In several villages in Andhra Pradesh and Tamil Nadu, where sea erosion was a big problem, the land near the beach was avoided by the more affluent people, which was an opportunity for the poor people to build their houses on the beach. The tsunami washed away many of these houses in large numbers, carrying away the meagre assets that these families had, and their capacity to recover from such shock is often very low.

Summary of Damages and Losses

The ADB/UN/World Bank study summarizes the damages and losses in India (in $million) as follows:

Problems in Loss Assessment

The figures related to fisheries-related losses, given in the foregoing section, show that the loss assessment was confined largely to the productive assets. The ADB/UN/World Bank report notes this: "In their evaluations, the governments have focused on the damage to the productive assets but paid less attention to damages caused to livelihoods in fishing villages, and to those who provide support services." The report goes on to list a number of other problems with the loss assessment methodologies.

Even within the specific areas where loss assessments had been done, there were wide gaps: no

Table 2: Damages to fishing equipment in Andhra Pradesh

	Lost			Damaged					Nets lost				
	Wood cat	FRP cat	Wood nava	FRP nava	Wood cat	FRP cat	Wood nava	FRP nava	Mech boats	Gillnet	Trammel net	Shore-seine	longline
Srikakulam	0	0	0	0	223	16	2	6	0	252	45	21	0
Vizianagaram	2	0	1	0	24	35	7	0	0	40	0	0	0
Visakhapatnam	4	0	1	0	376	167	0	0	170	567	0	8	36
East Godavari	0	0	102	0	0	185	1156	289	149	8021	1435	5	657
West Godavari	33	9	15	2	109	6	116	17	0	360	14	6	0
Krishna	0	0	213	0	0	0	1428	72	0	5093	930	23	98
Guntur	0	0	4	0	13	0	36	0	0	1036	0	23	0
Prakasam	763	24	0	11	1804	154	262	271	0	6883	2073	42	0
Nellore	1156	78	0	0	880	1003	0	0	0	5169	1224	6	0
Total	1958	111	336	13	3429	1566	3007	655	319	27421	5721	134	791

cat = catamarans/*kattamaram*s

reliable numbers were available about the different varieties of fishing craft operating in different areas in the pre-tsunami period. Lack of baseline data makes loss assessment a tricky business and leads to big differences in the assessments made by different agencies. Although the Department of Fisheries in Tamil Nadu conducted a detailed census of the fishing boats in the state in 2000, the figures needed updating. As the following table shows, the assessment of losses made by three organizations in Kanyakumari comes up with three different sets of figures, with wide variations between them (from Johnson Raj's presentation at the TRINET workshop in May 2005).

Such wide disparities in numbers have contributed to some of the confusion that assailed the rehabilitation efforts, leading to exaggeration of losses[9] and duplication of efforts.

Impacts of the Tsunami on Different Livelihood Groups

While the boat owners were the most important and *visible* losers from the tsunami, the loss of boats and the consequent stoppage of fishing operations for extended periods had an impact on the long chain of intermediaries in the production and marketing chains. Even among the primary producers, while many boat owners lost their productive assets, the crewmembers suffered from long periods of inactivity following the tsunami. It took some time before the boats could be repaired or replaced and the crewmembers – by virtue of their low savings – often fared badly.

Many people involved in processing (traditional or modern), trade and ancillary activities lost their tools of trade and several people also lost huge quantities of fish spread on the beaches for drying.[10] While the losses to the processors in terms of physical assets might be low (especially in comparison with the boats), there was no denying that the tsunami affected them in several ways: firstly, many people who died at crowded fish landing centres like Nagapattinam belonged to these categories and the death of the main bread-earners had been a serious handicap for their surviving family members. In several cases, this necessitated the surviving members of the family to begin working. Secondly, many of these people came from poor economic backgrounds and the low-surplus, subsistence nature of their activities often forced them to use their working capital to meet their consumption needs, so that by the time the fishing activities started again, many of them found themselves at the mercy of moneylenders or simply forced out of their traditional occupations. Several people from non-fishing communities, who play a direct or indirect role in the production and marketing chains, also suffered badly as a result of tsunami.

A majority of investments in the sector came from the informal sector and it is said that the people worst affected in the tsunami were the moneylenders and the trader-financiers, who lost sizeable investments in the sector.

Impact of the Tsunami on Natural Resources

Erosion of beaches, which provided a number of services to the fishers, was a serious concern in many places including the Coromandel Coast and Andhra Pradesh. The fishers contended that the sea had encroached upon the beaches and reduced the space available for keeping the boats, auctioning catches, mending nets, drying fish and firewood and doing a host of other things that they generally did on the beaches. In Anumandai Kuppam in Villupuram district, the fishers reported that the sea had encroached nearly

Table 3: Damages to fishing equipment in Kerala

	Kollam[3]	Alappuzha[4]	Ernakulam[5]	Thrissur[6]	Kannur[7]
Fishing craft	540 catamarans; 875 engine boats; 101 mech boats	596	50	33 canoes; 36 craft; 12 boats	13
Outboard motors		43	41		7
Nets	160	670	62	40	51
Other fishing equipment	435			13 China nets; 7 Chapa and 3 hatcheries	

40 metres inland, reducing the space available for keeping boats, which were now crowded in a very small area. In Vodarevu in Andhra Pradesh, the fishers complained that the sea had encroached quite a long distance inland and, in most cases, these losses were permanent.

There were also reports of changes in the quality of beaches in some areas. In Koonimedu Kuppam in Villupuram district, the fishers reported that the clayey areas near the shore had now become sandy (this was reported to be the other way round in some Cuddalore villages). As evidence of the change in the texture of land, they showed the example of coastal vegetation (including coconut and Palmyra trees on the beach), which was defoliating and dying. The fishers even suspected that the chemical composition of the waters in the nearshore waters might have undergone some changes – this was reflected in a change of colour of the waters – which might have contributed to a whole range of changes to *everything* in the sea.

Many fishers on the Coromandel Coast contend that the fishing grounds had changed as a result of tsunami. There were complaints about the increase in depth at the traditional fishing grounds and also about a change in the water currents and the tidal patterns in the near-shore waters. At Chetti Nagar in Villupuram district, fishers had been fishing at an average depth of 8 fathoms before the tsunami, but were now reportedly fishing at 12-15 fathoms and similar experiences were related in many other villages. Many species of fish – particularly shrimp – were reportedly 'relocated' by the tsunami and the fishers had to seek new fishing grounds.

Given such perceptions at the fishers' level, one question that is quite important and yet has no certain answers is whether the tsunami had an impact upon the fisheries resources and consequently on fish production. There is evidence in the studies conducted by the Department of Ocean Development (among others), showing radical changes in the bathymetry and the oceanographic features of Bay of Bengal as a result of tsunami. These changes would have implications for the fisheries as they affect the behavioural patterns of fish, shifting or destroying their habitats as well as breeding and nursery grounds.

When the fishers restarted fishing in the post-tsunami period, they found good catches for the first two months[11]: May-June was a period when catches were reportedly good, which was explained as the result of extended periods of non-fishing in the coastal waters after the tsunami. From July onwards, there had been slump in fish catches, which was continuing when this study was conducted. During September-October, fishing had been so poor that fishers claimed it was not worth spending any time on it. Consequently, many fishers were simply idling on the shore, while their brand new FRP boats sat waiting on the beach.

There are reports that fish catches declined badly along the entire coast of Kerala, although the tsunami itself had only affected certain pockets within the state. Even the monsoon-fishing ban, which was generally followed by good landings of shrimp and other fish, had not improved the fish catches. Adding fuel to the suspicion about changes in the behavioural patterns of fish, two new species – the red crabs and the puffer fish – appeared in large numbers in fish catches in the state since the tsunami. The two species were quite destructive to the fishing gear and also dispersed the other species from the near shore waters (which earned them the nickname 'CRP' – the Central Reserve Police known for their dispersing tactics), adding a new

State	Pucca	Kachcha	Total
Andhra Pradesh	216	265	481
Kerala	13042	0	13042
Tamil Nadu	16957	113043	130000

dimension to the problem of poor catches. The magnitude of the problem was such that it was a hot topic of subject of discussion in the local newspapers. The prevalence of red crabs had since declined, but the puffer fish continued to be a problem at the time of the study.

Contrary to the general perception elsewhere, the fishers in Kanyakumari contended that the tsunami had no visible impact on the availability of fish and attributed the decline in catches to reduction in fishing capacity. Obviously, this was a result of damage or loss of fishing boats and delays in repairing or replacing them. The tsunami also engendered a fear psychosis among the fishers about fishing in the sea, which would not allow fishers to take to fishing as eagerly as they used to and also forced them to keep to 'safer' waters, i.e., nearshore waters, where catches were necessarily low. In due course, as more boats became available and fishers gathered courage to move into deeper waters (or were pushed to seek new fishing grounds due to competition), they reportedly found good catches. This was a trend that the fishers believed would hold and their contention received support from the fact that the availability and cost of fish in the local markets remained the same as before the tsunami. A cursory examination of the transactions of the fish marketing society in Colachel indicated that there was a decline in the society's business from Rs. 25 lakhs in the first ten months of last year to less than Rs. 15 lakhs during the same period in 2005, but considering that there had been no fishing at all for the first six months in the year, this might actually mean that fish catches had improved in the region in the post-tsunami period.

It is possible that fish declines on the Coromandel Coast and elsewhere were a continuing trend from the pre-tsunami period rather than an outcome of the tsunami. The reported declines in fish catches in some parts of Andhra Pradesh, for instance, were generally agreed by the fishers to be a continuance of the old trend. However, the fishers of the Coromandel Coast were quite clear that the tsunami did influence the fisheries, as their catches had never been so bad as they were this year, particularly during peak fishing seasons. November-December was the peak fishing period on the Coromandel Coast and the fishers suggested it would be the defining period to assess the impact of the tsunami on the resources. In the event, November was more or less washed out by repeated floods to the various rivers in the state, which deterred the fishers from going to the sea, so the issue remained unresolved.

All the same, as scientists urge, it may be too early to identify a relation between the tsunami and the declines; it would require monitoring the situation over a few fishing seasons at least before some definite conclusions can be drawn about it.

Fisheries scientists as well as some experienced fishers forecast another – more positive – outcome from the tsunami. The vigorous churning of the waters in the Bay of Bengal from top-to-bottom by the tsunami, they claim, contributed to an upwelling from the nutrient-rich benthic strata to the upper layers, contributing to enhanced primary productivity, which might be reflected further down the food chain as an increase in fish production over the coming years. The post-tsunami period also saw repeated floods to most rivers in the state; while their impacts upon the land and the people had been devastating, their effect on the coastal fisheries resources was considered to be positive. It is thus possible that the fisheries in the state might see a boom in the coming years (H M Kasim, pers.comm.).

However, lacking more precise information, many of these issues remain in the realm of hypothesis and there is a clear need for a thorough investigation as soon as possible. As far as could be ascertained, however, no studies have yet begun to determine the impact of the tsunami on the fish resources and its possible consequences for the fisheries sector.

Impact of the Tsunami on the Psyche of Fishers

The fishermen of Kanyakumari district, particularly on the west coast, always prided themselves about

	Damage and losses			Effects on livelihoods
	Damage	Losses	Total	
Andhra Pradesh	29.7	15.0	44.7	21.2
Kerala	61.7	39.1	100.8	36.3
Tamil Nadu	437.8	377.2	815.0	358.3
Pondicherry	45.3	6.5	51.8	5.9
Total	574.5	448.3	1022.8	421.7
By sectors:				
Housing	193.1	35.4	228.5	
Health and education	10.7	12.9	23.6	
Agriculture and livestock	15.1	22.4	37.5	26.0
Fisheries	229.6	338.2	567.8	338.2
Livelihoods (micro enterprises and others)	20.0	37.5	57.5	57.5
Rural and municipal infrastructure	28.0	1.6	29.6	
Transportation	35.2	0.3	35.5	
Coastal protection	42.8	0	42.8	

their seafaring abilities and adventurousness, and with good reason too. The fishers of the Coromandel Coast never doubted that they knew their sea, its moods, the currents and the winds, and took pride in explaining their knowledge of the sea at length, and also with good reason. After all, they spent more time upon the sea than on the shore and made a living out of it.

But now, the fishers claimed, the sea was suddenly alien to them. This alienation and the sudden distrust that had sprung between the people and the sea was a constant refrain in many villages. While there was evidence that fishing operations were coming back to normalcy in several areas, fear psychosis continued to be a threat to resuming operations. And this was not confined to the men going to the sea; in fact, the women were far more vehement about their distrust of the sea and insisted that the men confined their operations to the closer shore waters. The men were worried not so much by the fear of being caught in another tsunami (the fishermen of Kallar actually boasted that even the tsunami could not do anything to them when they were at sea; it was only on land that they were helpless!) as by the apprehensions about the wellbeing of their families while they were away. This had also led to changes in the number of fishing days, depth and distance of fishing grounds, duration of fishing – all of which reflected in poor catches and low incomes.

The changes in seasonality, in the wind and wave patterns and in the fisheries had meant that the indigenous knowledge the fishers had gained over the years was of no use to predict anything as the sea and its behaviour had become quite erratic.

Some of the fishers (for e.g., in Akkaraipettai) moved into land-based activities, including house construction, although the same people would have disdained such activities not very long ago. Even the many categories of people who came into the village regularly – for fish trade and allied activities and for various other purposes – confined their stay in the village to the daylight hours and returned before 5 pm.

Impact of the Tsunami on Social Networks

In a closely integrated sector like fisheries, the sudden disappearance of a number of people from the scene – either due to death or due to moving away – must lead to serious imbalances and disruption of social networks. In Kallar village, people felt that the death of 90 adults out of a total 600 (15 per cent of the population) was a big shock and loss in various ways; in practical terms, it handicapped fisheries operations: there were not enough crew to operate the boats; there were fewer hands to help in launching and hauling them; the fish processors were not able to find enough assistants and the women traders found it difficult to pool together and visit the markets in the

	Government	*Kottaur Social Services Society (KSSS)*	*Tsunami Reconstruction and Rehabilitation Committee (TRRC)*
No of villages affected	33	31+19	40
No of families affected	31175	32332	35041
No of persons dead	824	916	1339
Houses fully/partially damaged (Total)	5152	5534	8993
Wooden/FRP catamarans	10407	6892	11455
Wooden/FRP vallams	154	1423	2876
Boats	159	395	
Outboard motors	1491	3615	3051
Nets	19650	24385	22334

neighbourhood for selling their fish. In some other villages, it was reported that the death of people also changed the political configurations in the villages and new combinations emerged among the survivors, swinging the power balance from one side to another.

It might be instructive to see the impact of such disruptions upon the life and livelihoods of several other categories of people, like the aged, children, the single-women and so forth, but this was beyond the scope of this study, which would however like to recommend this as a possible area to explore in the immediate future.

Rehabilitation of Fisheries-based Livelihoods

Packages for Supporting Fisheries-based Livelihoods

Tamil Nadu

In Tamil Nadu, the Government made provision for replacing or repairing all fishing equipment damaged in the tsunami. The package for rehabilitation of fishing livelihoods included: replacing fishing nets for *vallam*s and *kattamaram*s; repair of engines (both outboard and inboard); and assistance for repair or reconstruction of *vallam*s and *kattamaram*s, with the quantum of assistance being 100 per cent of the unit cost in case of wooden *kattamaram*s and 50 per cent in case of replacement of FRP *vallam*s and *kattamaram*s. The assistance to the mechanized sector was confined to 60 per cent in case of repairs (subject to a maximum of Rs. 3 lakhs) and to 35 per cent in case of fully damaged or lost boats (up to a maximum of Rs. 5 lakhs). Provision was made for the mechanized boat owners to obtain bank loans at subsidised rates for the balance amount necessary for undertaking repair or reconstruction. In all cases, the Government's support was confined to providing monetary assistance to the fishers. It also exempted payment of sales tax on the purchase of selected materials necessary in the repair and reconstruction of the boats damaged by the tsunami[12].

Besides the primary producers, the Government of Tamil Nadu also made provision for assistance to aquaculture owners, fish transporters and ice-manufacturers; for repairing fishing harbours, jetties and landing centres; dredging and related activities necessary for resumption of fishing; and for undertaking repairs to its boat building yards to undertake repairs of boats. With long-term assistance from the World Bank (the Emergency Tsunami Reconstruction Project – ETRP) to the tune of $423 million and from the Asian Development Bank (under the Tsunami Emergency Assistance Project – TEAP) to the tune of $143 million, the state government is also undertaking restoration programmes related to fisheries livelihoods, infrastructure and capacity building.

The response from the civil society organizations (CSOs) – both international and national – to the tsunami was staggering. Many local NGOs received partnership assistance from a number of international and national funding agencies and it was reported that in the period from January to June 2005, about 650 NGOs/INGOs have put in their share of relief and rehabilitation work in the 13 tunami-affected districts

in various parts of the country[13]. Although figures are hard to come by, i is estimated that at least Rs. 4–5000 crores would have gone into the INGOs/NGOs for tsunami relief and rehabilitation services. Much of the CSO assistance for rehabilitation of fisheries-related livelihood took the form of providing boats, mainly of the FRP motorized category. Some self-help group (SHG) initiatives were promoted among women, besides strengthening the existing ones and there were also a few initiatives to develop alternative/ supplementary livelihoods, targeting the rural youth.

Although less documented, the existing social networks in the fishing communities often played a crucial role in the relief and rehabilitation work in many areas. The informal *panchayat*s and other local community groups helped the victims by extending immediate assistance, by ensuring that everyone was properly accounted for in the relief and rehabilitation and by regularly following up with the rehabilitation agencies. At least some processors and traders also managed to get back into business with the money they had received from the caste *panchayat*s, which had collected a share from the compensation paid by the government for lost or damaged boats in the village (while the persons who'd lost them would often get the assets replaced by the NGOs) and from auctioning the new boats and other assets that the NGOs provided in the villages. This was redistributed among the villagers and came handy in restarting fishing and trade[14].

The private sector also played a crucial, and similarly unrecognised, role in the rehabilitation of the affected people. The fact that many categories of fishers (especially in the post-harvest sector) could stand on their feet after the tsunami owed as much to the moneylenders and trader-financiers as to the relief and rehabilitation support extended by the government and the CSOs. Besides, the corporate sector in India also contributed significantly to the rehabilitation efforts both directly (to the tune of US$ 8 million) and through contributions to the Prime Minister's National Relief Fund (to the tune of US$ 9.2 million).

Kerala

Matsyafed, the co-operative federation in Kerala, was made the nodal agency for rehabilitation measures in the coastal areas affected by the tsunami and assigned the task of distribution of fishing implements to the affected people. Of the total requirement for compensating the losses of the fishers in the state, assessed at Rs. 13.91 crores, the State Government released Rs. 13.86 crores for replacement and repair of fishing implements. Fifty per cent of the assistance for boats and nets was originally intended to be given as a loan, but this led to protests and it is not known how the matter was finally resolved. The lists of beneficiaries took a long while to prepare, and as on 1st of July, i.e., a full six months after the tsunami, the assistance released was only about 40 per cent of the sanctioned sum. There were also many allegations about misappropriation funds, leading to much confusion and lack of clarity on the rehabilitation in the state. From the information available, it appears that the rehabilitation support included assistance for repair and replacement of fishing crafts and engines, provision of nets and working capital assistance.

In the NGO sector, many agencies also provided boats, engines and nets to the fishers, mostly on a group-ownership basis. Other interventions included: setting up self-help groups among the women; assistance in setting up small businesses in several areas; and helping the youth in taking up alternate employment in construction and other sectors.

Andhra Pradesh

Although the actual losses and the rehabilitation measures were quite small in Andhra Pradesh, the interesting thing about the tsunami rehabilitation programmes was the institutional framework that had been put in place to channel support to the affected people. The World Bank-aided Andhra Pradesh Rural Livelihoods Programme, '*Velugu*', was the nodal agency for rehabilitation of tsunami-affected fishing communities in the state and it did the loss assessment and beneficiary selection for tsunami rehabilitation with the technical assistance of the Department of Fisheries. The *Velugu* women's groups in the villages acted as channels for extending support to the affected people and in several villages, new women's groups were formed to ensure adequate coverage of the affected people. This had implications in different directions, which are discussed later.

In the rehabilitation phase, *Velugu* made arrangements for *in situ* repair of damaged boats. The cost of repairs – ranging between Rs. 1500 and Rs. 2000 per boat – was borne by *Velugu* and was

made through the women's groups. Boats that were lost or fully damaged were replaced with new boats, mostly of FRP make, and this was done on a group-ownership basis. Three-quarters of the cost of the boats was subsidised by *Velugu*, while the rest was given as a loan. The responsibility for ensuring repayment of the loan component was vested with the *Velugu* women's groups. Replacement of lost nets was also done very early on to enable fishers to undertake fishing immediately and the cost of replacement was subsidised by the Government.

The NGO contribution to the fisheries rehabilitation in the state remained rather low-key and involved provision of a few boats on group-ownership basis. There were a few interventions for supporting women, but the overall scale of NGO involvement was not high.

Issues Related to Restoration of Boats

In all three States, restoration of fisheries-livelihoods was taken to be synonymous with provision of fishing boats. Of the three broad categories of fishing boats in existence, i.e., artisanal (non-motorized), motorized and mechanized, boats of the intermediate category (motorized FRP boats[15]) dominated the rehabilitation packages. There was a strong feeling among the agencies and individuals involved in rehabilitation – supported by evidence in several villages – that the extent of support for FRP motorized boats was more than adequate to replace the losses.

FRP Motorized Boats

In Tamil Nadu, the government made detailed assessments of losses and allotted funds for repair or replacement of all boats damaged/destroyed/lost in the tsunami. The procedures for obtaining compensation were rigorous and most of the money *did* go to the people – indicating that a sizeable proportion of boats *could have been* rehabilitated with government support (even after discounting 'leakages'). In reality, the damaged boats were produced for collecting the compensations, which were generally pocketed, while the NGOs supplied new boats to the fishers. This was the reason for the continued presence of damaged boats on the beaches in some villages.

The Government's support for repair and reconstruction of boats lost in the tsunami had given rise to a need among the NGOs to seek out new beneficiaries for providing boats. Many boats thus went to groups of former crewmembers ostensibly to enhance their asset base and ensure equitable distribution of assets; at least in a few cases, it was an excuse to provide more boats than were necessary. In some villages in Cuddalore and Villupuram, boats were also given to women groups. There were reports in Kanyakumari of some fishers receiving more than one boat each, which was justified on the ground that the seasonal diversification of fishing activity and migration necessitated the fishers to have two boats for fishing in two different environments.

There was a manifold increase in the numbers of the FRP crafts on the Coromandel Coast (especially in Nagapattinam and Cuddalore districts) in the post-tsunami period, although it would be very difficult to find out exactly how many boats had been really given and almost impossible to compare them with their previous strength. In Kanyakumari, the number of boats might not be as high as on the Coromandel Coast and might also be less than originally proposed, but it is very sure that they would be higher than their pre-tsunami number. Also, the fact that many new FRP boats were still being constructed at dozens of boatyards that had sprung up in Kanyakumari, Nagapattinam and Marakkanam areas indicates that the boat programmes still had some way to go before running out of steam.

The replacement of boats in Kerala and Andhra Pradesh had been within limits. The number of boats lost in these states was small to begin with, and the rehabilitation packages were unlikely to add significantly to the existing numbers. There was relatively little NGO activity in these states, which kept the flow of funds into the sector rather low-key. However, in both these states, there was a possibility that the surplus boats in Tamil Nadu would be sold to the local fishers (subject, of course, to the suitability of the designs and shapes to the local context and also the quality of the boats being to the satisfaction of the buyers), which might add to the overall fleet strength, but the conditions prevailing in the sector in these two states would indicate that investments on the new boats might not be high.

Wooden *Kattamaram*s and Other Artisanal Boats

The emphasis on FRP boats in the rehabilitation

packages meant that many of the wooden *kattamaram*s destroyed/damaged in the tsunami were not repaired or replaced and there was a decline in their numbers, or even total disappearance in some areas (Muralidharan, pers.comm.), in the post-tsunami period.

In Tamil Nadu, the Government paid out all *kattamaram* damages in full and it was possible that both the numbers of boats compensated and the amount paid was quite generous. That the fishers did not need to attach proof to their claims relating to the loss of a *kattamaram* meant that the real numbers of boats lost might be less than those for which compensation had been claimed. Yet, very few wooden *kattamaram*s were really replaced, and according to some estimates, the number of wooden *kattamaram*s now was only 40 per cent of their pre-tsunami strength, although there was really no easy way to confirm this. One argument in support of the shift to FRP boats was that availability of wood was a constraint for building *kattamaram*s in the required number.

The drastic increase in FRP motorized boats in many villages in Tamil Nadu raises questions about the continued survival of the wooden *kattamaram*s. Many fishers and NGO functionaries were of the opinion that it might be a matter of time before the wooden *kattamaram* would vanish from the Coromandel Coast. On the other hand, such gloomy prognoses (which had been made time and again about the old survivor) were belied by the poor quality of the new FRP boats provided (as well as the increased costs they'd entail), indicating that the fishers would require to invest in new boats sooner rather than later and, lacking the necessary wherewithal, at least some of them would be forced to go back to the *kattamaram*. Already, in villages like Kallar, it was said that a contingent of fishers was planning to visit Kerala in November to obtain *kattamaram*-grade *Albyzzia* wood.

But the return to wooden *kattamaram*, as the fishers observed, would not be easy. Speed was an important requirement for surviving in a highly competitive environment and in a context where a large number of boats were chasing a few fish, those who reached the fishing grounds first would have access to the best catches, and so they could not afford *not* to use engines to rush to the fishing grounds first. Also, as Bavinck (2001:96) suggests, there was the comfort factor that characterised working on a motorized boat, which would make it very painful to revert to the old systems. Thus, if the cost of operations with the FRP boats kept going up, they might take to some adaptations like longer fishing trips to save fuel or use smaller engines etc., and would go back to *kattamaram* only as a last resort.

The Mechanized Sector

In Tamil Nadu, support to the mechanized sector was confined to government's compensation for repairs and replacement. There was a clamour from the mechanized boat owners for payment of the compensation without the necessity to repair/replace the boats. This was because, for many people, the need for taking a sizeable bank loan to replace the boat was a risky proposition, particularly in the context of poor fishing over the years. Many of the boat owners were also reportedly over 50 years of age and did not like the idea of spending the rest of their life with the burden of loan repayment hanging heavy over their heads (Praxis, 2005:68). Many of the boats had outstanding debts to the export companies and commission agents and putting a repaired boat (or a new boat) back into operations meant that the owners would have to allow the old debts to be revived, which would not be the case if they simply moved out of fishing altogether. The insistence of the banks for security (the boats did not count as collateral) was another constraint, as also the bureaucratic hassles involved in obtaining a bank loan, which had not lessened after the tsunami despite assurances to the contrary. The growing unrest among the fishing crew, which was manifested in many places (including Pondicherry) in the demand for a share in the compensation received for repairs and replacement of boats and went on to become a serious issue threatening to destroy the social organization in many fishing villages (Nambiar Nagar, Akkaraipettai etc.), also made some boat owners uneasy about continuing in the sector.

In the event, the Tamil Nadu Government refused to relax the provisions for paying compensation and insisted on the boats being replaced/repaired in order for the fishers to receive the money. In many senses, this was a lost opportunity. Still, it is possible that several mechanized boat owners managed to get the

compensation money without actually opting for new boats. Some of the former mechanized boat owners thus managed to get FRP motorized boats from the NGO rehabilitation programmes, while others diversified into shore-based activities (mainly fish trade and ancillary activities related to fishing). This may have led to an overall decrease in the number of mechanized boats in some areas and the reduction in this sector in places like Nagapattinam was put at 30 percent, which must however be understood in the context of the fact that there had existed a surplus capacity of over 50 per cent in the mechanized sector in the state (Narayana Kumar, pers.com.), meaning that there was a net surplus capacity in the sector after the tsunami.

On the other hand, many new boats (including some steel boats) were still being built in the state. The fact that a 'steel barge' costs nearly Rs 25 lakhs and yet there were reportedly some 25 boats under construction in the area was a paradox that could not be explained by the fishers any more than they could explain why there should be such a clamour for more FRP boats when (as they repeatedly asserted) the existing ones had been facing rough weather for a long time. It is very likely that many of these boats – like their older counterparts – would be put into operation in the Palk Bay and off the Sri Lankan waters, rather than compete with the other fishing systems for the inshore waters (at least in the short term).

Post-tsunami, there were a few proposals to convert some of the mechanized boats on an experimental basis to target the yellow-fin tuna (YFT) and other offshore resources. But the changeover would require considerable investment, which makes the whole idea a dicey proposition for many boat owners, particularly in a context where the availability as well as the marketability of YFT was still an untested hypothesis.

Adequacy of Rehabilitation Assistance for Boats

In districts like Nagapattinam, the boat owners expressed their satisfaction with the numbers of boats provided. In fact, in some Cuddalore villages like Pudukuppam, the fishers complained that giving so many boats was of no use to them as fishing in the area was poor anyway. In Kanyakumari, the fishers constantly complained about not receiving enough boats, notwithstanding the existence of huge numbers of new boats on their beaches. The numbers of boats reported by the fishers to have come into the villages were often so low as to make one wonder where could all those new boats have gone. In the northern Coromandel Coast too, one heard complaints about not getting enough boats, in spite of strong evidence to the contrary in the form of brand new FRP boats sitting in long rows along the beaches.

Still, to the extent that the assessment of the losses was accurate, one could say that the post-tsunami investments on rehabilitation were adequate and even exceeded the actual losses in several areas, as some micro-level studies (for e.g., Thaddeus, 2005) clearly showed, although this would be very difficult to quantify at the state-level for various reasons. In terms of fisheries-related investments, given the proliferation of FRP motorized boats and the generous compensation for *kattamaram*s and *vallam*s, there was an overall increase in investments within these segments as well as in the sector as a whole. In case of shelter, considering the previous condition of a majority of the habitations in the fishing villages, it was certain that the new programmes would mean a quantum leap in the size of investments on this front too. This generalisation applies to Andhra Pradesh and Kerala as well.

At the micro-level, the issue of adequacy of assistance was not often easy to resolve because, as several fishers (for instance, in Arcotthurai and in Keezha Manakudy) argued, in a situation where they were effectively recipients of charity, it was not really appropriate to raise questions about the adequacy of support. There was also the problem that 'adequacy' was a difficult state to achieve, especially in the fisheries context, because of the short lifespan of the tools used and the prevailing lack of understanding about how the systems operated in a 'normal' context[16].

Thus, to the extent that the support was aimed at replacing the lost assets, it might not be appropriate to discuss about the adequacy of support. But where the rehabilitation brought about a change in the mode of operations for the fishers, it would be necessary to discuss how adequate the support had been as otherwise it would be difficult for the fishers to adjust to the new set of conditions that the new operations imposed upon them. The major change for most fishers involved shifting from wooden *kattamaram*s to motorized FRP boats, from being crewmembers to joint-owners, the adequacy of support

received in this particular instance would need to be discussed.

In most cases, the provision of engines and nets was not commensurate with the numbers of boats provided. In some cases, the NGOs provided their quota of boats and left an area, leaving the fishers to find their own resources to obtain nets and engines. There were often questions about the usefulness of the nets provided because of their poor quality, inadequacy and, frequently, inappropriateness. The fishers often received nets that had no use for them: some managed to exchange the nets for more appropriate varieties, but not all could do so. The nets often reached the fishers only after the right season for using them had come and gone; they would be useless until next year and the fishers still had to buy nets appropriate for the current season. That this was mainly a problem of the new boat owners was apparent from the fact that other people who had been boat owners and obtained boats again could restart operations sooner by getting their old nets mended and their damaged engines repaired.

In Andhra Pradesh, the nodal agencies – *Velugu* and the Department of Fisheries – organized exhibitions where net-manufacturing companies displayed their wares and the fishers had a chance to place orders for themselves for specific nets suitable for their operations (subject to a maximum limit in value). Thus, there were few complaints about nets in Andhra Pradesh. In Tamil Nadu too, some NGOs did organise such events, but overall, the responsibility for selecting and distributing nets to the fishers lay with the NGOs.

The provision of motorized boats also led to a need among the people for immediate working capital (mainly for fuel) to start fishing. This was exacerbated by the fact that the new FRP motorized boats boasted higher horse-powered engines (9-10 Hp in place of the 5-7 Hp in the past), which would increase the efficiency of the boats, but also add to the cost of operations. This was clearly a burden because, for one thing, many of the new boat owners had been crewmembers or just moved up from being owners of non-motorized *kattamaram*s, and naturally had little money to invest in fuel and other necessities. The long period of waiting on the beaches also diminished their investment potential. When they did manage to restart operations, extended periods of lean fishing meant that they had to keep investing in the hope that fishing would stabilise in due course and start paying back.

Many new boat owners had to turn to the moneylenders for meeting their investment needs, and restart the cycle that had made them poor in the first place. Here too, the old relationships between the former boat owners and the trader-financiers helped them to obtain loans more easily while such help was more difficult to come by for the new boat owners.

Problems were also reported with engines in Arcotthurai, which were clarified (by the local dealer) to be due to the installation of a new type of gearbox. There were problems with gearbox, nozzle and the silencer and as a result, the consumption of fuel increased. In Kanyakumari, the fishers' complaints related to poor quality of engine manufacture. Considering that complaints about engines were a regular feature in the motorized sector (the engines had never really worked properly at sea), this might also be a case of continuation of the old story, rather than to be solely blamed upon the tsunami and the rehabilitation programmes.

Issues Related to Targeting

People Who Missed the Boat

Although the numbers of boats provided overall was more than adequate, it is possible however that their spread was not uniform across the coast: while some villages received more than their due, there still were some where the needs were not fully met. It is also possible that, at least in some cases, the people who benefited from the rehabilitation support had not always been those who had lost boats in the tsunami. What this means is that while the overall numbers might have gone up, there might still be some gaps at the micro-level. This study identified three categories of people who failed to obtain support from the rehabilitation programmes.

Absentees

Several people had abandoned their villages in the immediate aftermath of the tsunami, fearing a recurrence of the tidal waves and spent a few weeks in the interior and it was during this period that the loss assessments were made, thus leaving them out. Such people were often only a small proportion in a village: for instance, in Mulukuthurai (in Killai area) in Cuddalore district, eight out of 113 families had been

left out. But taken together, they added up to a sizeable number and it could also be argued that their small numbers would be a constraint to making themselves known or heard. A few managed to get into the rehabilitation lists subsequently, but the existence of a few more families who still required rehabilitation assistance was a constant complaint in several villages. In some instances, the village *panchayat*s were taking steps to share the assistance received by the other members of the community with those who had been left out.

People in Shadow Zones

The region northwards from Villupuram district up to Chennai is in the 'shadow zone' of tsunami, it did not suffer spectacular damages like Nagapattinam and the number of deaths was not as high as in other districts, so there were complaints that the extent of assistance to this zone had been less. Clearly, the loss of boats and nets, landing centres and other infrastructure in this zone was as significant and debilitating as in the others, but received less attention as the focus had been mainly on the worst affected districts like Cuddalore and Nagapattinam[17].

In Kerala, in the village most affected by the tsunami in Alappuzha district, Aratupuzha, only three wards (later reorganised into four) were officially designated as being affected by the tsunami, which meant that the people living in the other wards in the same village were unable to access to rehabilitation support, even though they had individually suffered as badly as the people in the affected areas. Yet another category of people who could not make it to the lists in the same village in Kerala were the fishers who had been affected by the aftershocks of the tsunami, which followed a few months after the actual event and did sizeable damage to houses and fishing implements, but the victims of the aftershocks could not get recognition as tsunami-affected and thus failed to obtain support. There were promises of a 'second list' of tsunami victims to be prepared 'in due course'.

Then there were the people who were not directly affected by the tsunami, but who suffered indirectly from its consequences. For instance, fishworkers organizations in Kerala were of the opinion that the tsunami affected fish catches very badly by upsetting the benthic ecosystems. A majority of fishermen in the state had reportedly remained idle since the tsunami and the impacts were felt on a number of downstream activities.

Migrant Fishers in Andhra Pradesh

Perhaps the worst affected group of people in Andhra Pradesh by the tsunami was the migrant fishers. December was the month when seasonal short-term migration would be at its peak in the north and central zones of coastal Andhra Pradesh (East Godavari and Visakhapatnam districts, in particular) and many migrants, some with their families, were residing in makeshift tents on the beaches quite far from their homes at the time of tsunami. Many lost their temporary shelters along with everything they contained. Their boats were damaged and fish kept out to dry were washed away in large quantities. The unique conditions that characterise the migrant lifestyle in the new areas meant that information about their wellbeing was not easily available to the relief agencies, which hampered timely aid from reaching them. Post-tsunami, the migrant fishers found themselves largely bypassed in the rehabilitation programmes: neither the villages where they came from, nor the villages, on the fringes of which they had been residing at the time of the tsunami, refused to include their losses in the official lists as both feared that doing so would reduce the quantum of assistance to their local constituencies.

Interventions Aimed at Fish Processors and Traders

In Tamil Nadu, in the rush to provide boats to the fishermen, the needs of the other players in production and market chains generally took a back seat. Notwithstanding some excellent micro-level documentation about diverse categories of people in the sector[18], there were few systematic efforts to understand their livelihood-specific needs and address them meaningfully. There were indeed some programmes that targeted some of the people directly or indirectly, but their scope, coverage, relevance and effectiveness remained uncertain.

This might have partly to do with the 'tsunami-centred' approach to rehabilitation, which focused on the specific losses suffered by different people in the tsunami, notwithstanding the prevalence of 'social equity' arguments for giving boats to the crewmembers. Partly, the reasons were also historical: many of the people in the production and marketing

chains had largely remained invisible from the policy perspective. Yet another reason appeared to be that a majority of the people in the production and market chains came from economically weaker sections, which meant that their investments were miniscule compared to, say, investments in the boat sector, particularly in a context where huge amounts of money needed to be spent quickly. As one fisherman leader from Nambiar Nagar suggested, "It is always easier to give one FRP boat than to distribute the sum among 30-40 women." Put simply, it was not often cost-effective to address their needs.

The fact was that the investments of the fish traders – often ranging across Rs. 2-5 thousand – were small *from the point of view of the donors*, but not from that of the people themselves. For many traders, it was all they had to survive on and it certainly meant a lot to them. Their level of operations was such that an additional income of Rs. 30 a day often meant a 50 per cent increase in their returns. On the other hand, extended periods of not being able to ply their trade meant consuming their working capital and falling behind in their trade. Also, apart from such hand-to-mouth categories, there were also some people – dry fish producers, for instance – who did lose substantially by any consideration. Some of these large-scale processors in major fish landing centres in Tamil Nadu (like Akkiraipettai) were from Kerala, who employed the local people to buy and process fish for them. Many of these processors sustained major losses to their enterprises, but these losses remained un-quantified and un-addressed. This was reflected in the collapse of some large-scale activities, with downward implications for the livelihoods of poorer people who worked as processors' assistants etc.

Similarly, the lack of interest in supporting mechanized sector also extended to the large numbers of poor people depending upon the mechanized boat landings for a living, which meant that a sizeable number of people working in the fishing harbours remained largely out of the pale of rehabilitation efforts. For example, on an early October morning in 2005, this team counted over 27 categories of people involved in various activities at Nagapattinam fishing harbour. These included traders, intermediaries, fish processors, ancillary workers (transporters etc.), technical people (boat builders, engine mechanics etc.), besides a number of people involved in non-fishing related activities (for e.g., basket weavers), who depended for their survival on the fisheries sector all the same. A majority of them came from poor and working class backgrounds and worked for daily wages. At least a third of the people belonged to non-fishing castes (mainly *dalit*s). The shore-based workers outnumbered active fishers by 4:1, but at other times (and in many other areas) the ratio could go up to 7:1 or more. Many ancillary workers on the beach – carpenters, mechanics, fish-cutters, ice-sellers and crushers, fish transporters etc – lost their tools of trade as well as the money they had with them on that fateful day. A few did get some assistance, but it was random and sporadic.

The trouble with leaving out such groups of people was not only that it reduced their sustainability of their livelihoods, but also had implications on the production and market chains and weakened them. This would, as was apparent in some Cuddalore villages, ultimately affect the primary producers (who had largely been the main target of the rehabilitation programmes) by reducing their access to inputs, services and markets. If this had not become a big issue so far, it was because of poor fishing in many areas, but it was clear that the weakening of links in the production and market chains would become serious once fishing operations gained momentum.

Many such categories of people got back into business with borrowed money. The money provided as part of relief packages also helped a few of them to survive and even reinvest the savings in their businesses, but social networks appear to have been the best support for many of the ancillary traders to get back into business. For instance, the bicycle fish transporters in Nagapattinam, who helped to carry the fish from the landing centres to the processing areas for the women, received money from their clients to buy their bicycles; the interesting part is that the women themselves had borrowed the money from local moneylenders and needed to repay it too. Local networks of social support – including 'sell first-and-pay later' mechanisms – helped several people to stand upon their feet again.

On the other hand, there was evidence that the numbers of fresh fish vendors was increasing in several locations with the daughters and wives of the fishers who had died in the tsunami venturing into the activity. Being 'fresh' entrants, they would not be considered

as victims of the tsunami and their investment needs were met either from the compensation received from the death of the men or from the private sector.

In Andhra Pradesh and Kerala too, the rehabilitation efforts were marked by lack of attention to people other than those actively involved in fishing.

Interventions Aimed at Women and People of Non-fishing Communities[19]

On the Coromandel Coast, the fact that the women and people of non-fishing castes were not members of the caste *panchayat*s restricted opportunities for developing need-based interventions specifically aimed at them. In their anxiety to obtain as many boats as possible, the leaders of caste *panchayat*s also exaggerated the losses to their boats while underplaying those of women and other categories. The fact that many women in fish trade and processing came from single-headed households (for example, single women constituted 60-70 per cent of the traders in Poompuhar; the Praxis studies in several villages also reinforce this view)[20] made their case even weaker because they had no representative to talk for them in the *panchayat*. At the same time, rather ironically, some women groups and *dalit*s had been provided with boats in some districts like Cuddalore and Villupuram. The implications of this would be discussed in the next chapter.

In Kanyakumari district, long history of working with women groups helped the NGOs to extend some meaningful support to them. This was because the NGOs had a good understanding of the women's needs; besides, they also had to use the existing groups to channel support to the communities, which they could not do without ensuring that the women also benefited. The fact that the NGOs (including the church-based ones) had a long-term stake in the wellbeing of the communities in the area ensured that the interventions were more need-based and appropriate, although this was not always possible to achieve in the face of much rehabilitation assistance coming from outside.

Overall, as the programmes for giving boats were beginning to decelerate towards the end of the year and the NGOs were settling down to long-term engagements with the communities, there were indications that activities focusing on women and other categories of people in the sector (and beyond it) were taking prominence in the programmes. Many new programmes were reported to be coming up over the next year to address women's needs more meaningfully.

In Andhra Pradesh, the involvement of women's groups set up under the ongoing *Velugu* programme led to serious problems as the men were upset with the women playing a dominant role in rehabilitation ignoring the usual channels like co-operatives. The hurried formation of new women's groups to cover everyone in the villages in the rehabilitation programmes may have compromised the original objectives of the *Velugu* programme itself, while people who could not become members of the groups (widowers, for instance) were upset at being left out. The men's antagonism to the involvement of women seemed to have come down subsequently, but the effectiveness of the women's groups as a conduit for channelling development support – though admirable in a theoretical sense – remains doubtful in the long term.

Infrastructure in Fisheries

In Tamil Nadu, the Government was the main investor in this important area and it drew up elaborate plans to develop basic infrastructure related to fisheries in many areas and, wisely, accommodated the tsunami-related needs into their long-term strategies for fisheries development (see, for example, the Policy Note of the Fisheries Department outlining plans for 2005-6). It was suggested that the savings that the Government had made because of the active collaboration of the NGOs (mainly in the shelter activity) went into construction of roads and other basic infrastructure. Generally, construction of roads, bridges and other basic infrastructure was speeded up in the aftermath of the tsunami. There was a definite improvement in the infrastructure in many villages and many remote villages now had better access to roads, communication facilities and transport systems. This would help in times of emergency, but more importantly, in ensuring quicker marketability of the fish catches, thus adding to their incomes.

In Kerala, the post-tsunami period saw a flurry of activities on the infrastructure front: the construction of the fishing harbour in Alappad was expedited and there were also proposals to build new bridges to connect the relatively inaccessible villages to the

mainland. There was also a proposal to build a sea wall right along the coast to protect the villages from the sea ingress during monsoons. Although work on these activities had begun, it was reported to be moving at a snail's pace (see John Swamy's note, *The Tsunami in Kerala*).

However, much of the existing and proposed infrastructure in fisheries fell into the conventional patterns and there was a need for reorientation at two levels: firstly, the rapid changes happening in the international trade and quality control regimes would necessitate building or upgrading the infrastructure with the present and future international demands for seafood in mind. Secondly, the infrastructure would need to be livelihood-centred, i.e., focusing upon the needs of a number of livelihood groups involved in the sector rather than being commodity-centred; in other words, keeping in mind that the infrastructure-related needs of the traditional fish processors would be very different from those of the shrimp exporters. The NGOs could play an important role in this.

Also, management and maintenance of infrastructure had traditionally been a major bottleneck in many areas. The fact the government had set it up would be taken to mean that the Government must also manage and maintain it, while people confined themselves to taking advantage of it as long as it was functional. The poor state of several public structures was a direct result of this attitude and there is a need for setting up user-based management and maintenance systems for the proper upkeep of the infrastructure in the villages, which – if properly implemented, might even pave way for the communities taking care of their future infrastructure needs on their own. Obviously, this is easier said than done, but is well worth trying now when 'user-pays' principles are becoming practical realities.

There was also a perception in districts like Nagapattinam that the tsunami had helped promote the use of ice in different activities in the sector. It was felt likely that everyone would start using ice in due course in a big way. While increased use of ice would add to the fishers' incomes, it would be necessary to understand the full implications of such developments before promoting the idea. Questions about the possible negative consequences of increased usage of ice for other people (say, traditional fish processors) and about who would have control over access to ice would need to be properly addressed while promoting the use of ice. There would also be a need to understand the economies of scale before setting up ice plants anywhere.

Credit in Fisheries

Access to credit was a crucial need and an integral component of many fisheries-related activities and unfortunately, this had not received much attention in the post-tsunami rehabilitation programmes. It was asserted by a number of the respondents met during this study that investments in developing sustainable credit systems could have significantly reduced vulnerability of fishers and enhanced their incomes manifold.

Notwithstanding tall promises made in the aftermath of the tsunami, most fishers complained that access to institutional credit remained as bleak as before. Even the mechanized boat owners had serious problems in obtaining bank loans and at least a few of them reported to have dropped the idea of getting their boats rebuilt because of the unfriendly attitude of the bankers. For several others, the long bureaucratic process of sanctioning the loans had meant that they were still waiting to receive the money at the time of this study. In Arcotthurai, it was said that the banks insisted on collateral security for sanctioning loans and did not budge even when the Department of Fisheries officers offered to stand surety for repayment[21].

One important intervention targeted at the women in the post-tsunami period was the formation of Self Help Groups (SHGs) in the villages. There was much competition to form SHGs among the NGOs, which resulted in a profusion of SHGs in many villages. At the end of November 2005, it was reported that there were some 4150 new SHGs spread over all the Tsunami affected villages[22]. The assistance provided to the women in SHGs varied from group to group, ranging from Rs. 1-2 thousand per member, which – the women complained – was barely sufficient to meet their consumption needs, leaving nothing to restart businesses and pay back the loan component. This led to a rather predictable pattern to SHG membership in villages like Thammanampettai in Cuddalore, where each woman became a member of three SHGs (set up by the three NGOs working in the village). In bigger villages like

Devanampattinam, it was reported that the women could become members of more SHGs because there were more NGOs working there. This helped the women in the short term, but the implications for the sustainability of SHGs in these villages would be a cause for concern.

Informal credit was assuming importance again in every village. Primary producers (who needed money for nets and working capital) as well as post-harvest workers had begun to depend on moneylenders (and, to a much lesser extent, on traders) to restart their operations. At the same time, access to informal credit itself had reportedly come down in the post-tsunami period. The cost of credit too had gone up. This was said to be due to losses suffered by moneylenders themselves, who now viewed the sector as risk prone. The traders and commission agents, who supplied to the credit needs of the fishers, lost their investments and received no compensation at all, but it was possible that their investments had begun to come down even before the tsunami.

Petty traders and other people with very small operations, whose main source of credit was hand loans from neighbours and friends, reported that they found it difficult to get hand loans nowadays because there was little money in the villages and everyone was in need of making investments themselves. Women in Cuddalore and Kanyakumari reported to have pledged their gold ornaments to get loans. *Kandu vaddi*, the system that involved paying daily interest was back in most villages and as one informant in Anumandai Kuppam in Villupuram put it: "Depending on the kind of loan taken, we have a retinue of moneylenders visiting us at regular intervals: there is a daily moneylender, a weekly one and a monthly one and so forth. We take money from one to pay the other, so the same money gets to be rotated while we are increasingly pauperised!" The rates of interest varied from 2 per cent to 5 per cent per month, with the boat owners paying the lower rate while the poorer fish traders paying the higher interest. Some traders also borrowed short-term loans, which would be repaid the next day along with an interest of up to 10 percent. For a petty fish trader, payment in interest amounted to between 25 and 60 per cent of her income.

Thus, it was clear that in spite of much support going into the sector in the post-tsunami period, a majority of fishers continued to be indebted to informal moneylenders paying extortionate rates of interest. It was equally clear that, barring an unexpected turn of events like the tsunami, a majority of them do repay one way or another as otherwise it would not have been possible for the informal lending systems to survive for so long and even flourish, which gives the lie to the oft-repeated contention that the fishers were compulsive defaulters.

Under the circumstances, as several people have suggested, it might have been a wise move on the part of the NGOs to think along the lines of setting up new channels (or at least strengthening the existing ones) to make credit affordable and accessible to the different categories of people in the sector. It was reported that some innovative credit programmes (mainly through SHGs) were being implemented in many parts of Coromandel Coast, but information about them was rather sketchy. It might take some time to establish appropriate systems to suit the fisheries sector, but it would be well worth the time and effort because, going by available evidence, enhancing access to credit at affordable costs would, even without any other changes to the status quo in the sector, very likely enhance incomes of a wide cross-section of the people.

At the same time, while there was some justification in discouraging institutional finance for providing boats (although putting the blame for non-repayment entirely on the fishers was ignoring the complexity of the issue), there still were a large number of other people in the sector who never had access to institutional credit and who would undoubtedly benefit from it if only the systems for credit delivery and recovery were developed to suit the unique conditions that characterised their activities. The tsunami gave opportunity for the first time to make institutional credit available to marginalized groups within fishing communities, (which – going by the experience of mechanized boat owners – might have turned out to be another tall promise), but the avenue did not seem to have been explored at all.

Disaster Preparedness and Sea Safety Issues

Unlike in the case of other recent disasters (Andhra Pradesh in 1996 and Orissa in 1999, to name just two), the tsunami did not seem to have given rise to many disaster preparedness (DP) programmes. This was

perhaps understandable because one could not be prepared for a mega-disaster like tsunami (which was also, going by the historical trends, a once-in-a lifetime event). However, this might also mean that the tsunami took hold of people's imagination to an extent that the other regular visitors to the coasts like cyclones had taken a backseat. Places like Nagapattinam still remained as vulnerable to a future disaster as they had been in December 2004, and the floods in November highlighted the urgent need to develop multi-hazard response plans for coping with future disasters in a typically low-lying area like Nagapattinam.

Historically, security concerns had made the Government impose restrictions on installing shore-to-vessel communications systems and the restrictions remained in force at the time of the study. This meant that the boats could not carry any communication systems onboard, hence remained vulnerable to natural disasters at sea. According to the officers of the Department of Fisheries, the same restrictions also affected the promotion of offshore fishing in the area; even though the fishers were interested, it would not be possible without installing GPS and advanced communication systems onboard. In an era of cellphones and satellite phones, the ban was really superfluous to contain the threat from Sri Lanka, but it remained a major barrier to enhancing the sea safety of the fishers.

There were some reports about the introduction of community radio by NGOs in some areas, which would be worth exploring and, if successful, promoting along the coast. There were also some new initiatives by the international and national organizations, often in collaboration with one another, which began to take a close look at the issue of sea safety in an integrated manner, training people, assessing the capability of the existing fishing systems to cope with disasters at sea and developing appropriate mechanisms to improve the quality and other issues important for sea safety.

There were few programmes to develop community-based disaster preparedness because, some NGO informants suggested, the existing packages were inadequate to meet the needs of the fishers. Mere drills and role-playing only engendered apathy in the fishers and made the programmes ineffective in the long term. For a DP programme to be sustainable, it was felt necessary to include it in the regular community development programmes like livelihood support packages, but in practice, this was not happening.

The tsunami showed up the gross inadequacies in the current knowledge about many things related to the fisheries sector and the people in it. An important constraint that people kept facing in both relief and rehabilitation phases had been in terms of not finding reliable and appropriate data about the affected communities. It was clear that a good information system was absolutely essential for coping with future disasters. There were some initiatives in Nagapattinam district, such as NCRC Village Information Centres, which were trying to address this need at different levels and although it was still too early to assess their effectiveness (many of them had not been fully functional), it was clear that they could show the way forward for other districts too. By being located at the micro-level, they had the potential to collect as well as disseminate information, which would make them very efficient disaster warning centres in the long term.

Fisheries Management

Prior to the tsunami, the fisheries sector had been characterised by over-capacity, which contributed to the overexploitation of the fisheries, with negative consequences all round. While there had been proposals and programmes to reduce fleet strengths and strengthen the coastal resource management systems, these could not be implemented for a variety of reasons. The sorry state of affairs was reflected in the fact that there had not existed a mechanism to register (or even keep count of) the boats operating in the coastal waters.

The tsunami, as some organizations suggested, was an opportunity to redress the problem. On the one hand, it reduced fleet strength and, on the other, it opened avenues for (i) moving people out of the sector by providing sustainable alternatives (perhaps in shore-based activities) and (ii) implementing more responsible fisheries management programmes for conserving the coastal resources. From all indications, the fishers too were largely agreeable to the idea because of a variety of reasons and would have welcomed the opportunity to withdraw from the sector, if given sustainable alternatives. Many

mechanized boat owners, as discussed above, were not even particular about being shown alternatives and were willing to move out after taking the compensation package. In other words, the tsunami made it possible to do something that would have taken a considerable time to materialise. It was an opportune moment to streamline the sector and put in place some restrictions on the unchecked and unregulated entry into the sector.

However, this turned out to be another lost opportunity, at least for the time being. As indicated, the Government firmly refused to entertain the plea of the mechanized boat owners to be allowed to take the compensation money and leave the sector. That a few people still managed to obtain the money without necessarily replacing the boats was perhaps lucky, but the fact remained that implementing the provisions would have meant (and still did mean) restoring status quo, with the attendant problems of destructive fishing, competition and conflicts.

While the destructive nature of mechanized fishing was recognised by the NGOs, which led to taking a firm stand against extending support for its revival, the capacity of the 'artisanal' boats (particularly the FRP motorized category) for overfishing – which was as much a cause of overexploitation as destructive fishing – was underestimated, leading to provision of large numbers of new boats that would definitely contribute to the crisis in the sector. Although some NGOs insisted upon compulsory registration of the craft, not all new boats were registered and the situation with numbers was no better than it had been before the tsunami.

Thus, in the absence of opportunities for diversification of fishing grounds, both mechanized boats and the motorized boats would compete for fish in the inshore waters and that it will be a case of the same quantity of fish (as earlier) being taken by a much larger number of boats, with reduced per capita availability all round. This indicates that the post-tsunami rehabilitation programmes might have actually contributed to exacerbating an already difficult situation.

There were indications towards the end of the year that fisheries management was coming to the fore and some programmes (involving international and national efforts with government and NGO participation) were being formulated for implementation over the coming years.

Livelihood Diversification and Alternative Income Generation

Post-tsunami, there were reports of an increase in migration of fishers from Nagapattinam district to other areas, which included destinations in Southeast Asia (Singapore and Malaysia). There was also a parallel movement into non-traditional activities, particularly among the younger people who were reportedly moving to towns like Tirupur, Chennai and Coimbatore in search of work. In Arcotthurai, women were reported to be working in neighbouring towns, running various businesses (like operating telephone kiosks) and working as domestic help. Some were working in agriculture. In Kerala, while the men were waiting for the boats to come through and, in some cases, for the Government to prepare the long-promised 'second list' for damage assessment, the women undertook a wide range of activities to feed the families. In Vattachal (in Aratupuzha), the women's earnings from coir processing (a traditional activity in the area) were said to keep the families afloat.

In Kanyakumari, geographical migration was a seasonal feature for a long time, but it was reported that its intensity had increased in the post-tsunami period. The tsunami did not seem to have made a serious impact upon the migratory patterns of fishers in Andhra Pradesh.

The rehabilitation programmes gave rise to some new opportunities for employing the fishers. In Prakasam district, where the fishers had traditionally depended on the carpenters from Chennai area to build their wooden boats, an opportunity arose to train them in building the boats when the contractors from Chennai left midway through a rehabilitation project to build boats and the subsequent events showed that the fishers had no more need to go to Chennai for getting their boats built. Similar stories were heard in Villupuram district and elsewhere.

However, the massive house construction programme, where much scope existed for people to work, did not seem to have caught the interest of the fishers. There were efforts to involve the communities in house construction and a few fishers did get involved, but a large majority tended to remain out of it. Some NGOs provided training in house construction and encouraged the fishers to contribute to building their own houses, but the response was said to be lukewarm. There were also some local

initiatives like brick making, which might have helped the neighbouring non-fishing communities (particularly the dalits in Nagapattinam) more than they helped the fishers. Partly, this was to do with the fact that the fishers (especially the Pattinavars) considered it beneath their dignity to indulge in such work. Another explanation had to do with the fishers' apprehensions that if they showed an inclination to work in non-fishing activities, they would be implicitly accepting that there were alternatives to fishing and thus risk a reduction in the flow of funds into the sector. Also, there was a fear that there might be much building work going on currently, but it would be over within a year or so, and there would be very little building work for a long time to come, particularly if many people had taken to it.

Obviously, any alternative income generation programme would have to contend with such factors and come up with some meaningful responses, but it was clear that for many fishers, working in the fish production and marketing chains still remained the only option to meet their livelihood needs.

Key Issues in Rehabilitation of Fisheries-based Livelihoods in Tamil Nadu

Changing Patterns of Boat Ownership

The fishers complained that most NGOs came with set ideas to give boats and if the fishers had refused to take them, they stood lose everything because the NGOs had little else to offer besides boats. Some fishers even said that they had been so grateful to the NGOs who fed them, clothed them and gave them shelters to live in at a time of need that they could not simply refuse the boats or demand for other, more necessary, items.

While this might be the case in some areas, there was no doubt that the fishers themselves played a major role in allowing the proliferation of boats. Even the same people who complained about too many boats going into the villages would, when the time came, suddenly change tune and demand more boats. Of course, they said, it was true that there were more boats than there had been previously, but they all went to the 'other people' or to the 'other side of the village' or to the neighbouring village, but never to 'us' or to 'our village'. Except in Nagapattinam district, it was rarely that people admitted they had received sufficient numbers of boats.

According to the field functionaries of NGOs (supported by physical evidence in the villages), the fishers' complaints about not receiving their due were often not true; they complained because they knew the NGOs would only give boats and not money, so it made sense to demand boats only to turn them into money at the first opportunity. They were also aware that outsiders would find it difficult to determine how many boats had actually gone into an area and even if they did, it would be nearly impossible to compare them with the boats that had existed in the pre-tsunami period in the area.

Many long-term NGO representatives, *panchayat* leaders, community members and leaders of fishworkers' organizations met during the study repeatedly stressed how they had to remain helpless spectators for fear of drawing flak from the fishers.

In fact, in Nambiar Nagar, it was stated that the caste *panchayat*'s resistance to accepting boats in large numbers was an important reason for the eventual overthrow of the *panchayat* itself[23].

The fact was that, it *was* the dream of every fisherman to be the owner of his boat and the tsunami offered many fishers the once-in-a lifetime opportunity to fulfil their wish and they were certainly not going to worry about the investments, overcapacity and overexploitation at such time. Also, the motorized boat was the most expensive item a fisherman could hope to get from the rehabilitation effort and they took it even when they had no need for it, knowing they could always sell it and buy a cheaper one in due course.

The demand for more boats had also been explained as an outcome of the fact that, for the fishers, there were really no alternatives. They had no skills to diversify and they did not have the investment required to take up another activity. Considering that the situation in other primary sector occupations was even worse, there were really not many options available anyway. Of course, if the situation continued this way for a few months more, they would have to bow before the inevitable and work in other activities because all their surplus would be gone by then and they'd be moving back to a very basic stage of existence, but they'd rather fight to the bitter end than prepare to move out already. In the meantime, the motorized boats would help them go farther out and fish for longer durations, so they opted for them. Post-tsunami, the fishers claimed, fishes had moved into

Group Ownership in Mulukuthurai

The problems with group ownership were apparent even in backwater villages like Mulukuthurai in Killai area and it might be instructive to look at how group ownership was shaping up here.

Starting from Pichavaram estuary and reportedly extending up to Parangipettai in Cuddalore district, many plank-built *kanna thoni*s operated in the backwaters and these were truly household ventures in that a man and his wife used to fish.[24] Every family in the area thus had a *kanna thoni* and the individual fishers were masters of their operations in the backwaters. The tsunami washed away or damaged most *kanna thoni*s in the area and the fishermen showed preference to have the same replaced in the rehabilitation programmes. This was because, while fishing with *kanna thoni* in the backwaters might not be lucrative, it at least helped them to make a reasonable living. Few of them were experienced in operating motorized boats at sea and they also feared about the cost of operations. There was also strong opposition from the women to taking FRP boats, because they feared – rightly, as it turned out – that the boats would reduce their role in fishing.

But the NGO decided that manual punting and rowing in a heavy boat like *kanna thoni* was hard work and that the fishermen should take advantage of labour-saving and more efficient technologies and it convinced the fishers they would be better off by changing over to FRP motorized boats. The fishers agreed reluctantly and soon became the co-owners of new FRP motorized boats. But within months, they started facing problems with the new arrangement. There were operational problems: it was difficult to make all owners to agree upon anything; this had less to do with their quarrelsome nature and more to do with indecision and inability to accept responsibility in a group situation. Simple day-to-day issues like who should do what, how to share expenditure on diesel, where to obtain new nets from, who to undertake maintenance suddenly acquired momentous dimensions. On any given day, at least 4 or 5 boats would remain on the shore as one of the crew would fail to turn up and the rest could not simply take off without one of the 'owners'. At sea too, with five owners onboard, there was a breakdown in the organization of fishing activity, leading to constant bickering. That the boats needed frequent repairs and maintenance did not help matters much either.

So now the co-owners of the boats were devising some new arrangements to make things work. Each boat now had a leader who, by virtue of being better off than the others, was expected to bear all the expenses for fishing, on the understanding that he would take his money back (along with some 'incentive') from the returns. The next stage in this arrangement was that, in case fishing was poor on a given day (which normally had been the case in the recent past), the leader would go on investing until such time that fish catches improved sufficiently to enable him to recover his investment, plus the interest. Ever since this arrangement came into existence, the crew became reluctant to allow the leader to take some of his investment back even on the days when fishing was good, suggesting instead that he could always recover his money when fishing 'really' improved. The leader's investments on the boat were thus mounting all the time and one could already visualise what might happen next: the leader would become the de facto owner of the boat in a year or less.

So as it unfolded, the story in Mulukuthurai went like this: the fishers who had once been owners of their boats, were now trying to cope with being co-owners of the motorized boats, which would sooner rather than later come to be owned by the leaders, thus relegating the remaining 'co-owners' to being labourers on the boats. While this was something that the fishers seemed to welcome, the irony remains: the programmes were intended to make boat owners of the crew, not the other way round.

deeper waters and they needed to fish farther out than previously, which justified the demand for motorized boats in place of the wooden *kattamaram*s, because the motorized boat would help them fish in the deeper waters. Whether they really took the boats into the deeper waters was doubtful because of the prevalence of poor fishing conditions in the post-tsunami period.

There was yet another angle to this: although the fishing villages of the Coromandel Coast (as well as in Andhra Pradesh and Orissa on the east coast) were apparently homogeneous, there had been simmering tensions between the boat owners and the crew – each felt the other to be benefiting at their expense. The crew complained about a decline in their share from the catch returns while the owners complained about the increased risks. When the tsunami occurred, the issue came into the open when the crew demanded that they be provided a share of the compensation amount received by the boat owners. For the owners, who had been complaining that they had not received a fair share in the compensation packages, this was clearly out of the question and so they refused. Over the next few weeks, the issue became increasingly heated and the respective positions of the owners and the crew became increasingly irreconcilable. This eventually led to the crew demanding not only that they be given boats, but also that the former boat owners should not receive any (because they'd received compensation from the Government). This also culminated in toppling the owner-dominated caste *panchayat*s in several villages on the Coromandel Coast, particularly in Nagapattinam district.

So, for the crew, owning a boat was a means of balancing the power equation in the villages and being treated as equals by the boat owners; it helped that the NGOs had enough money to help them realise their dream. Now that everyone in a village was a boat owner, it would be interesting to see how the arrangements concerning the fishing operations would work out. There is no doubt that a majority of the new boat owners would continue to work on the same boats that they had been working on prior to tsunami (it was already happening in many villages), but the arrangements would certainly be different. They might be more equitable, although it would be difficult to see that happening in a system where a lion's share of the catch returns was gobbled up by the engines. As a fisherman from Nambiar Nagar suggested, a line had now been drawn between the owners and the crew and it was likely that their future relations would be coloured by whatever had happened in the aftermath of the tsunami.

In some cases, the former boat owners who received compensation from the Government either did not opt for a new boat from NGOs or were barred from doing so (mainly due to pressure from the crewmember organizations; see the next section), and many of them ended up as crewmembers on others' boats. Considering many former crewmembers had now become owners of their boats, this led to a reversal of roles and the impacts of such role reversals upon the social and economic fabric of the communities would remain to be seen.

Group Ownership

In all three States, a majority of boats had been provided to the fishers on a group ownership basis: each boat was provided to three to five people, although scarcity of boats occasionally required spreading the ownership to 8 people in some areas. Although group ownership was promoted in both Andhra Pradesh and Tamil Nadu, there was an interesting difference: in Andhra Pradesh, it was a measure to spread the benefits of a few boats over many claimants, whereas in Tamil Nadu, it meant increasing the number of claimants to justify distribution of more boats.

In Nagapattinam and Kanyakumari districts, the concept of individual ownership was strongly rooted and the fishers were quite clear that group-ownership would not work and all group-owned boats would soon become individual operations. For these fishers, past experience with group ownership, tried out unsuccessfully in the co-operative sector, clearly showed that it did not work for many reasons. The most important reason for the failure was that the impetus for sharing in many of these initiatives came from outside, often from above. People took boats in groups to satisfy the requirements, but the boats soon came to be owned by individuals. The organization of marketing activities, as they exist now, also favoured individual ownership, particularly when it came to negotiating credit and trade arrangements. Group ownership was also considered to give rise to complications related to insurance, resale, registration and accessing development support.

Notwithstanding the experiences from Killai and elsewhere, group ownership cannot be dismissed out of hand as impractical for a number of reasons. The first of these is the fact that group ownership *has existed for a long time in several villages on the Coromandel Coast itself*. Many motorized and mechanized fishing systems are jointly owned by up to four people in many parts of Villupuram, Pondicherry and Cuddalore districts; in several villages like Chinna Mudaliar Savidi, group ownership was actually the norm and individual ownership, an exception. In Koonimedu Kuppam, 32 out of the 45 boats in the pre-tsunami period were group-owned and in some cases, according to a reliable source, the boats boasted as many as six owners each. However, two- or three-people owning a boat was the norm.

According to the fishers in these villages, group ownership became necessary with the arrival of mechanized and motorized boats in the 1960s and 1980s, as they required sizeable investments that were beyond the capacity of individuals to make from their own pockets. As the new technologies also required regular investment to run and maintain, group-ownership too was said to have survived into the recent times as a means to reduce risk. However, it was possible that the system had existed even before the modernisation programmes began. For instance, the president of the Nadukuppam *panchayat* asserted that, "When my grandfather bought a wooden *kattamaram* for Rs. 600, he had two other partners investing Rs. 200 each," which makes group-ownership in this area a hoary tradition indeed.

In group-owned boats, partnership was always based on equal shares: all expenditure and returns were shared equally. Although there were some doubts about *all* shareholders in the enterprise taking the same amount of interest in the fishing operations, which gave rise to occasional change in the partners, the fact remained that the system worked and had done so for a considerable period of time, which was mainly because it came from within, rather than forced upon the people from outside.

Even in Kerala, in Aratupuzha, group ownership of boats was reported to be in existence from the pre-tsunami period itself and the fishers foresaw no problems in operating the boats provided subsequently as group ventures. Going further back in time, one could see many instances where group-ownership prevailed in the fishing communities. Assets like shore-seines and madavalai (lift nets) were communally owned and operated up to the present time in parts of Andhra Pradesh and Tamil Nadu. Also, over time, as the costs and risks in many fishing and related activities began to mount, one could see a change back to the group-ownership of assets in many areas in Andhra Pradesh and Orissa. For instance, shore-seines in Srikakulam district came to be group-owned (after a period when they had been owned by individuals in other areas) in order to share the catches over a larger number of people in the village and reduce their food insecurity during lean periods. Fish processing women in many villages began to operate in groups, which was a good risk minimising strategy.

In the case of post-tsunami boat programmes, the fishers suggested that the involvement of *panchayat*s in providing boats on joint-ownership basis would lessen the potential for troubles among the co-owners: the *panchayat*s would play a role in minimising frictions and, if necessary, 'transfer' a owner from one boat to another until a balance was established. How practical the idea would be in implementation was doubtful, but the fact that the fishers were aware of the possibilities for strife and worked out possible coping strategies would indicate that they would be able to take care of the problems.

Thus, dismissing the idea of group-ownership as unworkable is akin to implying that the fishers were – apart from being habitual defaulters – also inimical to concepts like cooperation and working together. If anything, there is a justification for making group-initiatives such as this to work both as a coping strategy to reduce losses as well as to achieve economies of scale in the markets, so this might be an area where the NGOs could put more efforts in the coming years. To begin with, a study to determine why and how group ownership works in some areas and fails in others could be a good starting point.

It may be more appropriate to say that group-ownership works in some areas and in some instances, especially where the groups have a history of sharing with one another. Given that, in the case of post-tsunami rehabilitation work, the boats were provided with hardly any homework to ascertain the inclinations of the fishers or to develop systems for enhancing scope for their working together, it is likely that group-ownership would fail in a number of cases. On the

other hand, in a context where risk sharing was slowly becoming an established practice, people might find group ownership to be a more convenient arrangement than the previous system and ensure that it works. Put simply, to the extent that group-ownership had been no more than an excuse to give boats and spend money, it would be very likely to fail, but where it was rooted in practical reality, it would succeed.

Ownership of Boats by Women

On the Coromandel coast, women's self-help groups had been provided with boats at the rate of one boat for five or six people. The idea was that these women would hire the boats out to the men or get their husbands to do the fishing and use their share of returns for setting up group savings activities. The women would thus be the owners of the production assets, with men contributing the labour to run them, so it was a perfect marriage of assets with skills in an ideal world.

Unfortunately, this is not an ideal world and the only good thing about this particular programme is that, unlike some of the other issues discussed above, there is no ambiguity about its fate: going by historical precedent[25] as well as from the way the programmes were implemented now, one can predict that it will not work in a majority of cases. The men – whether hired labour or the women's husbands – would become the *de facto* owners of the boats and, if anything, make the women to pay from their savings towards the frequent engine repairs and other maintenance costs. In the end, the asset would become a burden on the women.

Adding to the confusion, some NGOs insisted that at least two out of the five women receiving a boat should be widows, or divorced, or somehow single. Trouble raised its head when the boats were operated by the men who were husbands of the women in the group. Sharing became a contested issue because it was based upon the number of people going for fishing and since the single women had no one to represent them onboard, the fishers were unwilling to share *equally* with them; in rare cases, where the husbands of the group members reluctantly agreed to share with the single women (at the prodding of the NGOs), the extra hands they'd hired for fishing refused to go along with the arrangement. Even the caste *panchayat*s, which had been given the responsibility of handing the boats to the women, seemed rather bemused about resolving the issue amicably.

The same social equity arguments that provided boats to women's groups may also have contributed to actually reducing the women's stake in fishing in some areas. As indicated in a previous section, the only instance of women taking an active part in fishing operations on the Coromandel coast[26] was observed in the backwaters of Pichavaram. Here, the women had been fishing in the creeks along with their husbands on the plank-built *kanna thoni*s and also selling the catches, thus playing a dominant role in the household economy. When the tsunami destroyed a majority of the wooden *kanna thoni*s and the NGOs provided FRP motorized boats in their stead to the men, the women found themselves literally stranded on the shore because they did not have a role in the marine-fishing FRP boats. They were reduced to being sellers of fish or just housewives. As a woman explained it: "Earlier, we caught fish together and I had control over the sales and expenditure. Now the whole thing is out of my control. Only men can go now and they sell their catches for ready cash. My husband hands me a trifle or, frequently, nothing. He says fishing is poor and I have no way to ascertain it. Many times, he comes back and says they did not catch anything and asks me money to pay for the next day's fishing. Earlier, when we came back empty-handed, it was no big loss because all we would have lost was a day's work. The new boat took away my work, my husband and my savings and gave me nothing in return." Thanks to the new FRP boats, the fact of women being involved in fishing in Pichavaram might soon become a distant memory. That the modernisation technologies marginalized women in fisheries was an established fact, but the paradox is that this should happen in a context where 'social equity' was the name of the game.

The Possible Impact of New Boats on Fisheries Resources

More than the mechanized boats, it would be the increase in the FRP motorized fleet that would now be a cause for concern. In other words, the enemy is now within the artisanal sector and destructive fishing might give way to overfishing. There was potential for increasing strife within the sector as the same kinds of boats, originating from the same villages, compete

for the same fishing grounds and the repercussions would be manifested in various ways both at sea and on shore. In Arcotthurai, for instance, lack of space for keeping the boats on the beaches was reported to be a big problem, as all boats must be accommodated on the narrow stretch of shoreline that belonged to the village. With the neighbouring villages too becoming owners of several new boats, there was little scope for expanding the boundaries of the beach available to the village, so the beaches were all crowded in a much smaller area and the fishers complained that it would take a long time to pull a boat into the sea. Also, the fact that many boats were generally anchored at a distance from the beach (just beyond the surf) meant that they constantly bumped into one another. The damages were more serious because of the poor quality of the boats.

There were also problems at sea, which were reported in many areas and related to nets being overrun by others, fights brewing between boats at sea, etc. In the absence of opportunities for diversification of fishing grounds, it would most likely to be a case of the same quantity of fish (as earlier) being taken by a much larger number of boats, with reduced per capita availability. Going by the available literature on the artisanal rule systems, it does not appear that the traditional governance could cope with conflicts within the same category of fishing systems as effectively as they could with those between different categories of boats. This would mean that there would be a chaotic situation in the nearshore waters in the coming years and its impact upon the coastal resources would not be positive.

For a number of reasons, it is unlikely that all the new FRP boats would actually be operated or even, in some cases, that the number of new boats would be as high as reported.

Cost of Operations

Simple economic logic ruled out the possibility of many boats being put to the sea. The cost of fishing operations was considered so high that fishing became an extremely risky proposition in most areas covered by this study in all three states. Two factors added to the costs since the tsunami: one, the engine powers had increased, requiring more fuel for operations; two, the cost of diesel went up by over 30 per cent (from Rs. 22 to Rs. 35 per litre) in the la st year. On average, the cost of fuel accounted for two-thirds of the gross earnings. With the increased cost of fuel, there was bound to be a hike in the ancillary costs of operations too. On the other hand, while the cost of operations was going up, the price of fish remained constant over the years and, in the post-tsunami period, even went down in many villages as a result of fewer traders coming to take them. In Kerala, where the cost of kerosene used in fishing operations was subsidised to some extent, the rising cost of operations was a serious constraint. The kerosene provided by the Matsyafed outlets – some 225 litres per month per *vallam* – was enough to run the boats for a maximum of four to six days, and the fishers would have to depend on open-market kerosene for the rest of the month so, as one fisherman quipped, "The engines get fat at our expense!" Naturally, people preferred to stay at home rather than risk a fishing trip if they were not absolutely sure of getting their investment back. Given the rise in cost of fuel, many fishers suggested that the actual numbers of boats that would eventually be involved in regular fishing would be even less than those that had been in operation before tsunami. Under the circumstances, no matter how many boats had been provided, only a few would actually become operational.

Apart from the cost of fuel, the cost of maintenance was also very high: in Koonimedu Kuppam (in Villupuram district in Tamil Nadu), it was said that every week (or after using 25-30 litres of oil)[27], at least Rs. 250 must be spent on engine repairs. If a boat capsized at sea or overturned while crossing the surf, which was a frequent occurrence, the engine alone would require some Rs 5000 to be repaired. The increasing variety and quantity of fishing nets, and their short lifespan, meant huge recurring costs adding to the overall burden, a fact that was not often recognised in the rehabilitation efforts.

All this meant that many fishers, confronted by the harsh realities of life as boat owners, were becoming painfully aware that they had overreached themselves. It was a frequent refrain in many fishing villages that being a crewmember on the boat was preferable to owning it, a fact that was confirmed by other studies too (Muralidharan, pers.comm.).

Possibility of Resale of Boats

There were indications that several boats would most probably be sold. This had already begun in many areas and if this was not more widespread, it was

The Case of a Marakkanam boat in Vodarevu

Osipilli Narsulu was a fisherman operating an FRP Teppa along with his sons. When an NGO provided six Marakkanam boats to the village in the post-tsunami period, he purchased one in open auction by paying Rs40,000. The first two fishing trips with the boat went off well but on the second day of the third trip, they observed water leaking inside the boat. The boat capsized within an hour, sinking along with nets, engines and the catches. There were some other boats fishing in the neighbourhood, which rescued Narsulu and his sons. Quickly, they got the capsizing boat dragged to the shore with the help of four boats. The repairs to the boat came to Rs10,000, but a full repair would cost nearly Rs40,000. No one – the NGO, the *panchayat* or the contractor who built it – was willing to take responsibility for the repairs. After many negotiations, the contractor agreed to repay the Rs10,000 already incurred in repairs, but that did not solve the problem. Nowadays, Narsulu reverted to fishing with his old *teppa*.

because of lack of buyers. Many fishers in the 'shadow zones' were still hoping to get boats from NGOs, but once they understood that it was unlikely to happen, they would start buying from the fishers already owning boats. This was reported to have already begun in some Kanyakumari villages like Colachel. The advantage in buying a tsunami boat was, of course, that it would be very cheap: for instance, in Colachel, a new boat that was said to cost Rs. 67 thousand to build was available for sale at Rs. 41 thousand and there was a chance that it would come down further.

This kind of redistribution would take place both within the state as well as outside of it. While the differences in size and design of the boats between one region and another might act as a constraint, it was reported that the 'Marakkanam' boats of Tamil Nadu were now finding a good demand in the fishing villages of Andhra Pradesh, right up to Vodarevu in Prakasam district, indicating the possibility of spread of new designs to these areas.

Problems with Finding Crew for Fishing

Lack of manpower was a serious problem in many villages. With everyone becoming a part-owner of a boat, there was a big shortfall in the numbers of crew available to man the boats and this was reflected in the reduced number of fishing days. Prior to the tsunami, growing unemployment had been an endemic problem in many villages and the influx of new boats created new employment opportunities for some of them. Still, there was a big gap in the requirement for crew; in some villages, there was a fear that the shortage of crew was contributing to an increase in the numbers of dropouts, because some fishers were reportedly forcing the children to skip schools to take them fishing. Such imbalances might be expected to lead to an increase in the crew shares, but the available evidence showed that this was simply not possible in a context of high costs and uncertain (often poor) returns.

The changed owner-crew relations would require some adaptations like the boats operating on a 'shift' system – only half the boats would go fishing on any given day – and this was already happening in some villages. This would reduce the number of fishing days per boat, but was considered necessary to reduce conflicts and ensure sufficient number of crew were available for fishing. It was also suggested that some of the boat owners would simply leave their boats on the beaches and go fishing as crew on others' boats, because the current demand for crew made it more lucrative being one than being a boat owner!

Quality Concerns with the New Boats

More than any other factor, it is the technical problems that might be the determining factor in discouraging many boats from putting out to sea. The quality of FRP boat construction was extremely poor and resulted in what the fishers called as 'use-and-throw' boats, because many boats developed serious problems during the first fishing trip itself. Few NGOs had the knowledge or the skills to supervise quality control and fewer still had insisted upon a properly drafted contract with the boat builders to ensure prompt after-sales service.

In many locations affected by the tsunami, the expertise, capacity and infrastructure for FRP boat construction had been very inadequate. In the rush to

build boats, even established boatyard found their experienced workers abandoning them in order to set up independent units of their own, often recruiting local workers who had little knowledge of dealing with FRP. Many NGOs had even less experience in boat construction and often relied on intermediaries (or the boatyards themselves) to guide them. There were obviously compromises in terms of reducing thickness or using poor quality material, besides serious structural shortcomings. Many boats were reported to buckle frequently and capsize while negotiating the surf. The need to give boats as quickly as possible also led to insufficient setting time for the layers, which came apart at the first opportunity.

In spite of the fact that FRP had come to be used as a boat building material in the area since early 1980s, the fishers were not knowledgeable about the quality aspects in FRP boat building anymore than the NGOs or, in some cases, the boat builders themselves did. The fact that many of them were graduating from wooden *kattamaram*s also reduced their capacity to take control of the boat building activity. Even in cases where the fishers were knowledgeable about quality issues (many of them undoubtedly had their own yardsticks), the boats were often built at a distant location and the fact that many NGOs (as always, there were a few exceptions) worked directly with the *panchayat*s and not with individual beneficiaries meant that there were at least two screens between the fishers and the boat builders.

In Andhra Pradesh, during the repair phase, *Velugu* constituted village-level quality control teams to supervise the quality of repairs, which had been done in the villages. Payment for the repairs was made only after the quality teams (and the beneficiaries) satisfied themselves about the quality of the work. It was a different matter when it came to the building new boats, but there were relatively few complaints about quality in the repair phase.

Lacking such arrangements, the boat programmes in Tamil Nadu frequently gave rise to what a fisherman characterizd as 'use-and-throw' boats. Many boats developed serious problems in the first few trips (often in the first trip itself). A majority of boats suffered with water leaking into the boat and several also sported hairline cracks on the body. Although an FRP boat was generally guaranteed to last 8-10 years, none of the fishers who had received boats was really that optimistic: they suggested the new boats would perhaps last a maximum of 5 years, but many would go much sooner than that. During the field study, when it was enquired of the boat builders in Kanyakumari what kind of guarantee they would give for the boats, the answer was succinct: "No guarantee for tsunami boats!" The same boat builders were willing to give some guarantee for privately constructed boats, but not for tsunami ones, although the unit costs were the same for both (in fact, the private boats might be cheaper).

All the same, many boatyards had indeed given a warranty of one year for the boats and had been responsive enough to undertake repairs in many boats, but the fishers had a point when they asked: if the boats developed serious problems in a few weeks of operation, could one trust their seaworthiness? Also, it was already six months since the boats had been given, so the warranty would expire in another six months and who would pay for the repairs then? More importantly, the boats had reached the fishers via the NGOs and when the NGOs left the place, the fishers would not even know who had built their boats, let alone approach them for repairs. Many fishers were of the opinion that a sizeable number of boats might be discarded within a year, i.e., as soon as the guarantee period was over, giving substance to the 'use-and-throw' concept.

Naturally, the fishers were scared to take the boats deep into the sea because they were afraid they might sink and their experiences with the new boats over the last few months amply justified the fears. In Melamanakudy and Tranquebar, the fishers ruled out fishing for seer and flying fish with the new boats because that would require fishing at depths over 40 fathoms, which would be too risky to undertake with boats of such poor quality. "These boats would be crushed like paper dolls," one Tranquebar fisherman noted. Already, there were many reliable stories of how the boats had created problems at sea for the fishers, which came from every area visited during this study.

In some areas in Nagapattinam district, where some NGOs got some old boats repaired while also providing new boats, it was reported that there was much competition to take the repaired boats and people had actually paid a premium to exchange their new boats for a repaired one! There were also instances

when old boats accidentally hit new boats and the latter suffered serious damages.

In Melamanakudy the fishers returned the faulty boats to the NGO rather than agree to get them repaired and were using their old boats again. Considering the widespread nature of complaints about the quality of boats, it is likely that sea safety will become a serious issue in the near future with the boats provided under tsunami-rehabilitation programmes.

Diversification

It is also possible that although most fishers received boats, at least a few of them had shifted to shore-based occupations in the meantime and took boats with a view to sell them. When mechanized fishing started again, many of the former crewmembers drifted back into their old positions on the trawlers. This might sound a little surprising considering the fact that they were at loggerheads with the owners not so long ago, but there was no apparent rancour, perhaps because both knew they needed each other's support and agreed to bury the hatchet (at least for the time being). Whatever be the reason, it meant that at least some of the new boats would not now be operated. It was also possible that the boats could be hired out to others or run by the family members of the fishers.

Exaggeration in Numbers

On the other hand, there were also possible exaggerations in the numbers *actually* provided for at least two reasons. Firstly, there was much 'recycling', which resulted because of the connivance between the fishers and the boat builders on the one hand and between the boat builders and the field-level functionaries of the NGOs on the other. Put simply, this meant building boats on paper, and obtaining requisite testimonials from the relevant parties in order to get paid.

In Kanyakumari district, for instance, there were stories of the same boats being distributed more than once. It happened this way: the fishers would demand for a certain number of boats from an NGO, which would place the order with a local boatyard. The boatyard would build the boats in required numbers and these would be distributed in an impressive ceremony to the fishers, who would return them to the boatyard as soon as the NGO personnel had departed from the area. When another NGO came into the village, the *panchayat* would once again place before it a detailed list of people in need of boats and the NGO would place order with the boat builder, who would simply remove the dust off the boats and arrange for another impressive boat distribution programme. And so on. This kind of recycling meant that the number of boats actually built could be less than as reported by the NGOs.

Secondly, the number of boats provided was exaggerated as a result of multiple-entries in the records: the NGO at the grassroots level would give a number that was repeated by its donors at the state-level and by the donors' donors at the international level – in the end, the number of boats provided in this instance would be three times as high as it really was. It was likely that not all promised boats were unlikely to be given in districts like Kanyakumari. Already, many NGOs, which promised to give boats, had left the area and the few that remain were hoping to wind up their operations by the time of the first anniversary of the tsunami.

Rehabilitation of Fishing Communities

Land and Shelter Issues

Housing in the coastal areas was a major casualty in the tsunami, which damaged or destroyed huge numbers of houses right along the coast. The Government and the NGOs responded very promptly in setting up temporary shelters for housing the dispossessed and followed it up with massive programmes for construction of permanent houses for the affected people.

Details of Shelter Rehabilitation Programmes

In Tamil Nadu, the Government undertook a major housing programme to build 130,000 houses in the affected areas at a unit cost of Rs.1.5 lakh each[28]. Apart from the houses, the Government programme envisaged providing basic infrastructure facilities like roads, water supply, sanitation, rainwater-harvesting systems, etc. The Government sought private-public partnerships for construction of permanent shelters and community assets such as, schools, primary health centres, community shelters, etc., and encouraged NGO investments in these areas. The land for relocation was provided by the Government, which

also came up with a set of guidelines for house construction. For damaged houses, an amount of up to Rs.75,000 was provided based on the value of assessed damages. A noteworthy initiative of the Tamil Nadu Government was to give joint title deeds in the name of the man and the woman of a household to the land on which the new houses were coming up.

In Kerala, in the three districts affected by the tsunami, namely Kollam, Alappuzha and Ernakulam, provision was made for the construction of a total of 3,608 houses with the support of NGOs. The unit cost was fixed at Rs. 1.75 lakh for a normal house and between Rs. 2.75-3.25 lakhs for fortified houses, and the government provided land (where required) for the relocation of houses and subsidised the cost of each house to the tune of Rs. 50,000, while the rest of the money was raised by the NGOs, who also undertook the actual construction work.

In Andhra Pradesh, the Government sanctioned the construction of 40,000 houses across the 9 coastal districts at a unit cost of Rs. 40,000 each, of which Rs. 20,000 would be provided as subsidy and Rs. 17,500 as margin money at a subsidised rate of interest, while the remaining sum of Rs. 2,500 would be contributed by the beneficiary. The package was not new, and was a continuation of an ongoing programme for rural housing, except that the quantum of support, which had been reduced earlier to Rs. 20,000 per house, was restored to Rs. 40,000 after the tsunami. Where the new houses could not be built *in situ*, the Government would make provision for construction of the houses on its own land or by acquiring *patta* land by paying a fixed price.

Relevance of the Shelter Programmes for the Coastal Communities

Overall, the field visits to the villages gave a strong impression that the housing programmes were very positive investment in terms of improving the fishers' quality of life, reducing their future vulnerability and enhancing their economic wellbeing; in other words, the housing programmes could contribute significantly to livelihood sustainability. This was particularly valid when the housing conditions in the pre-tsunami period in many of these villages (in terms of quality of houses, water and sanitation, access to transport and other basic facilities) were taken into account. The fishers were aware of this which was the reason why, in spite of all their anxieties and concerns, they were resolved to move into the new houses and sort out things from there. Also, this was why the various shelter-related issues that came up during the interactions concerned the hitches in implementation rather than question its overall relevance (as happened, for instance, in the boat programmes).

The Issue of Relocation

In Tamil Nadu and Kerala, depending on the availability of land, the houses were being provided either *in situ* (i.e., on the same spot where the victims' houses had stood) or, when it was not feasible (due to congestion or insufficient space; many houses were also located close to the sea), in alternate locations where the Government provided land for the purpose. The issue of relocation had been the source of much debate and many anxieties both for the communities as well as the aid agencies. The issue was more complicated on the Coromandel Coast (particularly Nagapattinam and, to a lesser extent, Cuddalore) than in Kanyakumari and other districts where the number of people requiring relocation was comparatively less.

Put simply, the issue of relocation boiled down to a fundamental dilemma that fishing communities everywhere faced: life security vs. livelihood security. Living on open beaches, the fishing communities were always exposed to the natural disasters and were the first to be affected in times of any sea-borne disaster. On the other hand, their livelihood activities were intricately linked to their being on the beaches and a shift away from the beach (which was an important social space in the village) could mean serious trouble. The close integration between fishing and the social and economic organization of the communities would mean that a shift away from the beach could have potentially wide-ranging consequences.

The fact that security of tenure had always been a contested issue for the fishers also explained their contradictory responses: on the one hand, they were reluctant to leave their existing habitats because being close to the sea was the only way they could assert their rights to it; they could not leave it because the land they would vacate could easily be alienated for some other purpose, as happened many times in the past. On the other hand, they were eager to move into the new houses because that would give them

the security of ownership of their house, a privilege many of them never had.

Possible Impacts of Relocation

The distance from the sea remained a big concern for the fishers. They argued that, in order to be able to fish, they would need to stay on the beach at all times and keep a watch on the movements in the sea, ready to launch their boats at a moment's notice and rush after a passing school of fish. Being on the sea also helped to launch the boats at all times of day and night and this would become impossible if they were to be relocated. The need for many hands while launching and hauling the boats would also mean that a good number of people must be on the beach at all times. The boats would frequently capsize while negotiating the surf and there was a need for people to lend a helping hand in such emergencies. If the villages were to be shifted inland, none of this would be possible. Also, keeping watch on the boats, nets and engines while living elsewhere would be going to be another concern.

The sea beach (*kallâram or Kadalorum*) which was between the fishing settlements and the sea was the most important common space for the entire village and facilitates a number of activities: berthing the boats, auctioning fish catches, mending nets, drying fish and firewood, besides fulfilling many social functions (see Bharathi, 1999). This dependence on the sea beaches also determined the spatial organization of the villages along the north-south direction, rather than in the east-west direction and also explained the fishers' reluctance to move away from the beaches.

Overall, most fishers – and their wives – believed that it would complicate life manifold if they were to be shifted inland. Many of them argued, quite eloquently, that they must remain on the beach for professional reasons.

Apart from the fisheries related concerns, the fishers foresaw a few other consequences arising out of relocation. Firstly, with only one half of the villagers opting to move out, there would be a disruption in the social fabric of the community and the impacts could be far-reaching for everyone; for some, the shift would be an opportunity to improve themselves or to get out of the clutches of the elites in their villages, but for some others, it might mean uncertainty and loss of social security. The shift would certainly weaken the traditional governance systems (caste *panchayat*s) and upset the hierarchies that governed their supra-organization. Similarly, many grassroots level attempts at community-organization might also suffer.

Secondly, the new areas where the fishers were moving into, largely inhabited by people of a non-fishing extraction, might lead to confrontations between the local communities and the newcomers, even leading to a sort of ghettoisation of the fishers. In villages like Kallar, there was a strong resistance to move inland because the local agrarian communities would dominate them and insist upon the fishers working according to the existing *panchayat* rules. Also of particular concern would be the plight of people who would be relocated in small groups over several locations – their minority status could potentially marginalize them and lack of access to traditional social networks might increase their vulnerability.

In administrative terms, one outcome of relocation might be that there would be an increase in the number of fishing villages. This means that the number of fishing villages in TN would continue to remain a matter of great debate for years to come.

The Twin-house Concept

This confusion was quite evident in people's responses in many villages during the field study, giving the impression that they had not clearly thought through their responses, which was reflected in frequent shifts of stance and wavering between extremes.

A majority of fishers accepted the need for a shift to the interior, but also argued in favour of retaining their old house on the beach for operational convenience. In other words, they were seeking two houses – or, more accurately, one house without having to give up their existing dwelling. But the Government's rules were quite clear on this: that a person would get a new house only after signing away the rights to his existing house on the beach to the Government. This led to an impasse and finally the people chose to go along with the Government rules, in the hope that they would be able to find a way to hold on to their old houses. That the relocation was partial rather than wholesale in many locations (which meant leaving interstitial gaps in villages rather than big patches of vacant land that would lend themselves to alienation) also supported their belief in the 'two-house theory', as it had come to be called. There were

Living on the Edge in Nadukuppam

Natarajan had entered into his new house a week before the tsunami and was homeless by the next week. A local NGO helped him rebuild his house, but this too got washed away in the after-shocks that hit the village a few months after the tsunami. The foundations for a new house had been laid for the third time in a year by another NGO, when the District Administration stepped in to stop the construction because of the apprehension that the land on which the house was being built would be eroded soon. Land erosion in the area had increased manifold with the construction of a wall along the coastline, and this wall stopped some distance from Natarajan's house, making it most vulnerable to erosion. Now there was no alternative land available for relocating Natarajan and his family. Being very close to Pondicherry, land was very expensive and it would be necessary for the *panchayat* to pay half the cost to make up the shortfall in the government's allotment for the purpose. The *panchayat* shifted the responsibility for payment to Natarajan himself, and he simply did not have the money. A majority of the people who lost their houses in the tsunami in the area had opted for *in situ* construction, so had no such problems. Unable to do anything about it, Natarajan continued to live next to the half-built pillars on his land, providing an ideal picture of poverty for visitors. It was later clarified that the *panchayat* would help him to get the piece of land for his house, but Natarajan and his wife were two very anxious people for the time being.

also no clear indications as to what the Government would do with the fishers' homestead land after acquiring it, but it was certain to be more a political than an administrative choice.

This belief in 'two-house theory' actually encouraged more people to opt for relocation in many villages and some NGOs were even facing the task of relocating entire villages, which might end up undermining the basis upon which the 'two-house theory' stood.

House-for-house

The Tamil Nadu Government's insistence on replacing house for house, ignoring the differences in terms of area and the number of persons in the family, as well as the possibility of more than one family sharing a house in the past. While this was acceptable to households with small families, the joint family households considered this to be potentially disruptive. Joint families were reported to constitute up to 15 per cent of the households in a village and the house-for-house idea might mean taking some of them apart, which would be reflected in weakening social capital. Also, in case of houses shared by more than one family in the past, this would lead to some of the families finding themselves at a loose end. In many such cases, the temporary shelters would become their permanent houses.

Reluctance to Stay on the Beach

The two-house concepts and the tenacious arguments in favour of being able to reside on the beach notwithstanding, there were also people who looked forward to moving away for many reasons. For some people, the shift was an opportunity to diversify or to escape the tyranny of the elites in the villages. For instance, it was said that in villages like Akkaraipettai, the crewmembers were rearing to go out of the village and form a new settlement of their own and were suggesting that the owners should not be accommodated alongside them in the new settlements. It was said that once they leave the village, they would form a *panchayat* of their own and strive to develop independently of the mother village.

Another instance that illustrated the eagerness of the people to move out came from the same area and concerned the temporary shelters. In Akkiraipettai and Keechan Kuppam, the local NGO was building transit shelters for people on the same sites where their houses had stood before the tsunami. Each transit shelter cost Rs. 40,000 and their ostensible purpose was to house the people until the permanent houses were ready in another six months, while the real objective was to ensure, by putting up permanent constructions on the beach, that the people would not be alienated from their land even after moving out to their new settlements. In other words, it was

giving a shape to the two-house theory, although how it might work out was hazy. The women in the village asked, quite reasonably, why spend so much on transit shelters when they needed to live only six months in them. They suggested that, instead of the shelters, the NGO should give them the money and allow them to live somewhere else until their houses were ready. When it was explained that the shelters were supposed to ensure their ownership of the land, their response was revealing. This was what Kalyani told the study team: "We have now come to fear the sea so much that the sound it makes is very disturbing. We have lost so much that is precious to us – property, loved ones, children – and the memories haunt us night and day. When they dig up the place for setting up a shelter, we find something from a time when the village was intact, a small thing like a photo frame, or a piece of cloth, and it is enough to bring back the sad memories and I sit weeping for hours. Is it possible for anyone to go on living here and not be tormented day after day?"

Apart from the fear of the sea and bad memories, the fact that a few people had moved into non-fishing activities in the interior was another incentive for moving out. Proximity of towns (with the attendant advantages), value of real estate in the areas away from the shore and children's education were the other reasons cited for the preference to move out.

Progress of the Shelter Programmes

The progress in this programme varied from one place to another and from one NGO to another: in some places (e.g., Pudukuppam in Cuddalore district), houses had already been handed to the people, while in some other villages (for instance, in Kanyakumari district), even the acquisition of land could not be accomplished because of the high cost of land in the area[29]. The Government's willingness to pay twice or even three times the value of its own estimates was not sufficient temptation for people to sell their land. The progress with in situ construction, as can be expected, was much faster than with the houses in the new locations.

Non-availability of land was also a big problem in Villupuram district and this was particularly acute in villages located closer to Pondicherry. In Chetti Nagar, according to the fishers, there was space only for building 25 new houses, while the requirement was for building 170. The only space available here was on the seaward side, but the CRZ provisions would not permit construction on that side anyway. What it meant was that even if the Government and the NGOs were willing to invest in housing here, it was futile.

In Mulukuthurai in Cuddalore district, it was reported that due to delays in acquisition of the land by the Government, the NGOs and the local caste *panchayat* had to shell out the money to buy 15 acres of land in the neighbourhood. In this instance, the fishers claimed that since the new land was purchased with their own money (at least partly), it was an additional acquisition rather than an alternate one, so they could not be forced to give up their existing house sites on the beach to the Government.

In practical terms, the delays in housing meant prolonging the uncertainties for the fishers (after all, relocation was a major change for a people who had seldom faced such a prospect), giving rise to increasing doubts and worries about the possible impacts of the shift, and creating problems even for the implementing agencies, which found it difficult to cope with the vacillating stands taken by the people from time to time. Many of the apprehensions of the fishers might turn out to be baseless in practice, but so long as the people had not moved into the houses, this uncertainty would remain.

Notwithstanding the intense debates that raged over the shelter guidelines in the earlier period, the pendulum had swung in the other direction in the implementation phase and it was said that very few NGOs adhere to, or even give credence to, the shelter guidelines anymore, except in following the broad limits imposed concerning area and investment for each house. On the issue of quality of construction, the fishers were generally impressed, their frequent response being, "Far better than if we were to build the houses ourselves!"

As on 22 December, the progress with housing reconstruction programmes in Tamil Nadu were as given in Annexure 2.

Community Participation in Shelter Programmes

In case of *in situ* construction, the participation of the people was regular and their suggestions and supervision might be contributing to build the houses according to their needs. However, in the relocation

programmes, the extent of involvement of the communities varied from one NGO to another, with a majority NGOs apparently dealing only with the *panchayat*s. In some cases, they were no more than contractors, seriously going about their business without trying to engage with the communities in any way. Thus, in Kanyakumari, even as new houses were being built in their neighbourhood, the people in some areas like Colachel did not know much about them.

There were few specific efforts at involving women in determining the design, location and construction of houses in the relocated areas, in spite of the fact that the women often had a good idea of how they would want their houses built. In some villages in Kanyakumari and Nagapattinam, the women complained that they did not have a say in the matter of housing and even did not know where the new houses were coming up.

Poor community participation in some locations (like Kanyakumari) was said to be because of the relatively few numbers of houses being built in some areas, which made it difficult to incorporate changes to design and other aspects; in other areas, there was a fear that the needs and demands of the communities would keep mounting all the time, delaying and adversely affecting the programme[30]. Whatever the reasons, this was a lacuna that characterised all group-housing programmes in the past and could have overcome in this instance. After all, no one but a resident could determine what his housing needs were, especially in a context where the specific needs of the fishing households were not always understood by the aid agencies. The women in particular could have contributed to designing their houses according to their specific needs.

Some NGO functionaries also raised the issue that some of the changes in the new housing programmes – like the shift from thatched huts to RCC-roofed houses and, particularly, the changes in sanitary systems (to septic latrines) – might necessitate some behavioural changes on the part of the fishers and while this might not be a reason for putting better infrastructure in place, these issues would still need to be carefully monitored for a period after the people had moved in. For instance, one reason for the failure of sanitary latrines in many temporary shelters was said to be that the fishers were exposed to sanitary latrines for the first time in life (Muralidharan, pers.comm.).

Issues Related to Shelter in Kerala

Housing in Kerala stood up to the reputation that the state had for focusing on improving the quality of life of the people: the new houses were one-or two-storied structures, worth Rs. 3 lakhs each (it was reported that the NGOs ended up spending more than was specified in the Government plans), not including the cost of land. There was provision for water, sanitation and electricity and the houses were generally so well built and well equipped that many NGO staff quipped that they did not live in such houses themselves. The fishers were quite sure that the houses would withstand disasters quite effortlessly. All this would certainly mean that the tsunami-victims had managed to overcome their 'outlier' status. The number of houses given was at least twice as many as those lost in the tsunami, so there were few gaps in terms of coverage of people affected by the tsunami in the locations officially recognised as being tsunami-affected. There were reports that people from the fringe areas were moving into the newly evacuated temporary shelters, clamouring for recognition as tsunami-victims in order to receive houses.

However, two factors may have stood in the way of people receiving adequate assistance in Kerala. Between the two villages – Alappad and Aratupuzha – which were affected by the tsunami, one (Alappad) was better connected to the mainland, which allowed many agencies to come and work there at short notice, while the difficulties to reach Aratupuzha (need to cross a ferry or taking a long detour) were said to have hindered the extent of support received here. Moreover, access to the worst affected parts of the village was poor as the approach roads were covered by thick mounds of sand brought by the sea winds, further constraining rehabilitation activities.

Secondly, as explained in Chapter 4, only three wards (later reorganised into four) within Aratupuzha had been 'officially' declared as tsunami-hit, leaving out a number of people who had been as badly affected as anyone, but had the additional misfortune of not living in the 'right' wards. It had been difficult for a long time to have them officially recognised as tsunami victims, for the fear of opening the floodgates for a large number of other people to demand assistance as well, but finally the District Administration allowed some of the families to move into the

temporary shelters, thus granting them 'official' victim status. By then, most NGOs had already made their commitments and could not add to the numbers, so it might have been a pyrrhic victory for the newly anointed victims.

Within the same Aratupuzha, there were other victims who had lost their houses in the post-tsunami incursion of the sea-waves a few months after the disaster; but this was not a part of the 'official' disaster, so their losses were not included in the tsunami losses. These people were living in the local schools at the time of the field visits and reported to have received very little in terms of relief or rehabilitation! They were promised that there would be a second phase of tsunami rehabilitation, when their needs would be addressed, but as one fisherman remarked, "It would need another tsunami to prepare a second list of victims!"

In Aratupuzha, people affected by the tsunami had been living close to the shore and the siting of the temporary shelters away from the shore meant that they were now living in new surroundings and with new neighbours, although in the same village. The fact that these tsunami victims received all attention from the funding agencies had not gone down well with the 'local' people, which strained relations between the two groups. The NGOs working in the village had set up ward committees in each of the selected wards and the constitution of the committees too had been a bone of contention.

Impact of Housing on the Quality of Life and Livelihoods

The experience in Kerala show two things clearly: firstly, that the permanent houses had the potential to reduce people's vulnerability significantly and improve their quality of life manifold, particularly when compared to the conditions before the tsunami. Secondly, there still remained a number of people both in the same villages as well as in the adjacent areas, living in thatched huts or poor quality houses, who were unable to receive assistance because they had not been affected by the tsunami. They would obviously be the first to be affected in case of a future disaster. These two factors would hold good in the other states too.

This would highlight the need for a comprehensive and holistic programme to reduce the vulnerability of *everyone* living in the coastal areas, irrespective of whether they had been affected by the tsunami or not. From the livelihood perspective, providing better houses would definitely be a more positive intervention for the fishers than, for instance, giving them boats. After all, a house is not just a place to live in, but also a means to ensure economic wellbeing of the people, which gives them a sense of security, makes them creditworthy in the eyes of formal banking systems and helps them escape being 'outliers' in several respects. Also, even if the fishers chose to stay on the beach for occupational reasons and rent out the new houses, it would mean earning a supplementary income that would have no seasonality problems and could reduce their hardships during the hunger months considerably. This is as good a way as any to diversify the fishers' income sources sustainably.

Also, universal housing is a right and also a better means for ensuring social equity than giving a boat, because it does not discriminate in terms of gender, marital status, caste or occupation, the only criteria of support being the poverty and vulnerability of the people targeted by the programmes. One might go so far as to say that giving two houses to the fishers is far more preferable to giving two boats to them.

The Institutional Context

This chapter briefly discusses the role of different institutions in the rehabilitation of fisheries related livelihoods.

The State Government

Apart from the usual quibbles that are part of government rehabilitation efforts anywhere, the state government in Tamil Nadu was widely seen to have handled the disaster admirably, particularly as dealing with the tsunami was a totally new experience for everyone. The Government went about the rehabilitation programmes in a transparent manner by putting all relevant information was put on the Internet and updated frequently. It also actively solicited public-private partnerships and allowed the NGOs and other civil society organizations to take a lead role in the rehabilitation effort, contenting itself with coordinating their activities and providing the backstopping support as necessary. This might have to do with the fact that the NGOs had more money for rehabilitation than the Government, but its own

rehabilitation programmes were also markedly farsighted and holistic, taking into account the long term needs of the people and addressing them by measures that went beyond the tsunami (for instance, see the Policy Note of the Department of Fisheries for 2005). Decentralisation of decision-making powers and delegating powers to the district administrations also ensured rapid responses to the crisis. Another important feature of the Government's efforts was the coming together of different line departments to work under a central command (i.e., the district administration), which helped in responding to the multiple needs of the affected people simultaneously, which was in contrast to the more restricted approaches of the other players in the rehabilitation work.

A notable difference from the other disaster situations in the country in the recent past was the very low profile maintained by the political class in the rehabilitation effort. The near complete absence of the political class in the rehabilitation programmes in Tamil Nadu was remarked upon by many people as having helped the smooth execution of the rehabilitation activities. However, one cannot but feel a little concerned about the lack of a role for people's representatives (particularly the *panchayat*s) in the decision-making processes at a momentous time like this and wonder about its deeper implications in the long term. But in Kerala, the tsunami was much politicised, to an extent that some organizations kept off working in Kerala on tsunami.

The Tamil Nadu Government's insistence on taking advantage of surplus funds to build better houses at a higher unit cost proved to be a very productive idea and may have partly stemmed to flow of funds into providing boats. Its shelter guidelines, though contested and finally ignored, acted as a benchmark and helped everyone to focus on the practical aspects of the shelter business. It was true that the Government could have come up with similar guidelines in other areas, particularly for fisheries sector rehabilitation to highlight issues related to problems with excess supply and quality control issues in boat building. Unfortunately, the Government's philosophy (compulsion?) of non-interference with fisheries-related rehabilitation efforts in the NGO sector contributed to its failure to curtail the over-enthusiasm of some of the NGOs to provide fishing boats in excess.

The Tamil Nadu Government's firm stance against the plea of the boat owners to be allowed to take the compensation money and move out was highly debatable and highlighted the need for a comprehensive long-term fisheries policy for the state. On the other hand, the Government's decision to extend assistance to the affected fishers in cash rather than in kind turned out to be – perhaps unintentionally – a wise choice, in so far as it allowed a few people to move away. Also, it was the compensation money for boats (which were seldom built, thanks to the NGO largesse on this front) that kept the communities afloat in the face of poor fishing, right from the time the relief assistance had been stopped.

Lack of clarity was a complaint that was frequently levelled at the Government's directives. This led to confusion and also giving different interpretations to the orders in different districts. One such issue related to the registration of boats: in Nagapattinam and elsewhere, group-ownership was allowed by the Department of Fisheries, but in Cuddalore, it was reported that boats would not be registered as group-owned, because of the potential for trouble such an arrangement would have for the administration. Similarly, while some district officers demanded compulsory registration of all new boats in the post-tsunami period, others were not so insistent. Even in districts where this was made mandatory, there was no apparent mechanism to ensure the strict implementation of such measures and several boats thus avoided being registered. The result was that no one still knew how many boats were in existence in Tamil Nadu now and it would take an elaborate census to obtain a reliable figure. The implications for fisheries management as well as for dealing with future disasters are quite clear.

There were also differences in the mode of payment of compensation to the tsunami victims. In Nagapattinam, the compensation for boats was paid in full, but in Kanyakumari, only a part of the money– about Rs10,000 per *kattamaram*–was provided. The remaining amount was deposited in a joint bank account with the Assistant Director of Fisheries as co-signatory, on the understanding that it would be released to the fisherman as and when he produced the new boat. Seeing that many fishers had already received boats from the NGOs, it was clear that the fisherman would not get a new boat built, so the

money might be a saving for the Government in Kanyakumari. The fishermen tried to pass off the NGO-given boats as new, but this was not possible where the NGOs took care to register the boats.

In Andhra Pradesh, the biggest constraint had been the choice of a nodal agency for rehabilitation efforts. The choice of '*Velugu*', an ongoing state government rural poverty elimination programme focusing on the poorest of the poor with a specific mandate and a clearly defined framework to implement it (see www.velugu.org) to act as the nodal agency for the tsunami rehabilitation programme, which involved short-term, one-off measures and addressed the needs of a much wider constituency of people than are covered under *Velugu*, was problematic. For instance, *Velugu*'s programme implementation strategies (group-based; women-oriented) did not jell with the objectives of a rehabilitation programme (particularly where a predominantly male-oriented support package – boats and nets – was sought to be implemented) and caused much heartburn among those not covered. Another very troublesome aspect of tsunami rehabilitation in Andhra Pradesh was that information on the progress of activities was not easily accessible to the public, which was in stark contrast to the situation in Tamil Nadu.

The NGOs

The non-governmental agencies played an important role in the relief and rehabilitation efforts to an extent that they dominated the post-tsunami scenario in every way. There were many heartening examples of the selfless service the NGO personnel did in many parts of the coast and these were much appreciated by the fishers. In fact, the fishers suggested, but for the prompt arrival of the NGOs soon after the tsunami to undertake relief, their condition would have been a lot worse. It helped that some of the NGOs had experience of working in other disaster areas – many had come from the earthquake-hit Bhuj area in Gujarat[31] – and were equipped to deal with the complex problems that the tsunami had left behind, often providing guidance to the Government on how to cope with the different facets of the disaster. The significance of the NGO contribution was reflected in the high esteem in which they were held by the Government officers and the fishing communities in many areas. Obviously, there was much to be proud of in the NGO work. At the same time, there were also lessons to be learned and 'unlearned' from the rehabilitation phase for the NGOs.

One of the most significant outcomes to have come out of the NGO involvement in the rehabilitation phase were the micro-level studies conducted by Praxis in several Nagapattinam villages. While the focus of these studies was on rehabilitation, they undoubtedly have a value far exceeding the immediate needs of the tsunami. Their significance lay in their holistic and multi-layered approach to life in a fishing community, which took a range of players, activities and systems into its ambit. Notwithstanding minor glitches, the studies were an excellent showpiece to demonstrate where the NGOs scored over the Government in their *approach* to development. Given the relatively short time it took to compile the studies, it will be a very worthwhile project to undertake similar studies for all villages right along the coast of India.

Having said that, it is also one of the tragedies of the rehabilitation phase that studies such as this were largely ignored while planning and implementing the programmes. A review of the rehabilitation programmes indicates that the NGO efforts were generally marked by a lack of understanding about the fisheries sector, its people and their needs. This was reflected in the inadequacy of interventions in some crucial areas (marketing, credit), while there was too much emphasis on others (in particular, providing boats). This left gaps in terms of coverage of women and other key stakeholders in the production and post-harvest chains and also reflected in the lack of appreciation for indigenous knowledge, institutions and technologies, which were, after all, important strands in development thinking and crucial for ensuring the sustainability of interventions in the long term.

It was suggested that the Praxis studies were done a little too late in the day (April-May), by when most NGOs had already put together their rehabilitation plans. However, it was very doubtful that many NGOs had done a detailed needs-assessment among their target communities and that even the few who did could manage to get anything useful from the people in those first months (when most proposals for funding were hastily strung together). This was

because, in the hurry to do something to help the people, the human cost of the disaster was perhaps underestimated: in many villages, the magnitude of the disaster was such that it had left people shell-shocked and it was patently illogical to expect them to respond coherently and rationally about their future needs at such a time. There was a need to allow people to stabilise a bit, to come to terms with their grief and to think more rationally once again, before beginning the rehabilitation effort, and from this, one could suggest that the Praxis studies were done at the right time.

The programme for providing FRP boats was a case in point. Most NGO proposals for providing boats had been put together quite early on in the post-tsunami period (mostly within a month after the tsunami) when the loss of productive capacity was a major constraint in restoring normalcy in the sector. Delays in processing the aid proposals and releasing funds by the donors had meant that other donors – including the Government – had begun to meet the demand in the meantime. However, for the NGOs that had committed to working in specific villages and on specific issues, there was often no alternative or latitude but to push ahead with provision of boats as per the original proposal, in spite of knowing that it was not only futile but also adding to overcapacity while there remained much to be done in other areas.

What was rather surprising was that even NGOs that had been working long with the fishers had only a hazy understanding about their livelihood related needs. It was possible, as an NGO functionary remarked, that the NGO work with the fishing communities was confined largely to land-based initiatives like micro-credit, health, education, women and children etc. and seldom focused on the dynamics of the sector itself. Still, one could say that many local, long-term, NGOs had a better appreciation of the local context and strove for more holistic interventions compared to the non-local NGOs, who were often only interested in handing out aid and leave the place[32], and this was reflected in the way many fisheries rehabilitation programmes were planned and implemented.

One major factor was also at work in pushing people to hasten the rehabilitation process: the tsunami generated funds to an unprecedented degree and that was almost as bad as not receiving adequate support, if not worse. Several dormant NGOs came to life all over the tsunami-belt and their capacity to handle large sums of money was at best doubtful. This inability, together with competition from other NGOs and the compulsion for showing quick results, ended up in the proliferation of boats on the beaches. In the chaos that ensued, people took a backseat while providing boats at any cost became more important. The situation could be gauzed from the fact that many funding agencies reportedly had problems to keep track of what was happening at the grassroots level with respect to the boat programmes. Quality was another casualty in the process and a majority of boats might not even last beyond two years; in the meantime, sea safety would become a major concern. It was such a dreadful waste of resources that one would be tempted to agree with the conclusion of an NGO worker who suggested that simply handing out the money to the fishers might have been a better option than giving boats.

In many ways, the same target- and number-driven approaches that had been held to be the characteristic of government programmes were replicated by the NGOs. The long-term NGOs, especially those with some understanding about the dynamics of the fisheries sector, did try to stem the tide through workshops to discuss the negative impacts of increasing fishing fleets beyond certain limits; everyone listened piously and even passed resolutions against increasing fishing capacity and then went out to do exactly that! In fact, the frenzy actually forced some NGOs working long-term with the fishers to give a few boats too, if only to avoid adverse comparisons with rival NGOs and possible negative fallout on their long-term plans in an area. But, as many people working in such organizations suggested, this compromise itself might have implications for the long-term plans of the organization, setting a precedent that it might find difficult to justify in due course.

Thus, with regard to the boat programmes, the performance of many NGOs left a lot to be desired. Almost by any yardstick that the NGO sector uses to evaluate its performance (use of participatory approaches, long periods of engagement, holistic interventions, maintaining clear distinctions between development and charity; emphasis on social equity and environmental sustainability, local institution

building and strengthening, building upon indigenous knowledge and technologies, etc), the boat programmes fail to stand up to expectations. There is certainly an urgent need for some hard soul-searching by everyone.

New Institutional Initiatives

Many NGO functionaries remarked on the cordial relationships that characterised their working with the Government officers in the post-tsunami period. This was particularly noteworthy since the pre-tsunami relations between the two were often decidedly cold. Frequent interactions bridged the gaps in understanding between the two streams and helped forge lasting linkages. The need for Co-ordination among the NGOs themselves as well as with the Government in the rehabilitation efforts led to institutional initiatives such as the NGO Co-ordination and Resource Centre (NCRC) in Nagapattinam and the Kanyakumari Rehabilitation Resource Centre (KRRC) in Kanyakumari. The performance of these initiatives over the past few months showed how the emerging Government-NGO partnerships might complement and work to the benefit of all concerned parties.

The extent of co-ordination varied from one district to another and was also perhaps more individual-oriented than institutional. Still, it was possible to visualise the potential for more initiatives involving government-NGO partnerships in the coming years in Tamil Nadu.

In the meantime, some teething troubles would need to be resolved. The first of these related to the co-ordination centres' location straddling the no-man's land between the government and NGOs, which might sometimes give rise to apprehensions about being too closely identified either with the Government or with the NGOs[33] and being co-opted by them. This would require a constant balancing act on the part of these organizations. The second issue related to the long-term vision for the co-ordination centres. It was true that they came into existence to cater to a specific need, but it was clear that their role could potentially extend beyond the tsunami rehabilitation and co-ordination work, and that they had the potential to develop a multifarious role in the long-term development of the areas where they work. Although no one realised it at the time, there had indeed been a need for such an institutional framework and now that they had come into existence, there was much justification for their continued existence. In fact, considering the long-term implications of some of the rehabilitation programmes, there was perhaps more need for the co-ordination centres now than previously if only to curtail such overenthusiasm in future. This would require more clarity regarding the role and work of the co-ordination centres and a greater degree of legitimacy and institutionalization.

The Traditional *Panchayat*s

The traditional *panchayat*s influenced – *and were influenced by* – the rehabilitation efforts in a way that had implications for their continued survival and functioning in the long term. In many cases, they acted as a one-stop shop for the rehabilitation agencies (both Government and NGOs) to channel support into the communities. It was reported that several NGOs dealt only with the *panchayat*s and rarely had interactions with the people themselves, with the result that the *panchayat*s came to wield considerable power in determining the flows of assistance into the villages.

While thus being an interface between the communities and the rehabilitation agencies, the *panchayat*s may also have acted as a barrier, affecting the scope and direction of the support programmes. This contributed to excluding some people and their needs for various reasons and the NGOs too were often afraid of upsetting the *panchayat*s and had to fall in line, rather than take independent initiatives to explore more options for extending support.

All the same, in many cases, the *panchayat*s did ensure equity in the distribution of assistance into the villages because, after all, the caste code insisted that even when they took advantage of the government and the NGOs, they had to ensure equity in the villages, which was the reason and the foundation for their continued existence. When some people did not receive assistance from the government (because their boats were not damaged or they did not have any boats at all) or from the NGOs (who had their reasons), the *panchayat*s ensured that the losers received some kind of assistance, which was mobilised from two sources: firstly, a lion's share of the compensation received from the government for boats – which were seldom built – was appropriated as community fund and distributed among the people. Secondly, even the NGO inputs were handed to the beneficiaries only

on payment of a fixed sum or, in some cases, by openly auctioning them. In fact, the money thus generated was reported by many fishers to have helped them survive since the relief programmes came to an end in April.

The rehabilitation phase also provided an opportunity (excuse?) to the asset-less fishermen to topple the leadership of existing *panchayat*s, undermining the *panchayat*'s authority and redefining their role. The conservative, inward looking, old *panchayat*s were considered to be a constraint in dealing with the rehabilitation agencies and obtaining more support and this necessitated a new breed of leaders take over from them. It was the complaint of the old *panchayat* leaders that they had been as badly affected as everyone in the tsunami and were still grieving over their losses when they were already accused of not doing enough for the people. Thus, the old guard was not only evicted rather unceremoniously, but also marginalized from taking an active role in the rehabilitation phase. The new leadership quickly obtained boats and became boat-owners themselves.

Leaders of the old guard met during the field study contended that experience was an important requirement to be a member of the *panchayat*. The intricacies involved in resolving tricky issues such as fishing conflicts or social discords (including domestic and marital issues) and the tact required to deal with the external world could only come from experience and the fact that the new *panchayat* leaders were mostly young meant they would be unable to deal with these issues confidently. The former *panchayat* leaders agreed that there were issues that required sorting out, but the thing to do would have been to seek accommodation of new people alongside the old, rather than doing away with one set of people and replacing them with another.

The new leaders agreed that they lacked experience and it was perhaps not right to remove the previous leaders *en masse*, but they contended that, in a set up involving a mix of the old and the new, the youngsters would have no voice at all. The problem with the older group was that they had increasingly become alienated from the rest of the village and were becoming a law unto themselves. And their interest was in maintaining status quo, i.e., protecting their own interests, which was clearly unacceptable, particularly when it was done at the expense of the others.

Apart from differences of status, there were two other facets to the revolt: firstly, it was a clash between generations – the new leaders were often in their twenties, while a majority of the previous leaders were at least in their fifties. Secondly, this was also a revolt of the educated people against the largely illiterate or semi-literate old guard. The educated people in fishing villages, whose numbers were constantly growing, were a frustrated lot because their 'educated' status meant they could not stoop to go fishing anymore and were unable to get a respectable job either. They had long been a butt of jokes in the villages and were shown as an example of what 'education' did to people. If many new *panchayat*s were clamouring for assistance to help people diversify out of fishing, it was partly to do with these two factors.

One outcome of these developments was said to be growing factionalism in the villages. The old *panchayat* members were now the most dangerous adversaries for the new *panchayat* leaders and their functioning even as the rest of the villagers were forced to take sides in this conflict. Factional violence was witnessed in places like Akkaraipettai.

The tsunami rehabilitation programmes also saw the caste *panchayat*s getting embroiled in legal problems, which gave rise to some moves to bypass them or even suppress them in the long term. It was true that caste *panchayat*s excluded women and people of non-fishing castes from *direct*[34] participation in the *panchayat* decision-making processes, which was problematic, but not quite deserving the scorn that had been heaped on them on this account. Undeniably, the *panchayat*s addressed many important needs of the fishers and attempts to dislodge them without putting sustainable alternatives in place could be potentially catastrophic for the fishers. On the other hand, there was enough evidence to show that the institutions were amenable to change and that it would be more practical and helpful if attempts were made to reform them to address the needs of the people more equitably. If the *panchayat*s are done away with, it is possible that the glue that held the communities together might weaken and lead to the disintegration of the fishing communities.

Community Organizations

The impact of the rehabilitation on ongoing grassroots-level institution building – involving the

formation of self-help groups and producers' co-operatives – was not very positive. In some cases, for instance in Kanyakumari, the involvement of existing groups may have yielded some all round benefits, but in others, particularly in Andhra Pradesh, this might have led to negative consequences for the groups and the concept of SHG itself.

There were instances (in Kanyakumari) where members of particular groups were reportedly discriminated against in rehabilitation programmes, while in others, there was an active cooption of members from existing groups into new ones. In areas where the NGOs took a principled stand against providing boats, they came under fire from their groups for not doing enough. This was a real dilemma because, if the NGO stuck to its principles, it stood to lose the groups that it had built by investing much effort and hard work; on the other, if it gave in to the demands, it would lose its ideological strength and that would surely have an impact on its own long term work with the people! A few NGOs did seem to overcome this problem unscathed, but for a majority of NGOs, the costs may have been quite heavy. As one NGO representative told us, "It was sad to see all the work we had done over the decades collapsing like a pack of cards in a matter of months and right before our eyes too." On the other hand, proliferation of village development councils and other SHG-like mechanisms was often done without proper foundation, with the result that these new groups were no more than channels to distribute boats and other support in the villages. Like the fisheries co-operatives of yore, people tended to take a mercenary attitude towards these new groups and this would have long-term implications for the future co-operative-oriented programmes in the villages.

Conclusions

Relevance of the Rehabilitation Programmes for Sustainable Fisheries Livelihoods

In the post-tsunami rehabilitation of fisheries livelihoods, there has been some ambiguity concerning whether 'rehabilitation' meant, in the strict dictionary sense, *restoring* the conditions of the fishers to the situation they had been in prior to the tsunami (the 'tsunami-centred' rehabilitation) or whether it was intended to address their livelihood needs going beyond the tsunami (the 'livelihood-centred' rehabilitation). In the first instance, the interventions would have meant making an inventory of the losses and replacing the lost assets, while the livelihood-centred approach would have required making a thorough assessment of the context in which the fishers worked and making (often long-term) interventions that might frequently have gone beyond replacing the tsunami-related losses. It is likely that most rehabilitation programmes have been a mix of both, although the demarcation lines between the approaches remain rather blurred. Also, considering there is still much to be done on the rehabilitation front, it will require some more time before such distinctions can be clearly made.

This study focused on fisheries-based livelihoods, rather than on the tsunami *per se*, and attempted an analysis of the factors that have a bearing on the sustainability of livelihoods, which include, *inter alia*, tsunami and post-tsunami rehabilitation programmes. This meant, in the first place, recognising that the fisheries sector has some unique features that have determined the evolution of complex systems and processes for governing it, which require to be clearly understood prior to making interventions.

Many fisheries-related livelihoods in the areas affected by the tsunami had been ailing for some time and the crisis was deepening over the years. Virtually all activities in the sector – artisanal and mechanized fishing, capture and culture fisheries, traditional and industrial processing, domestic and global trade – were under stress and many stakeholders had been struggling with falling fish catches, rising costs of operation, marginalisation and growing vulnerability to factors beyond their control. In other words, the tsunami was just another nail on the coffin (albeit a big one!) in fisheries sector. Under the circumstances, for a number of people, being restored to where they had been prior to the tsunami was at best a doubtful proposition.

Secondly, experience shows that there were no simple answers to many of the issues confronting the fishers. Mere replacement of production assets would not automatically lead to 'sustainable livelihoods' because the production processes were linked to a range of other activities and stakeholders and also because of the crises in supply, production and demand areas. Much of the government and civil

society efforts were concentrated on this crisis at the time of the tsunami, involving development of programmes aimed at responsible fisheries management, sustainable livelihood diversification, holistic responses to the challenges posed by economic globalisation, fish loss-reduction and quality-enhancement programmes etc. There was widespread realisation that some deep-rooted systemic changes were necessary to address these issues meaningfully and that in an informal sector populated by a number of poor people, such changes were not easy to implement without adversely affecting the livelihoods of some (or many) of them, especially as social security nets and support systems were largely ineffectual. There was also a growing realisation amongst the policymakers and civil society organizations that community participation was much essential for developing meaningful responses to the crises. This was influenced not only by the fact that the fishers would ultimately have to face up to the challenges, but also by the realisation that there was much that one could learn about sustainable livelihoods from the fishing communities themselves.

Under the circumstances, the tsunami was, as many people have suggested, perhaps an opportunity to make fresh beginnings. As to whether issues like credit, infrastructure and resource management, which have their roots in the past be addressed within the framework of tsunami rehabilitation, one could reply that the tsunami presented, for the first time, the opportunity to address some of the crucial issues facing the sector in a meaningful manner. It drew enough funds, multi-disciplinary skills, manpower and policy attention to make long lasting contributions to the sustainability of fisheries resources and the livelihoods of the people living upon them. On the other hand, not being able to address some of the issues would not only make the rehabilitation efforts less than useful but also exacerbate the conditions prevailing in the sector.

Some of the conclusions that emerge from the foregoing chapters are summarized as follows:

Coverage of People in the Rehabilitation Programmes

- In terms of coverage, the focus was mainly on the primary producers, with boat owners receiving compensation from the Government while the crew received support from NGOs in the form of boats.
- Assistance provided to the post-harvest and ancillary trades was sporadic and patchy, resulting in several categories of people (a majority belonging to poor and marginalized sections, particularly women) being left out or receiving inadequate attention; this lack of support also contributes to a weakening of the production and market chains.
- Avoidance of mechanized sector in the NGO rehabilitation programmes contributed to ignoring the many intermediaries involved in the production and trade chains at fishing harbours.
- People of non-fishing castes (but involved in fishing), those living in the shadow zones, migrant fishers, and people who were not directly affected by the tsunami but suffered indirectly from its effects or remained vulnerable to future disasters were some other categories who received less attention.

Impact of Rehabilitation Programmes on Fisheries

- The impact of surplus boats on the natural resources would be negative, if it is assumed that all new boats would be deployed in fishing. It is possible that a majority of boats cannot be used for various reasons and those that do get to be used are unlikely to last long. This means that impact of new fishing vessels on fisheries resources, although too much in the short term, would reduce in the long term.
- The insistence of the Government on compulsory replacement of mechanized boats to be eligible for receiving compensation could have negative implications on the resources.
- Opportunities for diversification into offshore waters for new species like yellow fin tuna remain hypothetical and their viability is yet to be established, indicating that fishing effort will continue to remain focused on the inshore waters in the near future.
- With motorized boats, there is a possibility of change from shrimp to fish based operations, with positive implications for the resources, fishers, the poorer fish processors and traders as well as consumers.

- Fisheries rehabilitation programmes largely steered clear of fisheries management issues with the result that there are few controls over the expansion of fishing fleets or even a reliable database on their numbers. The possibility of a rise in fish catches over the next few years could potentially lead to a spurt in boat building particularly in the mechanized sector, and there are as yet no systems to control access to inshore waters.

Changes in Fishing Technology

- Traditional technologies like wooden *kattamaram*s and *kanna thoni*s were marginalized in favour of FRP boats; the latter contributed to marginalizing women from active fishing operations.
- Decline in the mechanized fleet was a good development and this could be partially due to the stand taken by NGOs against support to mechanized sector. But the construction of new trawlers would indicate that the sector was perhaps down, but not out.
- Many FRP boats face problems of poor quality and the communities are ill equipped to handle the technical defects on their own.
- Few specific programmes to address sea safety issues, but a bigger concern is the possibility of increased risk at sea from using boats of poor quality, which is likely to become serious in the near future.
- Surplus capacity on the beaches leads to shortage of manpower, affecting fishing operations.
- Onshore infrastructure related to fisheries activities likely to improve in some fishing harbours.

Impact on Investments and Credit

- Cost of fishing operations went up as a result of motorisation and increased engine horsepower; this might have more to do with increased fuel costs, but for people who were shifted from non-motorized to motorized operations and for people provided with engines of a higher horsepower, this was an outcome of the rehabilitation programmes.
- Need for investments for engines, nets, working capital for both fishers and the fishworkers only partially met by the rehabilitation programmes, with the result that informal moneylenders have begun to assume importance in the sector again.
- Access to informal credit may have become more difficult in the post-tsunami period, which has implications on the cost of credit and terms of repayment
- Access to formal credit systems remains as difficult as it always has been for many stakeholders in the sector
- No sustainable initiatives to make credit available at affordable rates for the different categories of people involved in fisheries and related activities.
- No attempts to understand market dynamics or to make interventions to develop the stake of primary producer communities in the major fish marketing chains.

Impact on Quality of Life

- Improved access to villages, better transport and communication facilities and provision of other basic infrastructure (water and sanitation, in particular) is likely to have a positive effect on people's life and livelihoods.
- The shelter programmes are likely to have a positive impact on the fishers' quality of life, reducing their future vulnerability and enhancing their physical and economic wellbeing.
- Relocation of fishers to the interior likely to affect their ability to go for fishing and also reduce their access to the beaches.
- Likelihood of improved access to healthcare and education in many areas
- Special programmes to address the needs of the vulnerable people – children, aged population, physically or mentally challenged, etc, which have the potential to improve quality of life of the fishers
- Some programmes to help the fishers diversify and get into alternate/supplementary income generation programmes, but their scope and impact are as yet limited.

Impact on Social Capital

- Changes in boat ownership patterns are likely to have an impact upon the social relations in the communities

- Social equity arguments for providing boats to crew on joint-ownership likely to fail as the emphasis was on providing boats rather than on the sustainability of the arrangements. The same applies to the boats provided to the women's groups.
- Possibility of reduced unemployment in the villages in the short term as a result of increased opportunities on the new boats
- Relocation of the some of the affected households likely to lead to disruption of social networks (including joint families) and complications with new neighbours.
- Existing community-based organizations are generally weakened; the long-term sustainability of the new initiatives remains suspect.
- Capacity of the caste *panchayat*s and other traditional structures in the fishing communities to cater to the needs of the communities reduced.
- Splits and factionalism in many villages, which are likely to have consequences on the socio-economic organization of the communities

Impact on Seasonal Deprivation

- Going by the experience of the last six months, when the fishers experienced a lean fishing period, it did not appear that the interventions made in the post-tsunami period addressed their seasonality related problems adequately. The fishers were depending on their traditional sources for surviving the lean periods.
- Migration on the rise in many villages, but has not received much attention in terms of improving the conditions of the migrants.

Impact on the Community's Capacity to Address Future Disasters

- The new houses and other infrastructure might reduce loss of life to a significant extent for those who received houses, but there remain a sizeable number of people whose capacity to cope with a future disaster remains as bad as it always has been.
- From a livelihood perspective, there is no evidence to indicate that the communities can cope with a future disaster more confidently. If anything, there is a likelihood that they will look to the civil society for support, which may not be forthcoming in such abundance as a result of aid fatigue.

Summary

Of the three major crises characterizing fishing livelihoods in the pre-tsunami period, the impact of rehabilitation on two – decline in fish catches and overcapitalisation of activities – is likely to be negative, while the third – uncertainties related to markets – has remained un-addressed. Thus, from a livelihood perspective, there is a question that whether the boats were an appropriate livelihood intervention at all. As the fishers of Pudukuppam (in Cuddalore district) asked, when there were no catches in the sea, what good did it do to have a boat? Then they quoted a Tamil proverb, which roughly translates as "What good is a silver spoon, if there is no food in the bowl?"

On the other hand, there is a fear that the rehabilitation programmes might actually have reduced the people's capacity to help themselves. True, the tsunami has given 'visibility' to fishing communities and gave rise to prime time debates about the fundamental problems they face; it also reinforced their status as 'first among equals' in the coastal areas and this is a welcome development. At the same time, so much aid has gone into the fishing communities over the last year that many fishers are perhaps happier being fed than feeding themselves and their expectations are only mounting. It took considerable pressure on the part of the women in several villages to force their men to go back to fishing and they were only partially successful. On the other hand, there was a perceptible fatigue on the part of the civil society and the NGOs in providing more aid to the fishers; the Government had already been receiving flak for pampering the fishers, so the fishers' access to external support in future is likely to be reduced.

The conclusion one can draw from this is that, at the end of the first year after the tsunami, there is still much to be done and, possibly, undone.

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Endnotes

[1] The ADB/UN/WB estimate puts the number of damaged hatcheries at 5 for the country.

[2] 'Internal' because no official documents were available in the public domain.

[3] http://kollam.nic.in/official_statistics_files/sheet008.htm

[4] http://alappuzha.nic.in/tsunami-status.htm

[5] John Swamy, The Tsunami in Kerala

[6] http://thrissur.nic.in/damage_details.htm

[7] John Swamy, The Tsunami in Kerala

[8] It must be noted that the infrastructure in coastal Tamil Nadu was generally much better in 2004 than it was in Orissa at the time of the Super Cyclone in 1999 and in Andhra Pradesh at the time of the cyclone of 1996.

[9] For instance, using the figures provided in the Statistical Handbook 2004 of the Government of Tamil Nadu (http://www.tn.gov.in/deptst/tab08_01.htm), which gives the total number of catamarans in the state as 31,695 in 2003-4 (which possibly includes the FRP catamarans), it is very likely that the number of catamarans reported to be damaged or lost in the tsunami (35,530, which includes 4440 partly damaged boats) was on the higher side.

[10] This was certainly true in case of fish processors in Akkiraipettai in Nagapattinam district and of the migrant fishers in some parts of East Godavari in Andhra Pradesh.

[11] Post-tsunami, on the Coromandel Coast, many of the FRP boats began fishing by the end of March 2005 and they were followed by Kattumarams, which began operations in April, and the mechanised boats, which began fishing only in June. At least some boats could have begun fishing sooner, but the caste panchayats imposed a ban on the operations until such time that the government announced its rehabilitation packages and the NGOs made commitments towards rehabilitation. If the fishers began fishing sooner, the panchayats feared, that might send 'wrong' signals to the funding agencies (i.e., that the fishers were capable of fending for themselves) and thus reduce the quantum of support. Only the fishers of villages like Arcotthurai – who belonged to the Padaiachi caste (and not the dominant Pattinavar fishing caste of the area, hence not controlled by the caste panchayats of the latter) – began fishing operations by late-January itself.

[12] *More details of the rehabilitation packages available at* http://www.tn.gov.in/tsunami/tsunami-relief.htm

[13] http://www.disasterwatch.net/Response/DPG.htm#top

[14] Incidentally, this underscores the function of caste panchayats as essentially redistributive

[15] A distinction is generally made between FRP vallams and FRP catamarans, but they are together treated as FRP motorised boats for the purpose of this study.

[16] For instance, it was never easy to ascertain the variety and quantity of nets required for a boat. One reason for this was that a fisherman never acquired all his nets in bulk; he bought them piecemeal, depending on the season and on the wear and tear, so could not satisfactorily quantify his needs.

[17] There were also some historical reasons for the neglect of this part of the coast: The lack of big NGOs or those engaged in long-term development of the coastal fishers in the area was an important constraint. Very few organisations worked in the fishing kuppams because they were considered (rightly) to be better off than the inland communities and also because of their insular, individualistic nature, so the focus of attention in the area had been mostly the *dalit*s. The recurring feuds between the Vanniars and the Pattinavars on the Coromandel Coast also made NGOs to think twice about working with fishers.

[18] Special mention must be made of the studies conducted by Praxis – see Chapter 7.

[19] The role of dalits came up as an important issue on the Coromandel Coast, particularly in Nagapattinam district, and this study only focuses upon their fisheries related livelihood concerns. Considering that their role in the sector was largely similar to that of the women, this section discusses them together.

[20] According to Bavinck (2001), the number of single-headed households in his study village was 16 percent; while concrete numbers were not available, in many villages covered by this study, anecdotal evidence put the single-headed households between 15 and 20 percent of the total number of households in a village.

[21] Not surprisingly, none of the FRP boat owners who obtained 50 percent subsidy from the State Government for replacing their boats found it necessary to obtain the balance from the

banks under the subsidised credit scheme introduced by the Central Government.

[22] http://www.disasterwatch.net/Response/DPG.htm#top

[23] Obviously, this had more to do with ensuring regular supply of crew for their own boats and less with concern for the health of natural resources; but, as it turned out, they were at least aware of the problems in upsetting the status quo without laying firm foundations for the alternatives to take root.

[24] There were some FRP boats too, which were used for marine fishing operations during some months, but the kanna thonis were operated round the year and were the main fishing units for a majority of people.

[25] There was at least one instance where boats were provided to the fishers through women's groups (in the aftermath of 1996 cyclone in Andhra Pradesh) and it failed miserably. There was also an attempt to channel development credit to the fishermen through women in some states, and the women often ended up repaying the loans from their earnings.

[26] Women's involvement in fishing is a general feature in many backwater fisheries on the east coast of India, and can be seen in West Bengal (Sunderbans), Orissa (Mahanadi delta), Andhra Pradesh (Godavari delta) and Tamil Nadu (Pichavaram).

[27] The difference in the quantity of fuel used between Kerala and several parts of the east coast is said to be due mainly to different engine horsepower of the engines used – the OBMs on Kerala coast sported 10 HP engines (using petrol and kerosene) and bigger boats used 20 HP and in places like Vizhinjam, even went for two engines of 20 HP each. The long-tail engines on the east coast were of 5-7 HP, using diesel. The fishers of Kerala were more concerned about speed and travelled long distances to reach the fishing grounds, while the east coast fishers generally stuck to near shore waters and used the engines mainly to reach the fishing grounds and return to the shore (Baburao, pers.comm..).

[28] The fact that in both Tamil Nadu and Kerala, the support for housing in the tsunami-affected regions was many times higher than the amount generally allotted in housing programmes for the poor raises a doubt: would the new provision apply to all future housing endeavours? If the amount was fixed after a thorough analysis of the vulnerability of the people to disasters, it would require the same provision to be made for all future constructions in the coastal areas, as any shortfall would imply compromising on the standards.

[29] The total requirement of land for relocation and rehabilitation purposes was estimated as 586 hectares and out of this, as of 22nd December 2005, some 80 hectares was yet to be acquired (http://www.tn.gov.in/tsunami/ tsunami-relief.htm)

[30] On the contrary, in the case of an NGO that had put considerable effort into enhancing community participation in the design and construction of the new houses, initially there was a feeling that the process took too long, but in the end, the results were seen to have been very positive and well worth the time and effort.

[31] On the other hand, NGOs that worked with fishing communities affected in the Orissa super cyclone were not very conspicuous in Tamil Nadu – this was a pity because the lessons learned in Orissa could have been useful here.

[32] In Kanyakumari and Kerala, where there had been many NGOs working with fishing communities, the influx of new NGOs was rather limited. On the Coromandel Coast, where few NGOs had been working in the past, NGOs from the outside did most of the relief and rehabilitation work.

[33] There indeed were apprehensions on either count in different districts.

[34] Bavinck (2001:88), for instance, notes that non-participation in panchayat meetings did not mean that women played no role at all in issues of sea tenure, and argues that their involvement was secondary and mediated by the men. The Praxis studies in many villages in Nagapattinam district show that the women – particularly old people and widows – had no difficulty in meeting the *panchayat* members and getting assistance from them.

Annexure 1: List of places visited during the field study

State	District	Town/Village
Tamil Nadu	Nagapattinam	Nagapattinam (fishing harbour)
		Tharangambadi
		Akkaraipettai
		Keechankuppam
		Kallar
		Nagoor
		Arcotthurai
		Poompuhar
	Kanyakumari	Colachel
		Muttom
		Keezha
		Manakudy
		Mela Manakudy
	Cuddalore	Mulukuthurai
		Pillumedu
		Devanampattinam
		Thammanampettai
		Pudukuppam
	Villupuram	Anumandai Kuppam
		Chettinagar
		Koonimedu Kuppam
		Nadukuppam
		Chinna Mudaliar Savidi
	Chinglepet	Reddy Kuppam
		Pudukalpakkam
Pondicherry		Pondicherry (fishing harbour)
Kerala	Kollam	Alappad
	Alapuzha	Aratupuzha
		Vattachal (Aratupuzha)
Andhra Pradesh	Nellore	Govinda Pallipalem
	Prakasam	Kothapatnam
		Vodarevu
	Guntur	Muthayapalem
	West Godavari	Pedamynavani Lanka
		Biyyaputippa
		Vemuladeevi West
	East Godavari	Vodalarevu
		Pallam
		Neelarevu
		BCV Palem
		Lakshmipatipuram
		Uppada
		Kakinada (fishing harbour)

Annexure 2: Progress of house reconstruction programmes in Tamil Nadu

DETAILS OF NO. OF HOUSES PROPOSED FOR CONSTRUCTION , CONSTRUCTION STARTED AND BALANCE - AS ON 22-12-2005 By NGOs (wherever MOUs signed)									
SL. NO.	Name of the District	No. of houses proposed for construction through MOUs	No. of houses for which work started and stages						
			Earth work started	Foundation laid	Lintel/Roof laid	Completed	Already handedover	Total	No. of Locations
1	Chennai	@ '*3592	1392	--	--	2200		3592	--
2	Cuddalore	2323	403	156	1349	85	330	2323	--
3	Kanchipuram	4318	3946	331	41	--		4318	--
4	Kanniyakumari	2536	1256	111	188	981		2536	22
5	Nagapattinam	17461	12883	1965	1126	1053		17461	--
6	Pudukottai	--	--	--		--		--	--
7	Ramanatha Puram	--	--	--	--	--		--	--
8	Tanjore	--	--	--	--	--			--
9	Thoothukudi	716	612	50	54	0		716	2
10	Tirunelveli	1778	1403	336	39	--		1778	12
11	Tiruvallur	@ 468	--	--	--	468		468	--
12	Tiruvarur	--	--	--	--	--		--	--
13	Villupuram	1670	924	300	428	18		1670	19
	Total	**34862**	**22819**	**3249**	**3225**	**4805**	**330**	**34862**	**55**

* of these 2200 houses in Semmancheri lies in Kancheepuram District

'@ Built by TNSCB

Source: http://www.tn.gov.in/tsunami/tsunami-relief.htm

The Role of Traditional *Panchayat*s in Coastal Fishing Communities in Tamil Nadu, with Special Reference to their Role in Mediating Tsunami Relief and Rehabilitation

by **N. B. Gomathy**
Freelance Documentalist, India

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Contents

Glossary

ashram: religious institution usually presided by a spiritual teacher

chappals: sandals

chettiar: A Hindu caste category referring to people who undertake financial and trading responsibilities. They occupy a higher caste ranking than the Pattinavars; though the latter claim to be sub-group or a different nomination. Unlike the Pattinavars, the Chettiars are usually inland groups. The word is also used interchangeably with *nattar* (or head of village). The Chettiar village functions as the treasurer of finance in the 64-village system of the Pattinavar *panchayat*s.

chinna: small

dharmakarta: This is a position linked to a temple that attends particularly to its administration, rituals and property. These positions are inherited within villages. They support the Chettiar or *nattar* in their work and preside in his position in his absence. These could also be bureaucratic government employees who administer temple trusts.

grama kattupadu: village discipline—the willingness to bind individual actions to collective will. It is used when referring to village cohesiveness, collectivity and governance.

idai valai: middle net

*jamaat***:** Muslim community

karaiyar: literally means 'those living by the seashore'. In Cuddalore, Pattinavars are also called *karaiyar*s, though this term is considered offensive in Kanchipuram.

karyadarsi: secretary who assists the head of the *panchayat* in his work and preside over community governance in his absence

kattumaram: boats traditionally used by Pattinavar fishermen, made by tying logs of wood together, with a capacity to carry small crew for day fishing

kuthu: annual auction of village catch to merchants at fixed prices that is collected by the *panchayat* on behalf of the community

kuzhu: cooked food offered to the village deity and shared by the entire village

Mari: an incarnation of Shakti, Hindu goddess, worshipped all over the State

*mariyal***:** ostracism

medu: dune of sand on the coast

merku: west; refers to the people living inland to the west

nagoor andavan: a Muslim patron saint of all fishermen, irrespective of their religion

nattamayi: the *nattar* system, with prescribed codes of authority and governance

nattar: the chieftain of the village

neelatchiamman: an incarnation of Shakti; the deity of the sea

neeru neruppu mariyal: fire/water; refers to the more severe social and economic ostracism that involves the entire family

ooru: village, community

padiayachi: one of the caste groupings that undertakes marine fishing

panchayat: the local village governance structure. There are references to two kinds: the *ooru panchayat* that is the internal governance structure of the Pattinavar community, and the *gram panchayat* that is part of the formal political structure of the government.

panchayatar: members of the *panchayat*

pangali: members of families/kin groups from the same caste, sharing both livelihood and community concerns

parivattam: a ritual in the marriage ceremony bestowing membership, wherein the person becomes a *pangali*—an adult villager willing to undertake family and community responsibility and entitled to a share in the village resources

patta: land deeds

pattam: forehead ornament tied during the wedding in a ceremony called *thalaikattu/parivattam*

Pattinavar: caste grouping marking marine fishing communities. The word is said to be derived from two sources: pattu meaning silk, referring to the trade engaged by these villages in the past; and pattinam meaning towns, referring to people who settled in towns near the sea.

*periya nattar*s and *chinna nattar*s: the two subcategories of the Pattinavar caste, literally meaning 'big' and 'small'

periya valai: beach- or shore-seine

periya: large

pillai: caste category, used interchangeably with *chettiar* in the study, a group engaged mostly in trading

podhu: common

podhu gramam: This is a title given to the village functioning as common ground in the 64-village system of the Pattinavar *panchayat*s. In a dispute, if one of the villages has issues with the village chosen as the site of the meeting, the meeting will be called in the *podhu gramam* with its *panchayatar*s acting as witnesses on behalf of the community.

sabha gramam: This is a title given to the village functioning as the secretary in the 64-village system of the Pattinavar *panchayat*s, and in charge of calling all the villages for meetings.

sabha: meeting

Shakti: Hindu goddess, consort of Shiva

surku valai: purse-seine nets used in mechanized fishing to harvest schools of fish, triggering conflicts between the mechanized and artisanal fishing sectors

tehsildar: official of the revenue department of the State government, officiating at the *tehsil (taluk)* level

thalaikattu: see *parivattam/pattam*

thalaivar: headman

thambalam mathrathu: exchange of platters of fruits and offerings like betel nuts and leaf between families to mark marriage engagements

thiruvizha: temple festival

thozhiyil mariyal: a less severe form of economic ostracism, which bars the fisherman from becoming a member of the crew, but excludes the family

turai: street

vanniar: a Hindu caste, considered backward

vari: tax, sometimes used to mark village membership, particularly in Kanchipuram

velan: Hindu god, the son of Shiva and Shakti

Section I: Introduction

This study aims to explore the nature of the Pattinavar caste panchayats that exist along the Coromandel coast in India, stretching from Nagapatttinam to Chennai. It also examines the role of these panchayats in ensuring community resilience, particularly after the tsunami, during aid redistribution. A total of 35 villages were covered in six districts: eight in Nagapattinam, three in Karaikal, five in Vizhupuram, five in Cuddalore, eleven in Kanchipuram and three in Chennai.

The study report is divided into six sections. The first section introduces the study, describes some features of the coastal stretch in the six districts, some of the caste references of the Pattinavar*s*, histories referred to by communities and the values that characterize the fishing communities.

The second and third sections focus on the role of the *panchayat*s in the governance of the fisher communities. The second section specifically looks at the role of the *panchayat* in community rituals, dispensing justice and in terms of financial responsibilities. This section also looks at the qualities of the *panchayatar*s, and the role of women in governance.

The third section focuses on the role the panchayat plays in bridging vertical relations with other Pattinavar communities as well as with the police and the system of electoral politics.These two sections do not differentiate between traditional *(nattamayi)* governance structures from the modern ones (village panchayat), but focus on the role of the village governance in general; the terms nattar and panchayat are therefore used interchangeably in these sections.

The fourth and fifth sections look at two kinds of transformations that affect the community. Section Four specifically looks at the transformation of traditional governance systems into democratically determined ones. It outlines the structure of the *nattamayi* as it existed, its process of change, the nature of the democratic *panchayat*, and the integration and conflict between traditional and modern values (particularly mechanization of fishing technology).

The fifth section looks at the communities post-tsunami, particularly the processes for the distribution of immediate relief and rehabilitation aid. It covers some of the ways village panchayats redistributed aid to ensure equity in the villages.

The concluding section looks at the post-tsunami changes in *panchayat*s. It also outlines some future concerns of the communities in general.

The Coastal Stretch

The six districts covered in the study from the south to the north were Nagapattinam, Karaikal, Cuddalore, Vizhupuram, Kanchipuram and Chennai. The nature of the sea coast and the geographical peculiarities of the immediate habitat have caused some fundamental differences in the structure and evolution of villages up the coast.

Nagapattinam and Karaikal districts are the closest to the Palk Bay. The villages of Karaikal are nested within the chain of Nagapattinam villages. The area has rich fishing grounds and is close to Sri Lanka. Due to this very proximity, the Nagapattinam and Karaikal fishermen are often caught in the crossfire of the militant unrest in the region. Lives of fishermen, particularly those from the villages in the farthest south of Nagapattinam district, have been lost in the conflicts. Fishing in the area is often prohibited because of national security concerns affecting the villages.

Cuddalore too has rich fishing grounds. Unlike the linear spread of villages in the other districts, some of the villages in this district are found in clusters. Several seawater channels bisect the land close to the shore. These channels naturally divide the villages into natural groups, while isolating others (or clusters of them) from the mainland. For instance, one of the study villages is accessible only by boats plied on the channel separating the village from the mainland. From the channel mouth, villagers need to walk a significant distance to reach their hamlet on the seashore. A motorable road into the village was only built a decade ago. Very close to it is another hamlet, with which it shares a temple.

From Vizhupuram onwards, villages are once again arranged in linear fashion, and are divided from the rest of the state by the East Coast Road (ECR). This road has become very important, due to increasing traffic between Chennai and Pondicherry. It has also accentuated the modernizsation process and increased the influence of the non-fishing settlements in the west. The villages in Vizhupuram are some of the most modernized ones covered in this study. The straight coastline starting from Pondicherry extending down to Kanchipuram and then Chennai does not provide rich fishing grounds.

Kanchipuram's proximity to Chennai has altered these villages significantly. However these villages still tend to retain many of the common practices of governance, especially those related to finances. These settlements are denser, with the streets of the settlement organized into individual villages (also called turais), like in the city of Nagapattinam.

Many of the villages close to Chennai have sold much of their land to people building large holiday bungalows near the seashore, to industries and to the entertainment business. The villages of Chennai district are situated within the city and merge with the structure of the city.

Caste

The study broadly covers the *panchayat*s of Pattinavar villages with one lone exception of a *padiayachi* community. Pattinavars are characterized by their willingness to fish in the sea. It is only from the southernmost end of Nagapattinam that fishing villages are populated by *padiayachi*s, who also took to sea fishing.

Inland Fishing

Inland or river fishing refers to fishing undertaken in sea channels running close to the shore and river mouths. These river mouths in particular are rich in fishing grounds and have in some instances historically acted as trade channels. Inland fishing was usually seen as being safer and therefore lower in the occupational hierarchy, and was hence to be done by older members of the community, by women or by scheduled castes or other backward castes, particularly in Nagapattinam and Karaikal. In Cuddalore, though, transected as it is by sea channels, Pattinavars undertake both inland and sea fishing in different seasons, and one is not held to be superior to the other. In Kanchipuram too, Pattinavars are engaged in both sea and inland fishing.

Other Caste References

While most villagers agree that they belong to the Pattinavar caste, there are differences in how they refer to themselves across the coast, depending on their origin myths, history and relations with surrounding villages. One internal division was *chinna* (small) and *periya* (large). However, since the *chinna* Pattinavars are considered to be of lower status, there was hesitancy in being identified as a *chinna* Pattinavar.

Down the coast, the villagers also referred to themselves as *chettiar*s, maintaining that both peoples came from the same source. Those who settled in the west (*merku*, inland) became known as *chettiar*s *or pillai*s and engaged mostly in trading. Those who stayed by the sea were called Pattinavars. (In one instance, these were supposed to be those who settled close to the towns by the sea.) In Karaikal, most of the villagers referred to themselves primarily as *chettiar*s. These communities displayed pride in their excellent and transparent finance systems, considered the traditional occupation of *chettiar*s. In the 64-village system of Nagapattinam and Karaikal (refer to section on the 64-village system), the village in charge of accounts was called the *chettiar* village.

This identification may represent an aspiration to a better social status within the Hindu caste hierarchy, where *chettiar*s are known to be higher than the Pattinavars. In other districts, villagers claimed that they hesitated to call themselves *chettiar*s in front of outsiders, because they might not receive the benefit of reservation in state resources (education, employment) accorded to backward and scheduled castes. They point out that many of the traditional fisherfolk are extremely poor, despite their caste status, and such reservation is critical for their forward movement.

In Cuddalore, the Pattinavars also referred themselves as *karaiyar* (those living by the sea shore), while Pattinavars meant those that settled in towns *(pattinam)*. In Kanchipuram, however, it was pointed out that to be called a karaiyar was derogatory, signifying a significantly lower status and used only by non-fisherfolk to humiliate fishing communities. Calling them *karaiyar* is considered so grievous an offence that physical retaliation is justified.

Historical References

Efforts to trace the historical origins of the community remained inconclusive.

Traditional

The earliest accounts claimed that the original inhabitants of the village were people who fled from Poompuhar,[1] when it was submerged more than 600 years ago. While fleeing west, the wealthy moved inland (*chettiar*s), while the poorest stayed near the sea and survived by fishing (Pattinavars). They were relatively affluent, thriving on trade with Ceylon (Sri Lanka). It is only in the last four centuries under colonisation that they completely lost their trade and became impoverished.

Two villages claim their historical origins to references made in ancient Tamil texts. More than 10 villages claim that they have been in existence for several centuries. One of these claims to be as much as two thousand years old. A few other villages date their history to more than 200 years ago, but are not sure of the exact period.

Modern

Villages have grown considerably in the two centuries due to population increases. New villages came into being, formed by moving away from the mother village into newer locations for settlement.[2] In the beginning a few families moved in, followed by more people who joined them. One way the process took place was through people moving into a village when their daughter married into a family living there, especially if they had a problem in their own village. In such cases, a group of families would usually move together.

This population growth has been particularly high during the phase of mechanization of fishing along the coast in the last half of the twentieth century. The villages that record a high rate of growth are rich in natural resources. In two villages, the land is fertile and the water excellent; there are plenty of palm, coconut, mango and cashewnut trees. In another village, it is said that anything that is planted grows. Two of the villages have excellent fishing grounds. One is rich in mineral resources, and the coast next to the other has both muddy ground as well as rock formations on the seabed, both of which increase the presence of fish schools in the vicinity. The river next to another village is a critical trade route. It has several water channels to carry goods to the river mouth developed during the colonial trade. Some reports say that it dates from before the colonial period.

Displaced in the Last Decade

Three villages traced their history at their current sites to less than half a decade ago. One of these is about 60–70 years old. This is part of a cluster of 40–50 villages that is connected with a particular temple. The state government has displaced them recently. They

are not traditional shore dwellers but used to live in forests, though they used to fish for a livelihood. There they had to pay a sum of Rs 11 every month to the government for staying on public land (this amount was later increased to Rs 136). People protested, claiming that they could not afford this and then came to settle here. Six people who have concrete houses are still living in the forests. One village was relocated in May 1969 because of the Kalpakkam nuclear reactor. In another case, people left their village after serious conflict and resettled in a new village, which is now only a few decades old.

The Pattinavar Community

Communities are central to the Pattinavars right down the coast from Nagapattinam to Chennai. These are seen as being essential to fulfil their life purpose as seen by them: 'The main duty of a fisherman is to go between land and sea.'

These fisherfolk claim that there are five critical values that determine their character. One is their **honesty**. People in Karaikal, for instance, narrate that getting credit is never difficult for fishermen from villages in the west (*merku* referring to non-fishing villages), where their word alone serves as guarantee.

The second critical value that fishermen hold dear is **autonomy**. Villagers in many villages recount that fishermen are proud to be the only people who are independent and do not tie their hands to earn wages. Underpinning this value is the equality of status between all the members of the village.

The third value that fishermen pride themselves upon is **generosity**. 'Fisherfolk are generous. They fish and then give away the catch.' Community leadership was marked by pratices of generosity, building temples for the village, sharing *periya valai* catch, ensuring safety nets for the vulnerable persons in the community.

The fourth value is **courage**. 'Fisherfolk (men, women and children) are the only ones who run to the seashore to watch a storm. Running away from the sea does not cross our minds.' Staying out on the sea longer and braving difficult seas are marks of bravery. In one village, a significant number of men died because they ran to the shore without understanding the magnitude of the wave.

The fifth value is **unity**. 'Fishermen are short-tempered and given to fits of passion and fighting; and they are equally quick to forgive.' Fisher communities pride themselves on their unity and harmony.

The interpretation of these values in individual and community action has altered over time with modernization and also in the aftermath of the tsunami.

Community Cohesiveness

The fisher communities are all from the same caste and related to each other through kinship groupings. All members of the village are *pangalis* (kin stakeholders) from the same caste, sharing both livelihood and community concerns. Inter-caste marriages are not encouraged—such marriages, especially with lower-caste persons, can be severely punished with ostracism by the community.

Fishing, in which men face the sea together, makes trust between each other critical. Profits from fishing are risky, and individual income erratic. Unlike agriculture, it is not possible to define boundaries of ownership in the sea; and determining individual entitlement is critical. Failure to do so can lead to severe conflicts over sharing resources, escalating into blood feuds that extend over several decades.

Fishing communities have evolved mechanisms to ensure division of risks and profits. The predominant work relationships are based on shares on the catch obtained. Each member of the crew bears a portion of the risk and is entitled to a share in the catch. Shares could also be given to the vulnerable (old people) in the village or used for community purposes and pools as a buffer in individual problems. The system is egalitarian in that each member is answerable only to himself and is not bound by hierarchical wage relations.

A critical collective concern of the village and the *panchayat* is maintaining peace. During conflict between members, the entire village acts to resolve it, restore balance and compensate damages incurred.

There are some instances along the coast of villages with exemplary records of collective support:

- One village undertakes all medical expenses incurred because of accidents and illness for all members of the village, extending up to about Rs 1 lakh in one instance.
- Post-tsunami, all the members of one village decided to stay together in the temporary sheds

in a gesture of unity, especially to support people who have lost dear ones. By staying together, their hearts would be lightened by interaction.

- Members in one village recount that there has been no history of conflict in their village to date. The people of the village argue vigorously in the meeting, but all animosity is left behind at the boundaries of the village meeting hall.

Section II: Governance

All fishing communities studied (with the exception of one in Chennai city) had formal internal governance structures. These structures and processes had been evolved historically to resolve and prevent conflicts between members of a community or between communities. During conflict between members or villages, the entire community acts to resolve it, restore balance and compensate damages incurred. A critical traditional structure is the *ooru* (community) *panchayat*.

The *nattar/panchayat* acts as a representative of community belief, emotion and action. It fulfils several functions like maintaining community rituals and structures, conferring membership and belonging, resource distribution, grievance redressal and dispensing justice.

Role of the *Panchayat*

Traditionally, the internal role of the *panchayat* (also referred to as *chettiar* or *nattar* where applicable) is to maintain *grama kattupadu*[3], critical in maintaining community cohesiveness. This bonding was through many methods, and served specific purposes—organising/presiding over community rituals and ceremonies (religious and social) and conferring membership; dispensing justice; resource sharing, including maintenance of accounts open to public scrutiny. In modern times, the ability to ensure *kattupadu* depended on the power that the *panchayat* still wielded over the community.

Second, the village *panchayat* mediated/bridged relationships with all other external institutions and structures (including other Pattinavar villages) except during times of serious conflict requiring external intervention, and in relation to state matters like revenue, justice, conflicts with neighbouring villages of other castes, dealings with agencies of electoral politics, etc. For instance, government schemes have to be routed through the *panchayat*.

Community Temple and Rituals

Rituals

The *nattar/panchayat* is present at or presides over all the rituals and functions marking the life cycle of the villagers: birth and death ceremonies, ear piercing, marriages, etc. Traditionally, marriage proposals could only advance with the *nattar* as witness and, in some instances, only with his approval.

The *nattar* was first informed about any marriage contracts (*thambalam mathrathu)* in the village. He then enquired into the eligibility of both sides before sanctioning and witnessing the formal engagement. The first invitation to the wedding was extended to him. He was garlanded first during the wedding and made to sit on a platform marking his status.

In some villages in Nagapattinam and Karaikal, the *nattar* ties a *pattam* (forehead ornament) during the villager's wedding, bestowing membership. The groom then becomes a *pangali*—an adult villager willing to undertake family and community responsibility and entitled to a share in the village resources. This ritual is called *parivattam* or *thalaikattu*.

The meaning of many of these rituals has reduced or altered over time (with the changes in traditional governance practices and modernization) with practising differing across districts. For instance, decisions about marriage are more centred in families, with lesser community and panchayat involvement. Tying pattams no longer marks village membership in Kanchipuram. Instead of marriage marking membership, the communities now consider any member who is 18 or above to be a member who has to pay a village *vari* (similar to the payment to the fisheries societies).

Temple

All the villages have a temple and organise festivals collectively. Many of the deities installed in these temples are associated with community folklore. A critical one is around finding the idol. In at least three villages, it is claimed that the idols were found when nets were cast in certain portions of the sea, marked by unusual changes like bubbling or schools of fish.[4] One of the bits of post-tsunami folklore is that the places of religion and spirituality of all faiths were not damaged in the tsunami.[5]

The temple is the central community space. In many instances, this space sanctifies community values.

For instance, the temple is seen as a space where truth has to be spoken; and therefore the accounts books and the minute books are stored here. In addition to this, temples also own land bestowed upon them by communities; in some cases, communities reside on lands owned by temple trusts, as in the case of two villages covered in this study, where the settlement land is owned by a temple trust. Two other villages own their temple lands collectively and their administration is a function of village governance.

A critical function of the temple is to determine belonging. Members contribute to temple construction and maintenance and its festivals. Most villages will organize a *thiruvizha* (festival) usually annually. As part of this village festival, an idol of the deity is often taken from the temple around the village. In some instances, the deity is immersed in the sea and is to play in the water.[6] These festivals are believed to be critical for community well-being, and are an indication of village unity. Most seriously fractured and conflicted villages still continue to build a temple and organise the annual temple festival. Failure in this is usually a consequence of severe conflict or failure of governance.

Villagers in a few communities with incomplete temples point to these structures as the consequence of irreconcilable factions among the members in the village. In spite of the strong influence of the temple on the community, Pattinavar fisherfolk claim that they accept practices of different faiths in theirs. For instance, across the coast, fishermen call to *nagoor andavan* (a Muslim patron saint of all fishermen, irrespective of their religion) in times of distress in the sea or while setting out, and *velan* while casting the *periya valai*. In a curious rendering of the story of Mother Mary in Velankanni, one villager narrates that *Mari* (a version of *Shakti* worshipped all over the state) was the Mary in Velankanni.

In every village along the coast, there are three or four families who have converted to Christianity. Conversion across religions could (like cross-caste marriages) be punished with community ostracism. In some instances it is claimed that people have reconverted back to Hinduism when they find the new religion difficult. In a few villages, this was seen as a personal choice, irrelevant to community belonging.[7]

Justice

Dispensation of justice is a critical function of the *panchayat*. Thus the *panchayat* has the power to pass judgements as and when required to resolve conflicts within the village and between villages. The severity of sentencing depends on the nature of transgression and their power to enforce their judgements.

Transgressions

Two broad categories of transgressions can be identified. The first is *impropriety of action within family and community*—rude/aggressive conduct in the community; conflict within families; romantic liaisons not approved by the family/community, particularly for women; sexual misconduct and sexual harassment; and failure to respect public property or to adhere to community rules and rituals. Villagers were extremely reluctant to discuss details of many of these cases, especially those related to sexual misconduct and family fights.

The second was *conflict in sharing of resources, particularly at sea* (damage to nets or equipment, right to fishing at a particular spot, mechanized vs. artisanal conflict of interests, sharing of catch, contribution to community funds). These fights could occur within the village and between villages. The nature of the judgement levied will depend on the extent of damage.

Judgements

The judgements and the actions taken are of different kinds—private counselling, where the issue is sorted out within the conflicting people as quietly as possible; public counselling; collective reprimands; fines for compensation of damage; and severing ties with the community (the less severe economic ostracism followed by the more severe social and economic ostracism and public humiliation).

Fines: Many panchayats resort to levying fines on the person, with the amount varying from village to village. It depends on the damage caused and the person's willingness to accept his transgression. This is the least severe form of punishment. Failure to comply can result in the panchayat fining the person increasingly severe amounts or meting out other punishments.

For instance, in one village a fine of Rs 500 was imposed on those who stripped the barks of the trees for firewood. The women were warned that if they

repeated this mistake, the fine amount would increase to Rs 5000, with an amount of Rs 1000 being given to the person who informs the panchayat about this. In another village, one of the villagers was fined Rs 5000 for harassing a woman at a large Carnatic music concert organized by the village. The panchayat acted immediately, because the eventuality of this transgression had already been considered in an earlier meeting and the amount of fine to be levied agreed upon.

Severing ties with the community: Failure to pay a fine can result in *mariyal* (ostracism). In these closely knit communities, severing ties can have serious consequences on the individual. Ostracism as a means of punishment could be used for severe transgressions against the community: marrying across caste, approaching the police for an internal conflict, etc.

Judgements involving ostracism follow certain patterns. This ostracism is for a specific period that could be extended depending on the behaviour of the individual. If any other member or family in the village fails to uphold the judgement and includes the ostracised member either as crew members or at the social level, they too will be ostracised. If the individual seeks to join as a crew member or move into another village, the *panchayat* will communicate to that village to enforce the ban there. To be reinstated into the community, the member may have to follow ritualistic practices like having to visit each member of the *panchayat* and ask for their forgiveness with folded hands and offerings of coconut and betel nuts.

The less severe economic ostracism: This includes barring the fisherman from becoming a member of the crew, and issuing a ban against taking him as a crew member, thereby preventing him from being able to fish for food and livelihood. The family is not included in this.

The more severe social and economic ostracism: Known as *neeru neruppu* (fire/water), this form of action means fire-water ostracism. The transgressor and his/her entire family are banned from sharing water or fire with any other household. They cannot participate in or invite people to social and religious ceremonies. They cannot marry (give and take brides and grooms) within other families of the same caste.

An instance was narrated about a girl seen 'going out' by a panchayat member. The mother was called and asked to keep her daughter under check. The woman refused to accede to this demand, and the girl and the mother were placed under *mariyal*.

Public humiliation: Respect is critical to fisherfolk. A severe way to punish transgressions is to strip an individual of his respect, by publicly humiliating him. A transgressor could be made to ride a donkey around the village bearing a pot with holes that has muddy water tricking down his back. Stealing coconuts could result in having three hung around his neck. If women were to go 'astray', they may have to go around the village walking on their knees. These punishments are considered to be so severe that they are used sparingly, only for extreme transgressions, particularly those concerned with sexual misconduct and harassment.

Transformations in *panchayat* functioning: The role of panchayats in passing judgments has reduced. Many of the villages restrict themselves to fining. In some, the ceiling of the fine amount is fixed, e.g., not more than Rs 100. When practiced, ostracism is usually only for a short period of time—six months or so in one instance. The more harsher form of ostracism—not sharing water/fire—is rarely practiced. Many villagers laughed at a reference to this, saying that if such a judgement were to be passed, the person will just go to the neighbouring village to get a matchbox. Judgements that publicly humiliate the offender were considered oppressive and were a causal factor in the transformation of traditional governance. These punishments are no longer considered appropriate; and their enforcement is quite difficult in these times.

Finance

The fishing economy is based on shares. Its distribution mechanism assumes each individual to be equal and not bound by hierarchical labour relations characterized elsewhere. Across the shore, fishermen echoed their pride in being autonomous in their livelihoods—they do not work under any person as wage labourer. Crew membership is usually equitable, including both labour on the sea and the maintenance and use of boats and nets. Crew can be drawn from the village and this is largely restricted to people of the same community (Pattinavars).

The structure of village membership and resource sharing is also well-evolved. There are clear, detailed rituals and procedures to divide common resources within the village. Given that autonomy is a critical concern, these tend to be equitable in theory. The *panchayat* plays a critical role in managing village resources. It collects money, maintains accounts and distributes common resources for various purposes.

To ensure community well-being, the *panchayat* distributes the village resources equitably among all the villagers. In this function, it attempts to ensure community agreement, using formulae for collection and distribution agreed upon collectively in village meetings. It also maintains transparent accounts of share distribution, open to community scrutiny.

To tide over times of crises, the *panchayat* also provides a degree of security to all members, particularly in times of economic crisis. The nature of artisanal fishing as a livelihood is risky and individual income is erratic. Hence the panchayat has to manage (create and maintain) common community resources to buffer individual storms. Further, in dividing shares the *panchayat* includes the vulnerable (the elderly and widows), who do not have access to a livelihood in some form.

Village income

The *panchayat* gets income from different sources. The first is the auctioning of the village's catch *(kuthu)*. At the beginning of every year of the Tamil calendar or on a date fixed earlier, the catch of the entire village is auctioned to merchants. The price of different fish is estimated, and the catch is sold at that rate through the year, irrespective of market fluctuations. This system acts as a buffer for individual fisherfolk, while ensuring a community fund. In addition, the village also auctions other resources like the use of the village shops, and the money is collected by the village. Fines also add to the village fund.

Some villages levy a tax[8] for being admitted as a member, or on every catch. One village collects *vari* when the village is in difficulty. The last time *vari* was collected in this manner was after the tsunami. The *kuthu* given was dissolved since people only went to the sea after the seventh month. Two villages in Kanchipuram did not have the practice of collecting taxes. One of them claims that the practice was discontinued two decades ago.

In addition to this, during times of distress, *periya valai* and *idai valai* catches as well as the total daily catch on designated days can be used to increase the community funds or distributed for cooking in the village.

Village expenses

Building temples, maintaining their rituals and organizing temple festivals is a critical expense. In some villages, the *panchayat* collects one share of fish from every catch for the temple. The village also collects money from each household for organizing the temple festival (*thiruvizha*) annually. In some instances, the village resources include temple land and trust funds that the village is traditionally linked with and has to maintain. Such land is usually seen as community property, as in Nagapattinam.

Villages can have a yearly *kuzhu*, where cooked food is offered to the village deity and shared in the entire village. At this time, if there is scarcity in the village, rice is distributed to all the families to tide over the difficult times. During the lean season the *panchayat* uses the money derived from such collections to distribute among the villagers, to enable them to tide over crises. It can also use the village fund for a collective purpose to improve the village.

The village money is also used to pay for the expenses incurred by the *panchayat* in the course of their work for the community. Thus all travel and boarding expenses for administrative co-ordination came from this money.

Transparency

Finally, transparency is highly valued. *Panchayat*s are required to maintain detailed records of village accounts. These accounts are open to public scrutiny, and people can question the *panchayat* about how the money was divided. One of the reasons cited for the change in traditional governance was the unwillingness of the n*attamayi* to disclose village accounts satisfactorily. Most *panchayat*s have to show accounts at least once a year, after organizing the temple festival. After the tsunami, more regular meetings have been needed, often as frequent as once a month, and after every consignment of relief/compensation.

Villagers from one village narrated how they had to break away from their mother village. The panchayat there refused to clarify their accounts. Some people protested and their voices were forcibly suppressed.

This conflict escalated till four of the people who questioned the practices of the panchayat were killed. Seeking justice from neighbouring village clusters failed, with the judgement awarded in favour of the panchayat in the mother village. About 30 families left the old village and went to different villages along the coast, but they were asked to leave from these villages. Finally they settled eight years ago in their current village.

Qualities of *Panchayatar*s

The *panchayatar* is expected to be devoted to community well-being, over and above personal considerations. Besides this dedication to the collective good, other qualities are also listed by the communities.

Equanimity: This quality was highly valued. Restraint and propriety in dealing with aggression from the village is considered essential for settling conflicts between short-tempered men who often drink. Other related qualities that were enumerated included humility in relating, emotional balance, temperance in actions and non-reactivity in charged confrontations—all considered critical in maintaining community cohesiveness.

Impartiality: It is critical that the *panchayatar* has the ability to consider all points of view and act impartially. This is critical to ensure peace since display of personal interests could result in escalation of conflicts.

Good conduct: The villagers spoke of 'good' people. The criteria used included being truthful, having a strong character, coming from a good family in the village, maturity, etc.

Hardworking nature: Being a *panchayatar* requires members to work hard for the community. This might require a lot of time spent away from fishing resulting in loss of income for the family. For instance, a *panchayatar* nominated in one village at age 18 stepped down once he married since he had to fend for the family. The necessity for hard work has become particularly true after the tsunami, when the work of the *panchayatar*s has increased manifold in managing the post-tsunami scenario.

Formal education: This has increasingly become relevant in the last five decades and is needed to negotiate with modern actors like the State. It is particularly important in the post-tsunami context where extensive co-ordination with the bureaucracy and aid agencies is required.

Modernization has also altered perception of membership to some extent, where it is now not seen as a consequence of only personal merit and pride, but rather of personal profit and politicisation in some villages.

Eligibility Criteria

Different villages across the coast maintain different criteria of eligibility with regards to age and experience.

Given that marriage traditionally marks membership, in many villages only married people will be nominated to be members of the *panchayat*. In one village, the *panchayat* did not nominate widowers because this was considered inauspicious. Many villages prefer to have middle-aged men in the *panchayat* as they have seniority within their families. They are likely to be more experienced and mature, more temperate in their actions and humble in their behaviour.

Young members of the *panchayat* are seen to be more short-tempered and precipitate in their actions, with less respect and more arrogance in their style of speaking. This, it is feared, will result in increased conflict within the community. However, some villages have the practice of nominating boys as young as 15 years into the panchayat, particularly if their nature/ability is considered 'good'. In two villages, *panchayatar*s, who are now in their early 30s, had been nominated to the *panchayat* when they were 18 years old. Unmarried men are seen to have lesser responsibility and are therefore able to devote more time to the village. In one village, it is believed that single people are more honest; it is therefore preferred that the cashier of the *panchayat* be single.

Many *panchayat*s have a combination of both single and married men. In some instances, only the skills and mobility of the younger members are used. In one village the *panchayat* is composed predominantly of married men. The younger members can attend the *panchayat* meetings but are not allowed to speak. In other villages only married men are nominated into the executive (head, secretary and treasurer), even though the *panchayat* members can be as young as 18–20 years. In one of the villages a *panchayatar*, who was nominated when he was 18, stepped down after a

term because it seemed inappropriate for him to hold this position of power, given that his father and his elder brother were part of the village community. After the tsunami, in one village, half the nominated *panchayat* is young, in order to ensure coordination with the state bureaucracy. However they work under the guidance of the earlier *panchayat*. In contrast, in another village younger members have especially not been nominated into the *panchayat* after the disaster, since the tsunami relief and compensation work is considered too serious to be entrusted to them.

Women in Governance and Community

Women in the *panchayat*

All the villages along the coast earlier had a rule that women were not allowed (and not welcome) in the *panchayat*. One comment was that women do not have enough maturity to work on collective matters in the *panchayat*. Women could only come to the panchayat to give witness statements. Even this was to be avoided if it could (especially in those villages with strong traditional practices); and the *panchayatar*s would go to the woman's house if possible to hear her statement.

Women in the village

Any understanding of gender roles has to be contextualised in the peculiar and stringent gender division that exists amongst fisherfolk. Fishing in the sea, all over the world, is a male occupation. Fisherwomen do however have a significant visible role in processing and marketing fish (absent in more conservative agrarian cultures). Women have their own market and shop organizations run on the same membership principles as the *ooru panchayat*, though they might be restricted to just marketing functions rather than community well-being.

Fisherfolk communities do impose strong rules against women's entry into public spaces. Traditionally, women less than 35 years of age could not enter these spaces at all. In recent times, there has been some change, partly because of the self-help group movement, wherein women can come together to discuss collective matters. The anti-arrack movement by women in one village has reduced alcohol consumption. In one village, the head of the village *panchayat* is a woman (the post is reserved for women), nominated by the villagers and known for her commitment to public service and the recipient of several awards for governance.

Section III: Bridging Relationships

The 64-village Chain

The chain of fishermen's villages has evolved over the centuries, and is the spine of the fisher communities along the coast. According to one fisherman in Nagapattinam, in olden days the chain comprised of 64 kinship villages extending from Chennai to Kanyakumari. These villages were bound by continuous communication and exchange up and down the coast, and could respond like a unit. Historically, this chain of membership sprang into action to preserve unity and security in times of crisis, when threatened by external agents or during internal conflicts.

These 64 villages were sub-divided into smaller clusters of eight village chains, then 16, then 32 and finally 64. Each of these levels performed governance functions similar to the *panchayat*s, dispensed justice, worked towards social cohesiveness and had financial responsibilities.

The typical procedure of seeking justice within the village is that if the decision of the village *panchayat* has to be contested, the person approaches the head village of the 8-village chain. The head village can also be called to settle disputes between two different settlements, including encounters in the sea. This village will then write letters inviting *panchayatar*s from all eight villages and justice will be dispensed in a common meeting. If this is found unacceptable, the aggrieved person can approach successively higher clusters, finally invoking the 64-village chain.

Currently, the 64-village chain extends to only the villages in the Karaikal and Nagapattinam districts. This system also has three other historically designated villages in the collective governance structure. One is the *chettiar* (finance*)* village in charge of all the accounts. The second is a *sabha* (secretary), which is in charge of calling all the meetings of the entire community that the head village presided. Once the head village resolved to call a community meeting to sort an issue, they would inform the *sabha*, which in turn will issue all the invitations. They would also act in cases filed against the head village. The third was the *podhu gramam*. It was considered common ground to the entire fisher community. In a dispute, if one of the villages has

issues with the village chosen as the site of the meeting, the meeting will be called in the *podhu gramam*. The *panchayatar*s of the village will act as witness on behalf of the community, in order to ensure that there is no partisanship.

Villagers in other districts, particularly Cuddalore, Vizhupuram and Kanchipuram, deny the presence of such a chain or refer to it as a thing of the ancient past. In all three districts, though, the villages do have clusters of villages that they approach for higher justice. In Cuddalore and Vizhupuram, there are references to a traditional head village, while in Kanchipuram district there is no such designated village. Each village has the prerogative to take critical governance decisions, like whether they permit fishing craft from other villages to fish in their waters. While some villages completely ban it, others allow each fishing craft opportunity to fish for one day in their waters in the belief that the boat has drifted into them. This is also the case in determining the composition of the village panchayat. The larger villages (like the head village) cannot rule in this matter. Furthermore, villages are free to choose a village in the chain to rule over internal conflicts. In this, it is not necessary to go only to the head village, though the head village may be involved in settling the dispute.

Nagapattinam

Currently, the 64-village chain extends only to the villages in the Karaikal and Nagapattinam districts. The historical head of the chain is Nambiar Nagar.[9] Villages with conflicts with each other come here to solve differences, e.g., a fight between partners of a fishing craft, burning *surku* nets[10] of neighbouring villages, etc. In addition, Nambiar Nagar is also the designated village to care for the temple that houses *neelatchiamman*, one of the critical *shakti* sites. In addition to these villages, there are three other historically designated villages in the collective governance structure. The Chettiar *(finance)* village is Karaikal Medu, the *sabha* (meeting) village is Aryanattuturai and the *podhu* village is Kilinjal Medu.[11] Because of modernization, Akkrampettai has also emerged as a significant power holder and takes leadership decisions among these villages. A critical reason is the advent of motorized fishing craft and wealth in the area. The only activity for the betterment of the fisherfolk undertaken by Nambiar Nagar is education. There is a scholarship fund for students who perform well in exams in the 10th and 12th standard. The village had also initiated a technical training institute but it is not functioning.

Cuddalore

There are no connections with villages in Nagapattinam, because of increase in population and distance. At the time of *nattamayi*, Annapampettai served as the head of the 18 villages of the Cuddalore district. The 18 villages stretch from Singarupettu to Parangipettai. Devinampattinam has gained increased importance in recent times. This was a port in colonial times and has a large number of mechanized boats. It already had a reputation for physical strength, and economic power has increased this. Many villages do not go to either of these villages for conflict resolution, as the spread of democratic processes has decreased the power of the longer chain across the district and its ability to intervene in village relations.

Problems are usually settled within the community. Villages may still go to the head village of their own smaller cluster, the *periyakuppam* (the head of a 7-village cluster),[12] or the *killai* (this is the mother village of nine villages in the cluster). The *nattar* of these mother villages ranked higher than the village *nattar*s and he was offered higher status, especially while tying the *pattam*.

Vizhupuram

There are no connections with villages in Nagapattinam, Karaikal or Cuddalore. The 19 villages in Vizhupuram district do not have a traditional head village, though a few villagers referred to Devinampattinam as a place to go to resolve issues (this might have been because both Vizhupuram and Cuddalore originally belonged to South Arcot district).

Hanumantrai, with its size and wealth (the panchayat earns well from auctioning jellyfish) has been assuming leadership, with a few villages approaching it for resolution. After the tsunami, though, all the 19 villages in the district got together to co-ordinate relief and rehabilitation, and Hanumantrai emerged as the leader of the process. The other big village mentioned is Goonimedu.

Kanchipuram

This district has 46 fishing villages located within a span of 120 km. Many villagers denied the presence

of active village chains in the district. There are no designated head villages in the district. Each village takes care of its own concerns, and there is no traditional assumption of authority by any one of the villages, as seen in Nagapattinam.

There are accounts of the presence of such structures in the past. One reference was to an 18-village chain from Mahabalipuram to Kadapakkam, of which Pudupattinam was the head. This changed in 1980, with a conflict between the *chettiar* and the elected *panchayat* head from the same village (*gram*). The *chettiar* lost his power and, following this, the 18-village system also altered. In another account, more than 60 years ago there used to be a 64-village chain from Thirukuzhukondram to Madurangavallam, which was headed by Periyakuppam. There were also references to a chain of 70 villages from Palavukadu to Alambaraikuppam.

The neighbouring villages however continue to come together to settle disputes between the villages. The three village *panchayat*s—Periyakuppam, Chinnakuppam and Aalikuppam—act as a unit when necessary. A letter is usually given to the villages calling for a meeting. They sit down and sort out the different issues In addition, there were references made to two other organizing factors: personal leadership and the modern organisation for tsunami relief. One villager narrates that till five years ago, there used to be a leader called Vishwanathan in the 25 villages, renowned for his ability to settle conflicts in the district. This was because of his personal charisma, and with his death the system was not continued. The 46 villages in the *mavattam* are organised as the Kanchipuram Meenavar Ozhinguannaipu Kuzhu, formed by the heads of the village *panchayat*s. It was formed to manage relief and compensation distribution, though it also claims to mediate relationships between the villages. People in other villages are aware of this committee's existence, though they do not consider it very important.

Relationship with the Police

There is a standing rule in the fishermen's community that police are outsiders and cannot be allowed into the community for any purpose without the permission of the *nattar/panchayat*. All village issues and conflicts are to be worked within the village. When needed, the traditional *panchayat* mediates relations of members with other legal agencies, including the courts and the police.

Most villages maintained that there has been no law and order situation so severe in the village that the police had to be called in. *Panchayatar*s claim that this is a reflection of their community unity, which they are rightfully proud of.

Traditionally, there were strict prohibitions laid down on engagement with the police. Individuals in the village could not file cases against members of their own community and their own *panchayat*s. Most village conflicts had to be settled within the village, or within the larger chain of villages and justice systems. Failure to comply with this was seen as disrespect to the community and could result in ostracism. Many panchayats down the coast still prohibit villagers from approaching the police. In one instance, one of the villagers had been ostracised for filing a compensation case against the panchayat. In a rather extreme case, one villager's shop and house were burnt and he was ostracised from the community for almost two decades for approaching the police to settle a village dispute.

The enforcement of this prohibition depends upon the amount of respect and power commanded by the *panchayat*. If this respect still exists and the village is united, then people are unlikely to approach the police. Those with fragmented *panchayat*s or highly modernized ones no longer have this *kattupadu* (discipline). In a ten-year-old, apparently rare, case, one villager was implicated in a case of misbehaviour towards a woman. Both the village *panchayat* and the 16-village cluster meeting judged that he has to marry her. He fought and went to the High Court. The court ruled in his favour and the *panchayat* had to revert its decision. With time passing, both the man and woman are now married to different people; and the reversal of the *panchayat*'s decision by the High Court was not considered harmful.

Further, more and more villages (particularly along the Kanchipuram coast) acknowledge that cases involving injuries and death are beyond their current governance functions. They immediately report them to the police, and the investigations handed over to them. They admit to a fear of the police and prefer to minimise their engagement with them.

In return for restraint in involving modern law agencies, the *panchayat* sheltered its members from them when needed. Traditionally, when police entered the community to arrest a member, they first approached

the *panchayatar*'s house. They explained the case to him and left. The *nattar*/*panchayatar* then accompanied these members to the station, where they attempted to sort the issue out. This was a critical governance function. For instance, a village severely torn by conflict in Nagappattinam broke into two factions when the *nattar* was seen to fail in this function. It is claimed that he tacitly supported the filing of 18 false cases against members of the labour union for burning nets and committing murder in the village.

This too has undergone a change in some villages. Villagers note a lowering in the police's respect and behaviour towards them. The restriction on entering the village without the *panchayat*'s knowledge and consent has been weakened. In one village, the elders are only informed of the arrest while it is happening, and if needed usually accompany the villager member to the station. Another village claimed that the police is involved in many village matters and can easily enter the village to apprehend people within.

Electoral Politics

The fisherfolk have an axiom: 'Bring politics to the people and not the people to politics.' Like engagement with the police, engagements with political parties and actors are also restricted. Past experience shows that political leadership sets itself up against the traditional panchayat system and threatens the unity of fishermen. Strong electoral affiliations created and aggravated rifts in the community, and the ensuing conflicts in the village became difficult to control.

Personal electoral affiliations, however strong, are only to be restricted to the voting process and not allowed to play a role in the community structure. With only one exception, the village panchayats describes the panchayat selection process as being independent of electoral party affiliations. This village is divided into three sections aligned along party loyalties. Each faction nominates 3–4 members to the *panchayat*. At the other end of the spectrum, a village in Cuddalore reports that the village as a whole nominates members both for electoral roles in the larger system as well as the *panchayat*.

Party affiliations can be exhibited only outside the village. A commonly practiced rule along the coast is to permit no political campaigning and propaganda in the village. Most villages do not allow party posters and flags. For instance, one entire village fervently supports the same party, but will still not display political propaganda material in the village. One reason for this is the threat to village unity. In one village, allowing posters and flags in 1986 resulted in serious conflicts that required outside intervention. Since then political flags or posters are not allowed within the village, and can be displayed only on the other side of the East Coast Road. In another village, allowing the painting of walls for electoral propaganda resulted in factions in the village, and now party flags are allowed only on the days that the politician is in the village and then removed the same day.

Some villages (particularly those in Kanchipuram close to Chennai) permit electoral propaganda. Bigger villages with a greater influx of mechanization allow the display of posters (but prohibit hoisting of flags) in the village. A few allow both and maintain that there have been no factions as a consequence.

Section IV: Historical Transformation of Governance Structure

The hereditary *nattamayi* (the *nattar* system) has been in existence for several centuries, and the post of village headman passes down from father to son as a hereditary post. Some village *panchayat*s still follow the *nattamayi* structure. About 20 years ago, most villages in the fisherfolk village chain transformed this traditional structure of governance into more democratic systems that aimed to be inclusive and transparent. The central pivot was the right to express one's views in the public space and to participate in collective decisions. Two kinds of general principles were agreed upon. One was to shift the power to govern the community vested in the head (*nattar*) to the *panchayat*. The selection of the *panchayat* was conducted in an open village meeting where every member of the village reserved a right to be heard. While the broad principles of the democratization process were laid out, each village adapted these principles with variations based on their own internal power configurations.

The *Nattamayi* Structure

The hereditary *nattamayi* (the *nattar* system) has been in existence for at least the last 300–400 years. In its original form, the *nattar* used to be the chieftain of the village and had the powers of a king. In recent times, he acts as the leader of the village. In the

northern districts of Kanchipuram, the *nattar* is called *chettiar*.[13]

On the coast, a few villages still have the *nattar* system. This leadership structure is based on patriarchal and patrilocal kinship. The *nattar* is often the head of the most respected/oldest/most powerful family in the community, and the position is passed on from father to son. The selection of the *nattar* was usually a *private family affair*. *Pangali* (kin group) families decided amongst themselves, behind closed doors, who will be most appropriate as the *nattar*. Those who were not within this kin structure were excluded from the process and therefore did not have any say in the decision.

Families who had settled first in the village are often respected for their experience, and usually have representation in the *panchayat*. In some villages there is more than one *nattar*, with each of these *nattar*s coming from different kin groupings, and working together on community issues. This depends on how the settlement evolved, with families growing progressively larger through kin migration. Each village may have a number of such family clusters, organized along streets. Many villages have *periya nattar*s and *chinna nattar*s. Some villages could have as many as three or four *nattar*s. Each governs his own cluster; and these *nattar*s form the core of the *panchayat*. In one village, the northern section has a *nattar* while the southern section has a *chettiar*.

Furthermore, additional members of respectable standing are included in the structure of the *panchayat* to assist the *nattar*s to fulfil their responsibilities. These members are nominated by the *nattar*; they could counsel him but not take decisions. In one village, the *chettiar* selects the new *panchayat* in consultation with the elders. In addition, the village governance structure could have *karyadarsi*s and *dharmakarta*s (temple custodians), who support the *nattar* in his work and preside in his position in his absence. The *dharmakarta*s attend particularly to the administration of the temple, its rituals and property. These positions too are inherited. In another village, the *chettiar* is assisted by five *panchayatar*s in addition to a *karyadarsi*.

A critical concern of the *nattamayi* is respect. Thus the members of the village have to pay respect to the *nattar* and *panchayat* in different ways: by not carrying umbrellas, wearing *chappal*s or sitting in his presence. Women cannot appear before him. He has to rank first in any community gathering. His word is law and failure to comply could result in punishment. Silence has to be maintained if he sits in judgement.

The *nattamayi* came under severe criticism because of increasing modernization and awareness. This hereditary structure was increasingly perceived as authoritarian and oppressive by modern eyes (particularly from democratic perspectives). Several accusations were levied against the structure. In Cuddalore, some said that decisions and judgements were made unilaterally as per personal convenience, rather than by inclusive and fair methods, increasing rifts in the village. Human rights were violated, wherein people were beaten up and even imprisoned, as part of enforcing justice. Marking respect and meting out humiliation were cornerstones of this system, continuously emphasising status differences (for instance, villagers stand with folded hands before the *nattar*). Community finance records were not transparent. Finally, the *nattamayi* did not pay attention to civic service (electricity, water) and would not relate with the state administration to obtain these amenities.

Modernization has accelerated this transformation. Mechanization, democratisation and privatisation all altered the traditional relations based on kinship and community belonging. In the last century, modern technology in fishing increased individual autonomy. Community and kin relations were replaced by modern relationships (elections, state programmes). More and more of the fishermen are educated, some have travelled abroad; and their financial situation has generally improved. With this, individualisation and personal profit seeking has also increased.

Changing the *Nattamayi*

The structure of governance has undergone change along the coast, from the hereditary *nattamayi* to 'democratic' *panchayat*s. This change sought to democratize the governance of the community. A new structure of leadership and governance was evolved, with inclusive and transparent decision-making in the community rather than within the family. The critical emphasis was on participation—include people within discussions and decision-making, in spite of differences of opinion.

Traditionally, the *nattar* did have a *panchayat* selected by him to support his work, which could only counsel and not decide. Certain processes marked the transformation from a hereditary *nattamayi* to a selected *panchayat*. Some of the *nattar*'s traditional functions (for instance rituals symbolic of decisions and roles) were privatised within the immediate family, reducing his importance. The balance of power was shifted from the head to the body of the *panchayat* structure, i.e., from the *nattar* to the members. Functions and roles performed by the *nattar* were now performed by the *panchayat*. All the villagers, rather than just the kinship grouping, were included in the village decisionmaking process, particularly in the selection of the *panchayat*.

The Changing Chain

The *nattamayi* was removed as early as half a decade ago in a few villages, particularly those that are close to Chennai. The process of significant and consistent transition across the region though was first seen two decades ago. This transformation was triggered in neighbouring villages across the coast. An immediate cause for the transformation was the collective meetings organized by different organisations to educate/sensitize people about the oppressive nature of hereditary leadership.

A village in Kanchipuram refers to the Association of the Rural Poor in Kanchipuram, led Felix Sughidranraj, that undertook sensitization of young people about this. In Vizhupuram, the village chains were activated by a similar effort undertaken in Devanampattinam by Raghupathy, as a result of which the one-year selection system was discussed and adopted in the entire district. Again, in 1983, the *nattamayi* in the 18 villages in Cuddalore was also changed, starting from Singarathopu and then spreading to Periyakuppam. There was a fight between the *nattamayi* and the young men in the village, necessitating police intervention. The 18 villages of Cuddalore together decided to form a committee that will select *panchayat* members. The villages started changing one by one. Now for 16 years there is no *nattar*. Instead there is a *panchayat* headed by the *thalaivar* (headman).

The Democratic *Panchayat*

In more than half the villages, the governance is by the selected *panchayat*. The broad standards for the *panchayat*'s selection, composition and practice have also been evolved in the past two decades. It has a certain number of people (usually 8–10) *selected* as *panchayat* members by the village. All the male members of the village have a right to express themselves in the selection process as well as in any subsequent action that the *panchayat* undertakes.

Each village however adapted these standards to its own context, and the selection and composition of the *panchayat* therefore varies from village to village. In some villages the outgoing *panchayat* nominates a new *panchayat*. Some villages also formed committees of people, usually considered elders in the village, who went out of the meeting to make lists of possible *panchayatar*s. These lists are read and collectively reviewed in the larger meeting. Here if any of the members are found to be inappropriate, they are rejected and the committee reconvened to select alternate members. This method of selection was to avoid chaos in the larger meeting. In one village, there is a standard rule that the ten members of the *panchayat* are to be selected on the same day. At the completion of their term, a new *panchayat* with new members is selected. The village could have prohibitions on selecting the same member or even members from the same family in subsequent terms, and may specify a period for which they are not to be re-selected.

The *panchayat* meets as and when required to handle its various tasks. Before the tsunami, this used to be quite irregular. The members may be required to be guided by the elders in the village who selected them; or refer to the village in the execution of their duties.

A critical outcome of the change to the selected panchayat is the accountability of its *panchayat* members to the people. In one of the most united villages studied, the panchyatars comment that their work is so consistently good because their actions are closely scrutinised for errors. Their position does not spare them from being extensively questioned. A second critical emphasis is on financial transparency. The panchayat has to present accounts as and when required, as well as at regular intervals ranging from a year (before the tsunami) to once a month. At the completion of their term they are expected to show the entire accounts of income and expenses incurred during their term. These are scrutinized in a village meeting.

Comparisons with the *Nattamayi*

The *panchayat* has not always met with approbation in comparison with the earlier structure. One villager narrates that earlier, in times of conflict, the person would quietly be called by the *chettiar* and the problem sorted out mostly through discussions. Meetings would be called only if this failed. In these meetings, the *chettiar*'s resolutions used to be carefully listened to. People were expected to not retaliate or even speak much; and collective discipline was valued. In the new governance structure, meetings are called easily, everybody has an opinion and none listens to each other. The second criticism centres around the loss of personal dignity and increase in arrogance—people (particularly women and old people) were accorded more respect and consideration in the previous structure. People in the village used to respect social boundaries and one another, but that is now eroding.

Integration

In many villages the transformation from the *nattamayi* structure to the democratic village *panchayat* is through integration or co-existence. In one village, the elected *panchayatar*s continue to support the *nattar*, who still performs many governance functions like maintaining village records. Others include the *nattar* or members of his family in the *panchayat*. For instance, the sons of *nattar*s have been included in the *panchayat*. The *panchayat* is composed of one member from each of the seven family clusters in the village; the *nattar* acts as a respected member to be consulted in community work. Two villages, while having no *nattar*s, are governed by *thalaivar*s (heads). While these positions were not necessarily hereditary, they were lifelong. Since the democratisation process has rendered the historical influence of the *nattamayi* illegitimate, there is often shame in admitting its influence, and the institution is not easily available to public scrutiny.

A consistent feature retained right across the region with few exceptions is the procedure of selection of the *panchayat* in an open village forum. Election by secret ballot votes was considered an inferior process in selecting the *panchayat*, since it undermined the relationship that existed between members.

Conflict

Not all villages have integrated the change process in a peaceful manner. In some instances, particularly in villages with rich resources or large incomes, the transformation from the *nattamayi* to the *panchayat* has been marked by severe conflict resulting in the development of fractures.[14] Mechanized fishing,[15] urbanisation[16] and democratisation[17] have also aggravated these conflicts.

Mechanization of Technology

Mechanization (like other modernization processes), when confronted with traditional practices, has triggered serious conflict in the fishing community. It involves radical changes in the fishing technology used, and hence in the occupational relations. The coast has also seen an influx of trawlers in the last few decades, particularly in Nagapattinam, Karaikal and Cuddalore with rich fishing grounds and harbours. These boats usually stay out on the sea longer, sometimes for a week, and use large nets that draw in schools of fish from deeper seas. They have some preservation facilities to store their catch. They require heavy investment for fuel and stocks (ice and food). Artisanal and mechanized fishing interests have been pitted against each other, particularly in heavily mechanized areas. Mechanization, with its capacity to sweep fish clean from the sea, has reduced the sea catch. Further they concentrate greater wealth, increasing economic power within the community, which can challenge traditional or community authority. The emergence of Akkrampettai in Nagapattinam or Devanamipattinam in Cuddalore as leaders in village chains is one such challenge.

Within villages, this conflict of interests influences governance. In highly mechanized villages,[18] the *panchayat*s often represent trawlers rather than artisanal interests. This has led to the formation of labour associations, factions in the village that represent artisanal fishing interests, particularly after the tsunami. However the term 'labour' can be misconstrued.

Trawlers also retain a share system, as in artisanal fishing. In the case of large mechanized fishing craft, where investments costs may be high, the crew member may not need to share the risks but will take back a smaller portion of the catch (80:20 rather than 60:40). Further, the same individual can go as a member of a *kattumaram* on one trip and of a trawler on the next—villagers retain the autonomy to go as crewmembers in artisanal fishing craft as well as in mechanized fishing craft.

Only in one village in Chennai is the structure of the village *panchayat* not evident. In addition, two of the villages in Vizhupuram district narrate a history of exploitation from the *ashram* trust that they are traditionally associated with.[19]

Section V: Tsunami

The Death Toll

The districts that had the highest death toll were Nagapattinam and Karaikal. The first of the three waves that hit the coast in these districts was devastatingly large, and extremely swift and turbulent. The villages northwards from Karaikal (particularly in Kanchipuram) record lower rates of death, except in a few instances. Here, it was only the last of the three waves (experienced as surges of the sea rather than as a wall of water) that was significantly large. People who responded to the warning about the first two waves escaped. One other reason for the low death toll, it is narrated, was the priority given to lives rather than to property.

The death toll was also determined by other factors. More children, old people and women died, because they could not swim or did not have the physical strength to survive the wave. *Medu*s (dunes) and walls also determined the flow of water and the subsequent devastation, cutting off escape in some instances while directing water away from settlements in others. Many villagers had not gone fishing, reducing death tolls. Some fishermen at sea also remained unharmed. In one village, there was a weekly market, with women buying and selling fish, and men folding nets after fishing on the shore. Many people from within and outside the village drowned. In another case, school-going children trained in disaster preparedness escaped at the first instance of danger and were safe, even before the adults of the village.

Disposal of the Dead

Most villagers returned back to the village to search for their families and to bury their dead on the day of the tsunami itself. Given the degree of loss, the primary concern remained the dignified internment of the dead rather than loss of property. For instance in a village in Nagapattinam, the elder in the village narrates that he organised a team of 30 young men, who systematically searched for and recovered the bodies. The bodies were buried promptly to prevent their decomposition. All the ornaments on the bodies were also buried with their owners. Bodies continued to be found in advanced states of decomposition for more than a month after the disaster.

Immediate Relief

People fled westwards, away from the sea, to (relatives' houses in nearby villages, nearby camps, schools and marriage halls). They returned to the villages during the day, while staying away at night. Many of the men had to attend to the dead immediately.

For the first one or two days, there was no food and no water (especially in some of the most affected villages). By the second day, most villages had received food from neighbouring villages, relief donors and community kitchens. At this stage most communities had to adapt to becoming recipients, a change that was difficult to make at this juncture. The leaders of the villages had also dispersed during the first few days of the tsunami.

Role of Supporting Villages

There is a difference between various reports of the role of neighbouring villages in different districts. Close to Nagapattinam city, villagers report there was no support forthcoming from neighbouring villages. A village in Karaikal reported that their neighbours resented the amount of aid coming in. In marked contrast to this, villages in the other three northern districts recount instances of great kindness, e.g., a case wherein a neighbouring *jamaat* of Muslims helped bury bodies, moved the injured to hospitals, opened their halls to offer shelter and cooked food for all the people.

Distribution of Immediate Relief

In the relief distribution period, the mechanisms of community sharing already evolved formed the foundation of the *panchayat* and village functioning and distribution. In all villages, there were no serious conflicts during this period. In two instances (one of these is a village with blood feuds), existing conflicts were laid aside after the tsunami during immediate relief distribution. It is only later that some of the conflicts resumed or worsened.

The immediate relief articles distributed included clothes, raw food, cooking materials and utensils, and household articles like beddings and buckets. In some instances, money was given as relief. Different agencies

distributed relief—state organizations, religious and political charity efforts, and development organizations.

All the villages remark that the much needed and well-intentioned relief was generous and timely, but that they were wary about the consequences on the unity of the villages. This phase also marked transformations in *panchayat* and village orientation in order to negotiate with aid and State agencies.

Distribution Process

A common set of procedures was used along the coast. The village *panchayat*s had assessed the damage in a few days. Hence they were vested with the power of dispensing relief equitably. Some features stand out. First, the relief material was deposited in a community structure that acted as a repository, usually the temple, *panchayat* office or school. If the organization could dispense enough relief to all the members, distribution followed. Otherwise they were asked to deposit the materials till more were collected, in order that they could be distributed to all members of the community. If they refused to do so, the materials were not accepted. Second, all members were informed about the arrival of aid (a microphone was used in one village to make announcements) so that they could witness the distribution process. The distribution (particularly in Nagapattinam and Karaikal) was on the basis of a token system. In some instances, the *panchayat* nominated a committee (say, of young men) to oversee distribution. Third, the accounts of the distribution were maintained in the village in the accounts book open to public scrutiny.

Issues in Relief

In commenting on the sale of relief articles, one fisherman said that the relief material was often in excess, inappropriate or poor in quality. In one village, the old clothes were sold and the money received was shared amongst the members of the village. The relief phase marked a critical transformation in the values of the community. Shrewdness in acquiring aid, irrespective of its appropriateness, took predominance over generosity. Two villages redirected the relief that came to the village to one that had suffered considerable damage and loss of life. However this act of generosity became a source of regret later, when the village did not receive any further relief or compensation. Now, the villagers feel that they have been foolish.

Aid

Communities along the coast geared themselves to negotiate the aid process, both of the state and of voluntary organisations. A critical shift in community values was to collect as much as aid as was possible to avoid being 'foolish'. In many instances, *panchayat*s had to reorient themselves or be replaced if they failed in this. They had to play two critical roles in the aid process: enumerate members of the community to allot and enlist shares, and collect and distribute aid received in keeping with internal processes of sharing.

Enumeration

Damage enumeration conducted by the state machinery and various voluntary agencies tested village cohesiveness. The enumeration involved detailed listings of the loss of life and the degree of damage to shelter, fishing craft , fishing gear and accessories (hooks, bait) and livelihood materials. Some villages report that enumeration of members, particularly by the state machinery, was affected by several factors.

Shock: At the time of enumeration, the suddenness of the disaster had left many people in shock. People had dispersed and critical people in the community were missing. The state beneficiary lists prepared were not adequately representative; and often differed from those enumerated by the *ooru panchayat*. In one village, the enumeration list of the *tehsildar* listed about 140 houses instead of the 163 houses in the village. At that time the *panchayat* could not give the entire list, because many people had fled the village immediately after the tsunami.

Membership: Issues arose in counting households. Unmarried sons could be considered part of a household or enumerated separately. One village also narrates that some of the members who were not listed questioned this, and the money was divided equally. Two other villages also enumerated lesser numbers of people: 41 families divided amongst 62 members and 72 divided amongst 110 members. This dilemma was particularly sharp in villages that followed the tradition of identifying members by marriage in some of their internal functions. In Kanchipuram, for instance, where village membership

commences at the age of 18 and the new member has to begin to pay a tax to the *panchayat*, these issues did not arise.

Large villages with rich resources did not count recent migrants as members. In one village, only 281 families out of 420 have been enumerated for post-tsunami relief (The central government distributed Rs 8000 over a span of five instalments—Rs 4000 followed by Rs 1000 four times—as disaster relief to each of the families affected by the disaster.) The remaining families were not enumerated by the *panchayat*, which did not consider them *vari* (tax-paying members of the village). Because of the rich river- and sea-fishing, a number of families have shifted into the village over the past few years. Their application for membership has been rejected, on the basis that there are no guarantees that they will continue to stay in the village in future.

Role of the government: In many instances, the government enumeration process aggravated conflicts within the village. State personnel in Nagapattinam were immediately transferred and new enumerators unfamiliar with the communities were brought in. Unequal access to State machinery undermined structures of authority and resource sharing within the village. *Panchayat*s were often not consulted in the state enumeration, leading to discrepancies in estimates by the two institutions. State records (e.g., fisheries department records of boats) in the villages tend to be erratic. In one village, it was ruefully reported that the number of fishing craft after the tsunami is considerably less than the number before the tsunami. The numbers used were from the records of the fisheries department. Recording a fishing craft in the fisheries department requires the person to pay a registration fee, and fishermen do not want to incur this expenditure.

Questions about enumeration: Villages charged that the numbers finalised by the government were questionable on several counts. There was inappropriate distribution of compensation in unaffected areas (villages lying to the west). There was also a sizeable inflation in beneficiary numbers in State records.[20] They also report that attempts to seek justice from police had not been successful. Questioning these inflated figures met with threats to personal safety and redirection of further aid away from these villages.[21]

Redistribution of Compensation and Aid

In addition to enumeration, the second critical function of the *panchayat* was organization and distribution of compensation in the village. Many villages reported that the initial phase of aid arrival in the village was marked by chaos. When some members of the community received aid, others who did not get it immediately came to know of this and protested. These conflicts had to be resolved at the *panchayat* level.

To avoid these conflicts, the villagers in many communities collectively agreed to divide the aid received from both the state and the voluntary organizations equitably. Many villages worked out the methods of organizing the aid received and redistributing it among the members. In one village, for instance, the panchayatars sat together and decided how to divide the compensation. These calculations were then presented to the larger community and the final amounts negotiated and agreed upon. Those that were unwilling to accede to this decision were to be placed under *mariyal*. Similar patterns were followed in distribution of fishing craft compensations from the State.

The structures and mechanisms already traditionally present for resource sharing provided the foundation. The panchayatars usually collected and redistributed the relief and boat compensation due for the entire village from the State, as well as the aid provided by voluntary organisations. Since transparency was a critical concern of these communities, in most villages people knew about the quantity and kind of aid received by the village. Many villages also instituted new processes to increase this transparency, e.g., monthly meetings on community accounts.

Most of the *panchayat*s collected the aid received, and redistributed it internally across the community to ensure equity. This study explored four kinds of aid: the relief given to individual villagers; the boat compensation (including trawlers) given by the state; nets and other equipment given by voluntary organisations; and housing. The calculation of compensation due to each person was determined by several factors.

Quantum of Aid

The quantum of relief distributed also involved redistribution and conflict. Villages in Kanchipuram

and Karaikal reported fewer difficulties in distribution, while those in Nagapattinam and Vizhupuram faced greater difficulties. One reason that villagers in Karaikal say that redistribution was easier in these villages was the ample amount of aid received from the union government, and the fact that the villages and their *panchayat*s were remarkable stable during the dissemination process.

Community Estimates

Communities arrived at their own lists of beneficiaries based on assessment of damage, membership in the community and the amount of compensation distributed. The *panchayat* reconciled these lists with the beneficiary lists made by the government and aid organisations In a few villages, special committees were appointed to undertaken the assessment and reconciliation. In many instances, these differences were equalised to ensure that those who were not covered by state and aid organisations also received a share.

Membership

Most villages redistributed the compensation on the basis of member shares. For this, they used the modern criteria of 18 years of age and payment of *vari* for membership, rather the traditional one of marriage. The redistribution of the compensation required reconciliation of these two estimates, particularly in villages with more traditional communities.

Shares

The share of aid received from alternate sources and already given to individual members also determined the redistribution process. The redistribution process also accounted for structural differences.

In one village, compensation for 50 FRP craft was received. These beneficiaries have been asked to give a portion of their compensation to the village fund to be redistributed. Their damaged fishing craft have already been repaired by a voluntary organisation. In addition, they have also received shares (one boat shared by three members) in the 96 FRPs (Fibre Reinforced Plastic craft) distributed in the village by another non-governmental organization. Their refusal to share their state compensation with the village was contested. At the time of the study, a larger cluster meeting involving the neighbouring 6–7 villages had been called to resolve the issue.

In three villages, villages collectively decided to compensate people on the basis of damage to nets and wood, and divide the rest amongst the members in the village. In another village, nets given by non-governmental organizations were distributed amongst those who lost theirs. Out of the last cheque of compensation given to the 249 *kattumaram*s, the *panchayat* gave money to repair the damaged boats and then distributed the rest equitably. Thus people who fish have been given Rs 13000, those who are not fisherfolk but maintain petty businesses in the area have been given Rs 7000, couples have been given Rs 10000, widows Rs 2000, widowers Rs 5000, and unmarried men Rs 8000. In yet another village, the *panchayat* divided the nets equally amongst the people. Further they also recovered a certain amount from the people who got compensation, and divided up the money amongst old people (Rs 5000 for men, Rs 2000 for women), widows (Rs 2000) and unmarried youth (Rs 5000).

In four villages, part of the compensation given for *kattumaram*s was collected and then distributed amongst those who had not received anything. In one of these villages, the *panchayat* redistributed the money collected in the following manner: those who work in the sea (Rs 15000); those who work on the shore (Rs 10000), daughters without father (Rs 7500), husband and wife, and educated boys (Rs 5000), those who have daughters and no sons, and widows (Rs 2500).

Some villages only collected money for fishing craft that were not damaged and then redistributed this money. In one village, only those people who received compensation and did not own the *kattumaram*s were asked to contribute to the village. The owners got Rs 8000 and the village collected the remaining Rs 14000. There has been some conflict related to this within the village.

In one village in Chennai with many labourers, the compensation received was given to the owners directly, who in turn gave Rs 1000 to each of the labourers who work as their crew.

Mechanized Fishing Craft

Greater equity was seen in sharing the aid by the artisanal fishing sector, particularly when compared to the mechanized fishing craft. This was a direct

reflection of the *panchayat*'s will and ability to collect money from all sections of people, irrespective of their economic power. In villages with large concentrations of mechanized fishing craft, *panchayat*s could often not enforce redistribution of their compensation. Mechanized fishing craft owners maintain that the costs of maintaining and running the craft are so prohibitive, that it cannot be expected of them to share the damage compensation given by the government. In one village, the money collected was returned back to the people after a decision in a village meeting because fights broke over this issue. In three villages in Nagapattinam, conflicts have broken out because of the unwillingness of mechanized fishing craft owners to share their compensation with the members of their crews and with those who ply *kattumaram*s between the trawlers and the shore. Only three villages on the coast reported that the compensation received for mechanized fishing craft in their villages was also divided between the villagers.[22]

FRP Fishing Craft given by Non-governmental Organizations

All along the coast, FRP fishing craft have been distributed by non-governmental organizations. Many villages distributed the FRP fishing craft to all the members of the village, with each craft being allocated to a certain number of people. Some villages distributed the FRP fishing craft to those who did not get compensation for any craft. In one village, names of the crew members in the villages were picked by lottery to avoid conflicts. In addition some of the villages also have fixed the price of each membership. Thus people could sell these membership shares in the FRP if needed.

Compensation for Women

In some instances, using traditional sharing patterns may also have emphasized existing inequities. Women (particularly widows with no male heirs) were not eligible for shares, or received smaller portions in many villages, particularly in Kanchipuram district. Along the coast, widows without sons or male heirs are usually excluded from patriarchal and patrilocal village membership. Because they cannot contribute to the livelihood activities in the village, they receive usually smaller shares in the village catch, about half or less than half of what is given to a crew member . Many of these women dry and sell excess catch in the village. They do not have fishing craft.

Most villages along the coast had no special schemes for widows in the village. The *panchayat* perceived its main role to be one of channelising resources and not that of reaching out to particularly vulnerably people. The *panchayat* only routed aid that was specifically given to widows.

Even though there were no special provisions for widows, many villages in all districts (with the notable exception of Kanchipuram) enumerated widows as shareholders in the aid received after the tsunami. Many villages also allocated a share in the FRP fishing craft distributed. In one instance at least, these women could sell their share at the price (Rs 10000) fixed per share by the *panchayat*.

In Kanchipuram, however, widows without male heirs were not considered members in aid distribution and received half a share or no share at all in compensation received for boats. There was one single exception among the villages studied in this district, where the two widows in the village were given the same shares as the other members. In one village, one woman narrates that her share of aid is only half that of other members. A share in the FRP fishing craft distributed was also denied to her. She had tried to become a member and offered to pay vari (Rs 80 per month) even before the tsunami. This too has been refused. She has six daughters, all of whom are married. They did not get any shares from the compensation received for the craft. A critical reasoning to justify is that they are not earning members for the village.

The women who sell dried fish were also not counted in the compensation. In one village, a cluster of old women who sell dry fish on the shore report that they received no special schemes or compensation. On the day of the tsunami, they were on the coast and watched the wave come in and fled for their lives. All of them lost their entire stock of dried fish in the tsunami and now have no source of income. This loss was not compensated. One of the women despairingly claimed that it would have been better to have died in the tsunami, since this would have meant that her family received compensation at least for her death.

Enforcement of Redistribution

Failure to comply with the redistribution decided by the *panchayat* can result in *mariyal*. One of the villagers (G) has filed a court case against his *panchayat* for collecting part of the compensation for his fishing craft from him. He had been excommunicated both economically and socially because he was not willing to pay the village his share. His approach to the district administration to act in removing the *mariyal* has been unsuccessful. Apparently G had already been compensated for his fishing craft by the village from aid received earlier. Therefore the village felt justified in asking him to pay his share from the cheques he received for another fishing craft.

Housing

The critical long-term concern of the fisherfolk villages is that of relocation and housing. The government has promised relocation in alternative locations where possible. In return, the villages will have to surrender the old land to the government. The fishing craft and gear will be stored in a shed specially constructed for this purpose. The community is caught between contradictory pressures of livelihood and the safety of the family. After the tsunami, fisherfolk report that they are afraid of living on the shore. While the men are reasonably confident about surviving such disasters because they are used to the ways of the sea and can swim or ride the waves, women and children are not so skilled. Given that women and children are the ones to spend most of their time on the shore, their safety has now become the critical factor in deciding reconstruction of their homes.

The seashore is an integral part of their livelihood. Their fishing practices require their boats to be pushed into the sea. Nets are repaired, catches auctioned and fish dried on the shore. Fishing craft, fishing gear and other fishing equipments are also stored here. By living close to the sea, the fishermen also protect this property. In return, they continuously monitor the seashore and its changing ecology. Thus fishermen, particularly artisanal fishermen, are acutely aware of the dilemma between safety and their livelihood.

The seashore is a critical factor in building the structure of the fisherfolk community down the coast. One reason that fisherfolk communities down the shore have been largely resilient is the constant information sharing that historically occurs because of continuous movement and sailing on the coastline between the villages. This chain of information and action is slowly disintegrating under the pressures of modernization (mechanization, urbanisation, industrialisation). The exact nature of post-tsunami housing aid in altering this chain could not be covered in the study. If pursued, this enquiry might offer important insights into the future changes in community structure that can be expected.

Many villages are wary about the state relocation plan because they believe that to be physically alienated from the shore will make fishing extremely difficult and even impossible. Further, they are afraid that the land thus acquired will be used for purposes that will degrade the environment (like shrimp farming) or will create an influx of outsiders (like for the entertainment and hospitality industries).

Relocation

Some villages are willing to relocate, even if it involves the risk of losing the land that their old houses stand on. In one village, 70 houses have been razed. The government is paying Rs 30000 per acre to buy land for the new houses. The extra money needed for the purchase of land will come from the village money. Another village, for instance, has been allocated land for 127 families 500 metres from the coast, next to the *vanniar*s. They agreed to shift for safety reasons and were willing to house their craft and gear in sheds.

Some villages were willing to relocate because they did not own the land that they were settled on. Relocation would entitle them to ownership of the house and land. Two large communities were willing to relocate to new areas, while remaining confident that they will retain the area where the damaged houses close to the sea are located.

Refusal to Shift

Many villages insisted on remaining at their earlier location. This was particularly true of villages in Kanchipuram and Chennai. In a village with factions, one faction did not want to return to the village but wished to relocate to the area where their temporary shelters have been constructed. This is being contested.

Shifting Close By

Some villages have bought or used land that was already available to build new houses. Thus they have relocated

to a nearby area while retaining control over the old areas. In some villages, people have chosen to buy land nearby with village money and carry on with the reconstruction work. Thus they have had access to new land while retaining control over the old seashore. For instance, in one village, 230 houses have been relocated. These households already had land deeds (*patta*s) far from the sea and close to the river under a previous government free housing programme. Hence, the old land is still under the individual's name and does not have to be handed over to the government.

Section VI: The Communities Post-tsunami

The Post-tsunami *Panchayat*s

It is only in 14 villages that the *panchayat*s have not changed because of the disaster and still remain the same (or have changed only as part of regular practice). Of these, five villages still have the *nattamayi*. All the other *panchayat*s have been changed after the tsunami. Three significant factors played a role in this transformation: competence, accountability of the *panchayat* and the presence of historical conflict that was aggravated by the tsunami and the subsequent aid dispensation process.

Competence

The post-tsunami period requires harder work and 'modern' competencies to negotiate with the various aid dispensing agencies, and to draw, manage and redistribute aid. Some *panchayat* members resigned their positions, quoting personal reasons or illness as a cause for their inability to carry out the extra work that the post-tsunami scenario demanded. Many communities changed their *panchayat* members in order to draw aid in larger amounts and distribute it better. In some instance, villages removed *panchayat* members for inappropriate behaviour: drinking, lack of seriousness and unwillingness to attend to extra work. In two villages with *nattamayi*, the *nattar/chettiar* remained the same, while the rest of the members were changed because their behaviour was inappropriate. In two villages, some of the old *panchayatar*s continued while others were changed. Here, people claim that the *panchayatar*s were drunk and unable to pay attention to all the work of the villages. Members with competencies to handle the new kind of work were also selected by the community.

Accountability

The relief and rehabilitation compensation was also seen as collective resources, and its collection and equitable distribution was also seen as a central governance function. The transparency of the distribution process within the village, the shrewdness in negotiating with external agencies, and their ability to account for expenses became significant.

Accounts had to submitted for public scrutiny when demanded. These accounts have to give details of all the money and relief that was collected, and the pattern of its division. Almost all villages had a rule that accounts have to be shown at least once a month. One of the villages that prides itself on the transparency of its accounting procedure says that the panchayat meets on every new moon day in the month and the accounts are shared amongst the villagers. Other villages insist on the submission of accounts for public scrutiny regularly, at intervals of two months, four months or yearly.

Issues in Finance

The *panchayat*s in some villages were altered because of issues with accounts. In one village, one of the members of the *panchayat* was asked to step down because he stole Rs 20000. He in turn filed a case of corruption against the *panchayat*, to which it has retaliated by filing a case of defamation against him. The *panchayat* itself changed after its appointed term, after organising the temple festival and showing the annual accounts. In another village, though the *panchayat* changed, the *panchayatar*s were extremely reluctant to disclose why. It was hinted that this might have been because of the manner in which relief was distributed. The *panchayat* printed coupons on the basis of which relief was distributed. 26 coupons were left out, following which the entire *panchayat* was changed.

This phenomenon of changing panchayats was most marked in two villages. In one of these villages, the panchayat was changed twice in the course of a year since the tsunami (the current one is the third panchayat). The first two were changed because they were not transparent and did not show accounts.

A critical factor in financial accountability is whether the expenses incurred by the panchayat are reasonable. It is entitled to deduct expenses incurred

by them in carrying out its role (lodging and boarding, transportation, entertainment costs). In many villages, the tsunami compensation work is perceived with a degree of suspicion. In another village in Chennai, the villagers report that the panchayat was changed three months ago for not showing accounts. The panchayatars used to go to the neighbouring arrack shop, with each spending a good sum of money on drinking. Those who did not drink were given their share of money to spend on whatever they wished to.

Shrewdness in Acquiring Compensation

Some *panchayat*s also changed because of their unwillingness to prepare incorrect figures.[23] There were several pressures from different members in villages to quote larger damage compensation to the state. The extra compensation thus obtained was distributed between the members.

In one village, a member of the previous *panchayat* claimed that it was changed in February because the members refused to quote higher damages for increased compensation. The resulting low compensation had led to conflict in the village. Finally, the *panchayat* was changed and a new one brought in. In spite of this, villagers recount that there has been no history of conflict in the village to date. In another village too, the *panchayat* was changed because it under-represented the damage. Furthermore, the previous *panchayat* head was not in good health, and was hence unable to fulfil his responsibilities.

Aggravation of Historical Conflict

The historical cohesiveness of the village determined how membership representation and damage assessment was arrived upon. The post-tsunami disaster compensation has further aggravated conflicts and polarised factions within the villages, particularly in villages with highly politicised *panchayat*s, with each faction forced to compete against each other for limited resources. The aid redistribution exacerbated existing conflicts.

In Nagapattinam, the distribution of aid (cash and fishing craft distributed) was directly affected by the *panchayat*'s ability to negotiate ongoing conflicts between mechanized and artisanal fishing interests.[24] Where the *panchayat* has been seen to be partisan to the interests of the mechanized sector, labour associations have been formed. For instance, in two villages, *panchayat*s were unwilling to represent artisanal interests in their estimates of fishing craft. This was seen by the artisanal fishers as an opportunity to get new fishing craft and become autonomous. Owners of mechanized fishing craft however did not want to permit this independence, and their influence in the governance of the village is considerable. They also denied shares given for the mechanized fishing craft to the crew. In both villages, a section of people have moved away, organising themselves into labour associations that perform similar functions as the *panchayat*.

The Future

In looking to the future, there are some common concerns of the community that were articulated.

Changes in Ecology

Only three villages felt that the there has been no change in the ecology of the coast because of the tsunami. One pointed to the systematic deterioration of the ecology unleashed in the past few decades of modernization (dredging for the Sethu Samudram project, for instance) and mechanization. There has been steady pollution of the coastal waters. Chemical wastes from neighbouring industries dump their effluents into the sea. Mechanized boats using large nets have increased. At least 42 varieties of fish have been eradicated. Mangroves and other trees on the shore that could reduce the impact of storms and other natural disasters have been destroyed.

Almost all the other villages on the coast felt that the tsunami had affected the ecology of the coastline, the winds and currents of the sea. The changes listed included:

Erosion of the coast: Many villages report the volume of water in the sea has increased: it has moved closer, eroding the coast; and the volume of the sea has increased with the normal tides now as high as those on new and full moon days.

Turbulence: The sea is now turbulent with more forceful currents and winds like those seen only on new moon and full moon nights. One village reported strange sounds at sea, like those in heavy storms.

Drinking water: One village claimed that its underground drinking water supplies have dried out. Two others

narrate that the water has been contaminated after the disaster and is not as sweet as before.

Weather, wind and currents: The ability to predict winds and currents in the sea is critical for fishing. Knowledge of these factors is very highly valued. In many villages, fishermen report that they are no longer map these as well as before, resulting in disorientation, both in fishing and in gauging safety.

Seabed: Many villages, particularly in Kanchipuram, commented that that the nature of the seabed, its rock formations, areas of slime and sand have changed, probably because of the forceful ebb of the tidal wave. Villagers estimate that four or five years will be required before they can chart the seacoast again, to help them to avoid damage to their nets and understand fish patterns.

Availability of fish: A few villages record an ongoing reduction of fish caused by ecological destruction caused by mechanized fishing. However, villages consistently claim that the amount and variety of fish available has decreased considerably since the tsunami. Villagers also claimed that the behaviour of fish has changed, including their migration patterns, growth and presence. Only one village attributed the cause of reduction in availability of fish to the increase in the number of nets used after the tsunami.

Restarting Work

Almost all the villages on the coast did not start work for at least three months after the tsunami. In some instances, villages stayed away from the sea for more than 6 months. Several reasons were quoted. Fishing gear were destroyed, and had to be repaired or acquired. Fishing craft were damaged. After the tsunami, there was a general rule in the community along the coast that till all the members had seaworthy fishing craft, no one will go for fishing. The 45-day ban when fishing is not allowed also occurred during the same period. All members had to be present during relief and rehabilitation distribution to ensure equity. Those boats that did go to the sea did not make enough money to cover even the diesel costs of running the boat.

Only one village reported wryly that they went back to the sea four days after the tsunami and stayed through the night, because they were convinced by an NGO to do so. Now people are fishing in the sea again, though they remain wary.

Fear of the Sea

The unpredictability and severity of the tsunami have left many fishermen with lingering doubts about the nature, behaviour and safety of the sea. Their uncertainty about their predictions of the coastal behaviour has increased these doubts.

This has resulted in changes in their fishing practices. They are unwilling to stay at sea especially at night or when the waters are turbulent. Members of the village go in groups. Only 60 per cent of the people who earlier used to fish go to the sea now. Most of these are younger than 40, while earlier even 55-year-old men used to go to sea. People return back after a specific time even if they have no catch, rather than stay till evening as they used to before the tsunami.

Education

After the tsunami, fishing is seen as both dangerous and erratic, and the emphasis on education as a way to find employment elsewhere has further increased. Most boys are educated till the 10th standard, and girls till the 8th standard. In earlier times, the average level would only be till 4th or 5th standard, just enough for functional literacy.

Different families place varying emphasis on the usefulness of higher education. Seeking education is difficult. Schools are few and children have to travel long distances with little road or transportation access. And it does not necessarily promise a secure employment. Many individuals in the community seek higher education against great odds. Entry here is difficult, one villager states, and reservation as a most backward caste will help.

Some villages hold that some of the children do not even know how to swim. Others maintain that not all the children will be able to get employment outside, and may have to fish for their livelihoods. Their children are encouraged to learn the work on the seas during their holidays, so that they have the option of fishing to fall back on. One village comments that most people will continue to fish for their livelihood. A small percentage of people who have money and can afford higher education will migrate out. Another pointed out that fisherfolk communities have stagnated in their growth because

they have become inward-looking. Before mechanization, fishermen used to stay at sea only for five or six hours a day. Now with the increase in mechanized fishing craft, they remain at sea for 3–4 days and lose touch with the world. Their knowledge does not expand.

Those with access to education, knowledge and networks in the outside modern world move away from these villages as quickly as possible, rather than staying and using this knowledge to foster stronger linkages within. As a consequence, the community has been deprived of critical awareness and education about current realities.

Endnotes

[1] Referred to in the Tamil classic *Silapaddikaram*

[2] Cuddalore

[3] One way to understand this complex word could be as the willingness to bind individual actions to collective will.

[4] The Iccinapattinam temple in the neighbouring village is considered famous because of the manifestation of the goddess, *kannanore mariamman*. This temple is shared equally between the two villages. The story of the idol of the goddess in the temple is as follows. The goddess is said to have to come to the shore of the village, to be worshipped here. The sea boiled off the shore of Icchinampattinam; and there was a cluster of heavy fish that came into the *idaivalai*. The *katumarram* people at sea found that there was a statue of the goddess in their nets. They brought the goddess to shore and established her as the village deity.

[5] In one village, villagers narrate that the children of the village sought refuge in the temple during the assault of the wave, and hence remained safe.

[6] One village narrates that Thirukandapuram (Soundraraja Perumal) was to have come to the seashore. There he saw a beautiful fisher girl called Padmini Nachiar, who was 13 years old. He kidnapped her to marry her. However she started her periods. Soundraraja Perumal's first wife Andavananachiar would not allow the menstruating girl into the temple. Hence she spent three days in the village before she accompanied her husband back to his house. Even now in memory of these three days, the god's idol comes from the temple and spends three days in the village before going back. Traditionally, the women of the village cover their heads and ensure that their faces are not seen by strangers, so as to prevent kidnapping.

[7] One reason for these conversions is the support (emotional and material) that the church gives these people.

[8] The tax is called *vari*. Payment of a tax marked membership in Kanchipuram district.

The king felt that the maintenance of the temple and its property should be given to a village that was courageous and united. All the villages competed for this honour. The king had a big *puja* (religious ceremony) and called the heads of all the villages to it. Here he asked villages to volunteer for undertaking maintenance. At that time four villages came forward. They were Karaikalmedu, Kilinjalmedu, Nambiar Nagar and Aryanattuturai. In order to select between these four, the king laid down a severe test of faith. One of the villagers from each village had to be ready to descend into a boiling vat of oil. Whoever survived this would then qualify for the custody of the temple. The heads of the village returned to their villages to consult the other members, hesitant to proceed with the life-threatening test.

In Nambiar Nagar, one of the villagers was renowned for his devotion to Siva. He came to hear about the king's test and volunteered that he would be willing to undergo it, vesting his faith in the god, willing to surrender his life if required. His only concern was about the future of his three daughters. Recognizing that of all people, he was the one most likely to pass the test, the grateful village in return promised that it would take care of all his daughters.

The other three villages could not identify anyone with equally strong faith. The devotee from Nambiar Nagar was brought before the king. Preparations were made for him to descend into the vat of oil. The devotee was completely equanimous at the critical time, but was stopped by the king, who commented that all he wanted was the evidence of courage and faith, and preparedness to undergo such a severe test was enough. There was no reason now to go further on this course of action. Thus the custody of the temple was given to the village and it became the *thalai* (head) village of the 64 villages. The village is the site for the annual Mahakalsi—the day when the gods come to the water to play. The god from the temple is brought to the seashore with great pomp to dip in the sea.

Adipattanayanar: Adipattanayanar, one of the 63 *Nayanars* of Tamil tradition, was said to be a fisherman who lived in Nambiar Nagar. It is said that this saint loved Lord Siva so much that he would offer the first share of the catch to the god and release it back into the sea. He continued this practice both during good and bad times.

A time arrived when there was no fish in the sea, and his family went hungry. The saint still continued in his practice of giving the first share to the god. Then the god decided to test him, and sent a golden fish to his net as his first catch. He wanted to see if adversity and greed would make the saint forget his practice. However, Adipattanayanar remained unaffected by the golden fish and returned this too to the sea in the name of the god. Pleased by this unwavering devotion, Lord Siva appeared before him and blessed him, whereby he became one of the *Nayanars*.

The name of the village: A story is told about how the name of the village came about. The Chola king and his wife often strolled down the seashore enjoying the sweet breeze. Once, however, the air was very still, and the king complained about it. One of the fishermen nearby looked to the sea and pointed out to a wave on the water. He told the king that there would be a good breeze when the wave went back and returned, i.e., in about half an hour. Sure enough, when the wave returned, with it came a breeze. Commenting on the accuracy of the fisherman's prediction, the king called the village Nambiar Nagar—a village that can be trusted (*nambi* means trust in Tamil). This story also marks the honour paid to the fisherfolk, who were renowned at that time for their honesty and reliability.

[10] Large nets that scrape the ocean floor and capture eggs and fish just hatched. These conflicts about nets are symptomatic of the deeper issues between the mechanized and artisanal fishing sectors.

[11] They are known for their impartiality and impeccability in maintaining records. The village itself has not had disputes for more 50 years.

[12] Periyakuppam was the mother village, and they had fisheries society in this village

[13] The functions of the *nattar* and *chettiar* are similar, and only indicate a difference in practice. In the document, the term *nattar* is used to include the *chettiars* of Kanchipuram.

[14] **The case of village D:** In one village in Madras district, 40 years ago there were three *chettiars*. Of the three *chettiars*, only one was in power till 1998. The other two families had slowly lost their prominence over the years. The village is a very wealthy village and get profits from the shops both at the temple (which is an important one) and from the Mount Mary Church. These shops are auctioned every year for about Rs 20 lakh each; this amount is then divided and distributed equally amongst all the members of the village. The *chettiar* system was finally done away with because he failed to show accounts adequately, was not considerate to the needs of the village people and did not allow them to become independent of the fishing trade. The crisis was precipitated when the *chettiar* undertook the responsibility of giving *kuzhu* to the village deity (food cooked for the entire village as part of a ritual). Finally, on the day of the ceremony, he performed it within his house and went to the temple without including the rest of the village. When the villagers came to know about this, they were furious and forced him to step down altogether.

[15] **The case of village K:** This village is in the midst of severe conflict. The village has a *nattar* system. A labour union has now been formed. The village was split into factions around these two affiliations, about 4–5 years ago. One adhered to the *nattamayi* and the other nominated a labour union.

The village has some of the best fishing grounds in the area because of its proximity to the Palk Bay. As a result, fishing is highly mechanized, with many trawlers from the district fishing in these waters. Over a period of time, artisanal fishing suffered. Many people in the village felt that the entry of fishing craft from outside should be stopped.

These fishing craft used to erect a cluster of thatch huts to store their nets near the village. These thatched huts were burnt down and conflict broke out. Cases were filed against 18 of the labour union members, claiming that they were involved in the burnings and murders. It is believed that this intervention by the police could not have been without the tacit support of the *nattar*. This support to move against members of the labour union, they believe, is because of his partisanship towards the mechanized sector, which had the most to lose when the ban was imposed.

Since then, there have been several conflicts in the village, with villagers becoming partisans of one or the other camp. This split in the village is reflected in their temple for the village goddess. The construction of the temple has been suspended over several years, with both sides preventing its completion. This conflict has spread to the temple festival too. The expenses for the festival and the salary of the priest come from contributions by all the members of the village. One of the governance roles is to ensure that these formalities are completed annually. However in the village, the labour union claimed that the *nattar* has neglected these responsibilities, forcing them to perform these functions.

The labour union claims that the ownership of the village land has now been transferred in the *nattar's* name. The original ownership was a *kootupattai,* where the land was commonly held by 54 members of the village. This land is temple (*vaidaranyam*) land given to the village. It is claimed that the 54 names have been scratched out and replaced by the *nattar's* name in red ink in the legal property document. There is a court case against this transfer of property. The proceedings have been stayed till the tsunami work is over.

Efforts to nominate a new panchayat in the village have not been successful. Once, when the *nattar* did resign in an emotional move, a new panchayat was nominated. This proved short-lived—the nattar returned back to power through insidious means. The village has had several meetings with the 64-village cluster to resolve the conflict and unite the village. The *nattar* is not willing to listen to reason.

After the tsunami, in the initial period of relief distribution, all the villagers remained united. The *nattar* was hospitalised because he broke a leg, and therefore could not influence the village much. Within a short time of his return to the village, the factions have re-emerged. Aid towards village development organized by the labour union has been disrupted by the *nattar*. A community/ marriage hall worth about Rs 28 lakh of rupees was to be built in the village. The *nattar* complained to the temple trust owning the village land, which has in turn prohibited the construction of the marriage hall.

The *nattar's* power is maintained by his easy access to the state bureaucracy and the district collector. His sophistication in engaging with outside agencies and people has added to this power. This has increased after the tsunami, with increased interventions by the state and development organizations.

The labour association says that 70 per cent of the *ooru* supported the union before the tsunami, even though they were afraid of the *nattar*. All compensation is being distributed between the two camps, which are serviced by different non-governmental agencies. Most people in the village move between the two camps so that no aid is lost. As a result of this, village affiliations along the conflict lines have become unpredictable.

[16]The village has about 500 fisherfolk. This is now divided into three parts—south, middle and north—to prevent the formations of factions. This has been the consequence of a falling out about 15–20 years ago, when it was agreed that all the three factions will work independently to avoid further conflict. There used to be a *chettiar* and a *nattamayi,* but no longer.

With this split, the village *panchayat* was also dissolved. Thus they claim that there is no formal *panchayat*. There are five *panchayat* members in the south village. These are not official. These *panchayat* members continue their work and there are no nominations or elections. The *panchayat* comes together only if there is a need. They will come together to solve problems, give judgements and then disperse.

The villager we spoke to was quite insistent that there were no formal authority, and that the power he enjoyed was because of his concern for and contribution to the community. He also claimed that one reason why the panchayat is not formal is that the village does not have any income and is poor. Therefore the panchayat only works to solve family problems and does not look into law and order situations.

[17] **The case of P:** P is educated and does not go to fish. In 1965, the new gram panchayat was elected from the village. P's father was the new panchayat leader. At that time, the district collector chose the panchayat leader. P is also called Ravanan. When asked why he has such an unusual nickname, he narrates that his father was greatly influenced by Periyar, and wanted to remove religious superstition. His home was one of the few households that had a radio, and he worked to get electricity and roads to the village. P too is in the gram panchayat and is acquainted with and supported by district officials both within the reve nue department and the police.

He had, through his contacts within the state administration, obtained a lease for a khadi shop from the government. The chettiar did not want him to set up this shop and threatened him. He got the shop despite this. He tried to point out to the *chettiar* that the shop was on *porambokku* (common village land that is lying fallow) land and was not personal property, and that the shop too was government property that he had to lease annually. Therefore there was no reason for objection to his setting up this shop.

The *chettiar* threatened to break down the shop and put it in the sea. In turn, P registered a case with the police station. The police station summoned the *chettiar f*or the enquiry. About 200 people from the village went to the police station in support of the chettiar. In the station, the *chettiar* treated the police inspector with disrespect, who became enraged and ordered a lathicharge on the gathered people. On returning back to the village, they broke the shop and threw it into the sea. They also set his house on fire with his children inside. Relatives rescued the children. They beat up the police photographer. Because he went out of the community to the police, he was placed under *mariyal,* and no one within the village was allowed to interact with him and his family, and they were forced to flee the village.

Finally, the police filed a case against the *chettiar,* and he withdrew. The case was settled in 1990, and the *chettiar* was asked to pay compensation for the destruction of the house. Though the damage amount was close to Rs 75000, the *chettiar* finally agreed to pay Rs 50000. One reason for this was that he worked in the harbour in a central government job and was scared of losing it. P came back to the village in 1998.

[18] **Village O:** O lies at the junction of a river and the sea and therefore has both rich fishing grounds and fertile land. It is the last village lying to the north in the cluster. In 1983, a harbour was constructed and the number of mechanized fishing craft in the village increased. Large numbers of people migrated into the village in the last two decades as crew on these fishing craft. In the village, there is a hamlet of Vanniachis who work as crew on the trawlers and fish in the inland river. However a significant number of members from the same Pattinavar community also work as crew. They are usually poorer and have no fishing craft.

At that time, many of the people working as crew formed a *sangam* (labour union) and asked for a 2 per cent raise in their share of the catch. This was violently suppressed by the fishing craft owner association in the village. The community of labourers did not have the organizing capacity required to hold firm. The labour association maintains that the nature of the village panchayat has changed considerably in the last two decades, with increased domination by fishing craft owners and those with money. This is the only panchayat that is elected and follows electoral party factions.

[19] **Villages E and F:** E and F villages were under the control of one of the religious *maddams* (*ashram*-type establishment), associated with a nearby Murugan temple. The *maddam* was started by a person called Baliar Samy 18 generations ago, or so the story goes. He acted as the *citrarasan* (petty king) and his word was law.

The two villages traditionally used to supply half the catch for the *maddam* as toll. This toll was considered to be a mark of their devotion. They also had to give bags of rice on *guru pooshan* (a Hindu festival day) to the *maddam* (religious institution). The members of the two villages also had to serve the *madam*, and their labour could be commanded when required. The people from the villages had to carry the *samiar* (mendicant) in a palanquin, and undertake any other personal task that he sets them to do. If they were in their houses sleeping at the time when they were called, they would be woken up with burns from hot sticks and made to work. They were restricted from wearing *chappals*, white *dhotis* and watches and from carrying umbrellas, all considered signs of respectability and status. They could not refuse to give fish and rice, work for the *maddam* or violate the restrictions placed on them. The village would pressurise individuals to comply, as it was believed that if they disobeyed, the village would face illness and death.

The larger agrarian village to which these fishing hamlets belong has two other major castes—the Gounders and the Vanniars.

These oppressive practices are changing slowly, though this has been a difficult process. The practice of giving fish was discontinued only two decades ago when the villagers revolted.

Despite the revolution, the *samiar's* influence is still felt in the two villages. To this date, the *nattar* and the panchayat have to refer to the *maddam's* decree to sort out their problems. The *maddam* keeps track of the important happenings in the village; and it is difficult to keep information from them. Thus it was assumed that even the interview for this study would be reported to them immediately.

The land in the village is held by the *maddam* trust. Though this was traditionally village land, it was acquired by the *maddam* as part of a *yagna,* wherein a horse was let loose and all the territories that it covered was appropriated by the *maddam*. Most of the land in the village is now held by the temple trust, and only the *patta*s of a few houses are with the people. Much of this land has been sold to foreigners at large profits, without the consent of the villagers.

The *maddam* threatens the use of physical force even to this date to enforce its writ. It is backed by the 3000 family-strong Vanniar hamlet. Any attempt to resist means the invoking of this force against the fishing hamlet. Narrating an instance, the village is not allowed to carry its dead on the road but instead has to use the seashore. Recently this was not possible because the

topography of the land changed. The villagers carried the dead body on the road. People affiliated to the *maddam* attacked them. The *samiar* has asked for the burial ground to be shifted from its traditional place to one closer to the sea. The villagers are afraid that the sea will erode the ground and expose the buried bodies, but see no option but to comply.

Village F: Though detailed information was not collected in the study about this phenomenon, one example was narrated. As recently as in 2001, one of the families in the village was asked to pay Rs 10000 for installing electricity in its house, because it was on temple land. The son in the family protested. After a struggle for over a year, the panchayat reduced the amount to Rs 4000. It was only after a final threat to involve the whole fishermen's community that the amount was reduced. In this year, the family had no access to electricity and the boy had to study by lamplight for his post-graduation degree.

The village did not have a panchayat for two years before the tsunami. The panchayat members said that it was not necessary to have a panchayat during the regular functioning of the village. Upon closer questioning, it was discovered that there was a conflict between two factions in the village. This has been so bitter that no panchayat has been able to function till the tsunami; the yearly temple festival was organized only two months ago after two years. The panchayat has changed many times in the last year, and *panchayatars* are looked upon with suspicion. It is taken for granted that those who are in the panchayat will use the position to increase their own incomes.

[20] **The case of Village X:** Villagers report that the relief compensation given by the government was only for 148 out of 165 families. About 37 people got left out of the enumeration process. The panchayat reports that the government has enumerated 229 cards in the village, of which they dispensed 148 cards. When this came to the attention of the panchayat, they demanded and received compensation for another 40 cards.

The case of Village Y: There are a total of 331 families in the village. Totally, the relief amount (Rs 4000 + Rs 1000 per month for four months) distributed by the revenue department was for 618 cards. Before the collection of the last instalment, the panchayat changed as a matter of course. While collecting the last instalment for the village, the new panchayat demanded a receipt. The *tehsildar* refused to give them one, which is when they came to know about the inflated numbers.

He questioned their demand saying that if the previous panchayat had been unconcerned about receipts, why should this one bother. He offered Rs 50000 to the current panchayat for not pursuing the issue further. The panchayat refused and shared this information with the village. They finally accepted Rs 40000 under pressure.

When the new panchayat returned to the village and confronted the old members about the distribution of relief, they refused to give accounts for the discrepancies, and then disappeared. The village passed a judgement of mariyal against the head of the old panchayat and the cashier.

They in turn appealed to the head of the district, who imposed a fine of Rs 10000 (instead of the Rs 1 lakh each expected) on 8 members of the old panchayat. Additionally, the new panchayatars were ordered to not ask for accounts or move further on this issue. Threats were issued saying that they will be ostracised from work in the area and that their fishing craft will be towed away by trawlers. Though the people were not willing to accept this judgement, the panchayatars were forced to sign this document.

The old panchayat members also approached the police station in their jurisdiction. The police recorded the statement from the new panchayat members. However when they tried to file a case against the previous panchayat members, the police refused to file the FIR. The police ruled that the old panchayat members will pay a fine of Rs 1000 and then be accepted back in the village. No further action was taken.

The current panchayat members were put in place by the old *panchayatars*. The previous panchayat has experience of the electoral systems and has good relations with the bureaucracy. Some of the new members selected were reluctant to take on this position. They were threatened by the panchayat that if they refused to do so, and then they had to sign a document surrendering their (and their families') rights to be nominated to the panchayat in future. All the people nominated were forced to sign.

Most of the new members selected were people who did not have political experience, were meek and silent in the face of panchayat power, and had mainly concerned themselves with fishing. The panchayat is shaken and the *panchayatars* were unsure about how long their stand would hold out. Of the 11 members in the current panchayat, 2 are part of the families of the old *panchayatars*. They and their *pangali*s (about 100-odd families) have aligned against the current panchayat. The *panchayatar* who narrated this has himself received several death threats. The police have not acted on any of the complaints on these death threats.

The case of village Z: The village was given compensation for 511 families. In the third instalment, the panchayat members found that the list at the ration shop had 813 names. This made them suspicious, leading them to enquire about all the lists once again. The new copies had only 511 people listed as beneficiaries.

Not satisfied, the village organized a *rasta roko* asking about the false numbers listed. State pressure was brought to bear on them and the police were brought in to disperse the protestors. The *panchayatars* and village elders quickly decided to disperse, afraid of an outbreak of violence, especially amongst the youth. Since this public protest, the village has been punished, whereby non-governmental organizations providing disaster support have been redirected to other villages. This is in spite of the fact that the village is one of those with the largest number of fishing craft and one of the largest catches on the coast, as many of the villagers go fishing regularly.

The case of village D: Villagers narrate that the first round of enumeration only included those who lived on the shore. Then the people did a *hartal* (strike), because of which about 1200 more people were included. When asked about the significantly larger figure, the villager said that the larger numbers included people who were not in fishing but worked as skilled labour in the city and were living on premises in the village.

Kanchipuram: To increase state 'commissions', villagers report, a second round of enumeration of fishing craft damage was ordered in Kanchipuram district, more than six months after the tsunami. By this time, much of the debris had been cleared in the

villages and evidence was difficult to show. This issue was discussed in the Kanchipuram district committee of panchayats. At that time, many villages agreed to stand together, resisting this damage assessment. While some villages refused the process of re-enumeration, others permitted it. Those villages that permitted the second round of damage assessment have received complete compensation. Those that resisted it have been punished, and the aid dispensed is very low (e.g., Alambaraikuppam).

[21] Two villages maintained that their damages have been underestimated because they questioned the government about the inflated beneficiary figures. Further, despite heavy loss of life in the former and extensive damage to fishing craft in the latter, no non-governmental aid has been forthcoming. One village has not received any FRP fishing craft, an unusual circumstance when almost all villages have received at least a few fishing craft. This, the villagers believe, is because the state has redirected the voluntary organizations away from these villages as punishment. The only compensation that the village has received from any NGO is a few *kattumarams*

[22] In one village, people who got compensation for the mechanized fishing craft were willing to give Rs 750000 to the village. When asked about the willingness of fishing craft owners to share their compensation, the *panchayatar* commented that these fishing craft had been anchored outside the area and had suffered no damage, except that arising from not being used. These fishing craft owners had requested the panchayat to at least seek Rs 1 lakh each. When they received a compensation of Rs 3.5 lakhs, they had no objections to giving part of it to the village. Of the Rs 2.5 lakhs given to the mechanized fishing craft, one-third was collected by the gram panchayat for the village fund.

[23] In one village, an old gentleman has kept village accounts for 34 years as part of his traditional secretarial role to the panchayat. Part of his functioning included reading accounts out to the *gram sabha* (quarterly, half-yearly and annually) for its scrutiny. He claims that he refused to undertake his role in the village because he did not want to be part of the errors committed then.

[24] **The case of village O:** The current conflict has been precipitated by the way the panchayat has mediated and distributed the compensation that has been received. They remark that the panchayat mostly behaved equitably during the relief dispensation phase. However the labour association claims that most of the benefits of the aid subsequently go to the fishing craft owners and not to the artisanal fisherfolk.

They described this through how fishing craft were distributed. There were 59 mechanized fishing craft and 203 kattumarams allocated to the 1170 families in the village. About 110 kattumarams were originally used to ply between the mechanized fishing craft and the shore, transferring the catch and stocking the fishing craft.

The labour faction of the village demanded that the money given for the *kattumarams* should be divided amongst the families who go as labourers on the trawlers and do not have a fishing craft of their own. The panchayat did not agree to this. One reason is that it will be difficult for the *panchayatars* to find new crew members. In addition, the labourers asked for shares in the compensation paid to the fishing craft owners for the loss of their trawlers, since they were also shareholders in the catch. This request was also denied, saying that these fishing craft were private property and the owner had complete right to the entire compensation amount. When the labour association held to its stand, violence broke out and they had to shift out of the village. One section of the village has left their original homes and settled further down the coast as a separate settlement.

Currently, the panchayat has allocated 127 *kattumarams* to this hamlet and 26 to the Vanniachis, while retaining 50 in the original village. The share of the labour association was however not forthcoming. They in turn called for a 16-village meeting; where the Pallyar panchayat was ordered to pay compensation. The first instalment of this has been distributed amongst all the members of the village.

Further, the *ooru* panchayat only allocated 40 FRP fishing craft promised by a non-governmental organization. Of these only 14 have arrived. These fishing craft were to be shared among groups of 4–5 members in this community. There were too few fishing craft to be shared amongst all the workers.

The *panchayat* itself holds that many of the numbers citied by the labour association are not accurate and are based on accounts delivered by a continuous flow of different aid agencies into Pallyar, which did not include the panchayat in the enumeration process.

The case of village M: In another village too, there is a split with the formation of a labour union. The reason cited is that the panchayat is increasingly unconcerned about the needs of artisanal fishing. This has increasingly become evident post-tsunami, especially during the relief period, when the panchayat was completely unconcerned about their well-being and did not even visit them when they sought shelter in a neighbouring marriage hall for the first three days after the tsunami. The lack of interest by the panchayat members precipitated the formation of the labour association.

The case of village R: Though the village originally maintained that there were no changes in the panchayat after the tsunami, there is some indication that the village was previously divided into two factions. The current panchayat is about three years old. There were 16 members originally, of whom one was asked to step down. The reason given was that he had committed a mistake. When questioned more closely, they indicated that there were two factions in the village. This history of blood feuds, dating back more than 22 months, still continues in the village. The head of the village also acts as the head of the 19-village cluster of Vizhupuram.

Recommendations

Towards Post-tsunami Rehabilitation of Fishing Communities: Recommendations from the *NGO Meeting on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods*, organized by ICSF

Chennai, 17 January 2006

These recommendations were presented at ICSF's "Regional Workshop on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods", held in Chennai on 18 and 19 January 2006

The past year has seen considerable mobilization of aid and diverse interventions towards relief and rehabilitation of tsunami-affected populations in Asia, including fishing communities, who are considered among the worst affected. A little over a year after the tsunami and after taking stock of interventions aimed at rehabilitating fishing communities, we—organizations that have been working with fishing communities for a considerable period of time in Sri Lanka, Indonesia, Thailand and India—wish to emphasize aspects that need to be integrated into the ongoing interventions of governments, multilateral agencies and NGOs.

Land and shelter

1. It is important to urgently resolve issues still hindering completion of permanent housing as part of tsunami rehabilitation, particularly issues of land allocation, after paying special attention to the problems of tenants and the homeless. Where communities decide to relocate, rights to vacated coastal lands should remain vested with the community.
2. Housing sites for fishery-dependent tsunami victims should be located at a convenient distance from areas where fishing communities store fishing equipment, access fishing grounds and dry fish. It is important to ensure common quality standards, use of locally available material and technology, proper habitat planning, basic amenities, equity and the involvement of the fishing community in the reconstruction process.
3. Titles to houses built as part of tsunami rehabilitation should be provided, and should be in the joint names of the woman and the man of the household.

Quality of rehabilitation assistance

4. Tsunami rehabilitation programmes should adopt a broader coastal development approach, and should aim to improve the quality of life and livelihood of coastal communities, including those not directly affected by the tsunami. Particular attention should be paid to historically marginalized communities and victims of conflict.
5. Governments should put in place mechanisms for the maintenance of public utilities provided by donors/NGOs as part of tsunami relief/rehabilitation programmes.
6. Mechanisms for maintaining community assets created post-tsunami, such as auction halls and fish drying and processing facilities, should be assessed, and, where lacking or inadequate, should be established, in participation with communities.
7. Transparent, single-window mechanisms should be set up to register complaints about the quality of the tsunami rehabilitation that has been delivered, as, for example, poor housing and poor-quality boats. Such complaints should be addressed in a timely manner.
8. Regional and other imbalances in the provision of tsunami rehabilitation assistance should be assessed, and equity in access to aid, ensured.
9. Mechanisms for co-ordination of tsunami rehabilitation at different levels, and between

various actors, should be established/ strengthened. Government-NGO partnerships for co-ordination of tsunami rehabilitation should be fostered.

10. Mechanisms to promote accountability of the different actors involved in tsunami rehabilitation—governments, NGOs and others—should be established.

Local institutions

11. Under tsunami rehabilitation, local and traditional institutions should be strengthened, after assessing their roles, potentials and limitations. A coherent and sensitive strategy should be developed to work with them and to strengthen them in the long run.

Protection and restoration of coastal habitats

12. Protection and restoration of coastal habitats and biodiversity should be undertaken on a priority basis and should not be confined to tsunami-affected areas. It is necessary to implement/put in place measures to regulate activities that can pollute, degrade or otherwise harm the coastal environment and its capacity to protect coastal communities from future natural disasters.
13. Habitat restoration programmes in tsunami-affected areas should be undertaken in participatory ways, and should not lead to alienation of communities from coastal lands. The focus of coastal afforestation programmes, such as shelter belts, should be on native, indigenous species, and on building local awareness about their importance.

Fisheries management

14. A scientific assessment to improve understanding about the possible impact of the tsunami on fishery resources and habitats should be undertaken in affected and unaffected areas. There is, for example, reason to believe that even some "unaffected" areas are facing problems of high tides and waves after the tsunami.
15. Further construction and distribution of small-scale fishing vessels as part of tsunami rehabilitation should be undertaken only if there is clear evidence that there has been a shortfall in replacing vessels in particular regions. Where affected persons have not received vessels in a situation of oversupply, mechanisms to provide replacements should be established without further addition to the fishing fleet.
16. Efforts should be made to ensure that appropriate and selective fishing gear compatible with the status of fishery resources are distributed under tsunami rehabilitation programmes.
17. Diversification of fishing activities to target offshore fishery resources as part of tsunami rehabilitation should be undertaken only if there is evidence of resource availability and financial viability of such fishing operations.
18. Replacement of fishing vessels lost to the tsunami that have habitually been targeting fishery resources in the waters of neighbouring countries should be done only after due consultation with stakeholders to lay down conditions of access to such fishery resources.
19. Brackishwater aquaculture and mariculture should be promoted as an alternative source of employment in tsunami-affected areas only after addressing concerns of environmental and social sustainability.
20. Systems for effective registration of craft, gear, engines and fishers should be established to streamline post-tsunami rehabilitation of the fisheries sector and, where appropriate, governments should establish such systems in co-operation with relevant local institutions and NGOs.
21. Participatory programmes to improve and strengthen management regimes for the conservation of fishery resources and protection of fish habitats should be undertaken in the context of post-tsunami rehabilitation programmes. Failures on this account in the past underline the need for greater co-operation amongst fishing communities, departments of fisheries, fishworker organizations, NGOs and scientists.

Sea safety

22. Safety of fishing vessels and fishing operations should be given greater attention under tsunami rehabilitation programmes. Setting standards for boatbuilding and developing awareness among fishers about safety aspects need to be undertaken on a priority basis. Fishers should be imparted sufficient training in basic sea safety in accordance with the draft revised FAO/ ILO/ IMO Fishing Vessel Safety Code and Voluntary Guidelines.

Post-harvest operations in fisheries

23. Tsunami-rehabilitation programmes to support the post-harvest sector should promote labour-intensive, locally appropriate, low-cost technologies of fish processing. The establishment of cold chains should ensure that they benefit, and not displace, the small-scale fish processors and traders.

Insurance, compensation and social security

24. Vessel and crew insurance should be made mandatory for all fishing operations at affordable premia. Social security schemes in tsunami-affected countries, including accident benefit schemes for fishing and other coastal communities, should be developed to enhance long-term resilience and to ensure rapid recovery from disasters. The experiences of State-run systems, commercially run systems and community-managed systems need to be reviewed, to develop systems appropriate to the social, economic and legal environment of each country affected by the tsunami.

Census of fishing communities

25. A periodic census of men and women involved in fishing and fishery-related activities, including migrant fishers, should be undertaken on a priority basis to facilitate proper enumeration and effective compensation during natural calamities, such as a tsunami.

Disaster preparedness

26. Programmes to enhance community-based disaster preparedness and training should be initiated/continued.

Women in fisheries

27. Women of fishing communities engaged in fisheries operations (fishing, marketing processing, etc.) should be recognized as workers in their own right. Tsunami rehabilitation programmes should be tailored to meet their requirements and should aim to improve women's livelihoods, conditions of work, access to resources and social security.

Diversification of livelihood options

28. The quality of education and opportunities for skill development should be enhanced to enable diversification of the livelihood options of tsunami-affected fishing communities.

Appendix 1

REGIONAL WORKSHOP ON POST-TSUNAMI REHABILITATION OF FISHING COMMUNITIES AND FISHERIES-BASED LIVELIHOODS

IMAGE Auditorium, MRC Nagar, R A Puram, Chennai, India

18 and 19 January 2006

PROGRAMME

Wednesday, 18 January 2006	
0830 – 0900 hrs	Registration
0900 – 0945 hrs	Inaugural session: Welcome: Chandrika Sharma, Executive Secretary, ICSF Overview of workshop: V. Vivekanandan, Chief Executive South Indian Federation of Fishermen Societies (SIFFS) and Member, ICSF Inaugural address: Professor A. Vaidyanathan, Economist *Chair: R. Santhanam, Special Commissioner & Commissioner of Revenue Administration, Disaster Management & Mitigation Department, Government of Tamil Nadu, India*
0945 – 1000 hrs	*TEA*
1000 – 1145 hrs	Self-introduction by participants Country reports**:** Presentation/discussion: Indonesia study *Chair: Y. S. Yadava, Director, Bay of Bengal Programme Inter-Governmental Organization (BOBP)*
1145 – 1315 hrs	Country reports**:** Presentation/discussion: Thailand study *Chair: Muhammed Adli, Panglima Laot, Aceh, Indonesia*
1315 – 1430 hrs	*LUNCH*
1430 – 1600 hrs	Country reports**:** Presentation/discussion: Sri Lanka study *Chair: Harekrishna Debnath, Chairperson, National Fishworkers' Forum (NFF), India*
1600 – 1615 hrs	*TEA*
1615 – 1730 hrs	Presentation/discussion: Maldives *Chair: Herman Kumara, Convenor, National Fisheries Solidarity (NAFSO), Sri Lanka*
1730 – 1900 hrs	*RECEPTION*

Thursday, 19 January 2006	
0900 – 1045 hrs	Country reports**:** Presentation/discussion: India study *Chair: Pisit Charnsnoh, Yadfon Association, Thailand*
0945 – 1000 hrs	*TEA*
1100 – 1230 hrs	Presentations by FAO, World Bank and ADB on key priorities in their assistance to the fisheries sector in tsunami-affected countries *Chair: C.V. Sankar, Officer on Special Duty (Relief and Rehabilitation), Government of Tamil Nadu, India*
1230 – 1315 hrs	Recommendations to strengthen ongoing rehabilitation: Presentation and discussion *Chair: Muhammad Imran Amin, Perkumpulan Telapak, Indonesia*
1315 – 1430 hrs	*LUNCH*
1430 – 1600 hrs	Panel discussion on key issues to be addressed in ongoing interventions *Chair: Derek Staples, Senior Fisheries Officer, FAO Regional Office for Asia and the Pacific, Bangkok*
1600 – 1615 hrs	*TEA*
1615 – 1730 hrs	Summary and conclusions: Sebastian Mathew, ICSF; V. Vivekanandan, SIFFS, and Member, ICSF Closure of workshop

Appendix 2

NGO MEETING ON POST-TSUNAMI REHABILITATION OF FISHING COMMUNITIES AND FISHERIES-BASED LIVELIHOODS

YWCA International Guest House, 1086 Poonamallee High Road

Chennai, India

17 January 2006

PROGRAMME

Tuesday, 17 January 2006	
1000 – 1100 hrs	Welcome and introduction: ICSF Self-introduction by participants
1100 – 1115 hrs	TEA
1115 – 1315 hrs	Brief presentations by organizations on their work in tsunami rehabilitation, highlighting good examples and practices *Chair: Elmer Ferrer, CBCRM Resource Centre, Philippines*
1315 – 1415 hrs	LUNCH
1415 – 1515 hrs	Presentations by organizations (contd.)
1515 – 1545 hrs	Presentations of recommendations to strengthen ongoing rehabilitation interventions based on studies undertaken/consultations held *Chair: Herman Kumara, National Fisheries Solidarity (NAFSO), Sri Lanka*
15:45 – 1600 hrs	TEA
1600 – 1800 hrs	Discussions on recommendations: in country groups
1800 – 1900 hrs	Working group meets to finalize recommendations

Appendix 3

NGO MEETING ON POST-TSUNAMI REHABILITATION OF FISHING COMMUNITIES AND FISHERIES-BASED LIVELIHOODS

YWCA, Chennai, India

17 January 2006

REPORT

Participants

Approximately 50 representatives of non-governmental organizations (NGOs) and fishworker organizations from four tsunami-affected countries devastated by the December 2004 tsunami—Indonesia, Thailand, Sri Lanka and India—participated in this one-day meeting. The meeting was organized prior to the *Regional Workshop on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods*, on 18 and January in Chennai, India.

Introductory Session

Inaugurating the meeting, Chandrika Sharma, Executive Secretary of ICSF, said that the objective of the NGO meeting were two-fold:

- to provide an opportunity for participants from various countries to share experiences and learn from one another; and
- to enable participants to agree on basic issues that need to be addressed by ongoing rehabilitation interventions, some of which are likely to be country-specific.

She said that the first session of the workshop was to share experiences and to learn from one another, particularly about good examples and initiatives in the post-tsunami period. In the second session, recommendations that had been culled by the ICSF secretariat from studies commissioned in four tsunami-affected countries—India, Indonesia, Thailand and Sri Lanka—would be discussed.

V. Vivekanandan, Chief Executive, South Indian Federation of Fishermen Societies (SIFFS) and Member, ICSF, said that two kinds of shocks had been experienced—the first was the tsunami disaster itself and the second, the large number of actors, many with no experience of the fisheries sector, who had swamped the area with their interventions. While the scale of the disaster varied across countries, there were several common problems, including issues related to the location of fishing communities, and the poor quality and large numbers of fishing boats that were provided as replacements.

Session 1: Sharing Experiences

Elmer Ferrer of the Community-based Coastal Resources Management Resource Centre (CBCRM RC), Philippines, chaired the session. Brief presentations were made by 21 organizations present at the meeting. The presentations focused on the key interventions undertaken by organizations in the post-tsunami period, and highlighted some good examples of work that had been undertaken.

Jaring Pela, Indonesia

Muhammad Imran Amin of Perkumpulan Telapak (PT), currently the co-ordinator of Jaring Pela, made the presentation. Jaring Pela is a network of Indonesian activists, academics, scientists, practitioners, non-governmental organizations (NGOs), people's organizations (POs) and youth organizations, whose commitments, activities and experiences are towards coping with coastal and marine issues. Its vision is of a community-based coastal resource management that is socially fair and ecologically sustainable. Post-tsunami, the focus has been on rebuilding lost houses. There are many donors and NGOs, yet people complain that the problems they face remain unaddressed. Amin said that there is need to improve marketing linkages in the fisheries sector, and to adopt an integrated fisheries management framework in Aceh. Jaring Pela is recommending the development of a multi-stakeholder agreement on how to develop the fisheries sector from production to marketing.

LEAD, India

The presentation was made by Radha of the League for Education and Development (LEAD). LEAD is a women's initiative that focuses mainly on livelihood promotion for marginalized women, and on promoting the rights of women, children and *dalit*s in India. LEAD forms groups at the grassroot level and networks them to form people's organizations. LEAD has been working in the tsunami-affected areas of Cuddalore and Villupuram districts. Its concentrates on children and livestock—it vaccinated and dewormed over 8,000 heads of cattle. It also provided fishing boats in one village in Cuddalore and one in Villupuram district, and provided seed money to groups of women fish vendors. It found that inland fisherfolk were the most affected by pollution and siltation of estuaries due to the tsunami, and the invasion of marine fishermen into inland fishing. LEAD is working to improve the economic condition of those involved in inland and backwater fisheries, and particularly women vendors from inland communities.

Panglima Laot, Indonesia

The presentation was by Muhammad Adli. The *panglima laot* is a traditional system prevalent in Aceh, Indonesia. The *panglima laot* has historically played a role in conflict resolution. At present the system is prevalent in 153 villages across Aceh. Post-tsunami, the *panglima laot* has played a role in facilitating the work of the government and NGOs in relation to fishing communities. The *panglima laot* has worked with the community in clearing debris, empowering the fishing community, especially the women, rehabilitating the fish market in Lamnyong, aiding census activity in Aceh in September and supporting the peace movement between the Free Aceh Movement and the Government of Indonesia. Adli said that it was a matter of great sadness that even a year after the tsunami, and despite the focus of NGOs and the government on rebuilding Aceh, people still live in tents and face an uncertain future.

Yadfon Association, Thailand

In his presentation, Pisit Charnsnoh, said that the Yadfon Association was working with the philosophy that prevention is better than cure. It had been observed, for example, that the presence of seagrasses, coral reefs and mangroves had reduced the effect of the tsunami. There is need to increase awareness about the importance of coastal habitats even at the primary school level—once children learn to love their habitat, they will protect it. Natural coastal resources not only protect the fishers and their communities but also increase their livelihood opportunities. Yadfon is working to support fishing communities that wish to protect their environment.

DHAN Foundation, India

V. Dayalan of Development of Humane Action (DHAN) Foundation said that DHAN works with organizing communities, downscaling technology and upgrading people's skills. Its focus is on inland fishing communities that are not part of the rehabilitation net. Its thrust is also on information and communication technology (ICT) and on setting up of information centres in villages that can serve as spokes to a central hub. Communities can access information about fishing zones, weather forecasts, technologies, government policies, etc. DHAN is also looking at fisher *panchayat*s and their role in dispute resolution, relief and rehabilitation, habitat construction, marine conservation, and disaster preparedness and management.

TRRC, India

Sibu Mathew explained that the Tsunami Relief and Rehabilitation Co-ordination (TRRC) was initiated by three organizations in Tamil Nadu and Pondicherry. TRRC works with more than 200 NGOs, international NGOs (INGOs) and people's movements. It remains informal in form and structure. TRRC was formed with the objectives of monitoring State relief and rehabilitation activities; influencing relief and rehabilitation policies; and influencing all actors, particularly the State, to demonstrate transparency and accountability. TRRC has organized eight State-level consultations, apart from zonal and district-level consultations. A number of studies have also been taken up and completed. There is an ongoing study on State/NGO/INGO accountability in tsunami relief and rehabilitation. Consultations organized by TRRC have had a major influence on State government orders. TRRC has also successfully drawn the attention of donors and NGOs to the plight of inland fishing communities.

Caritas India/Catholic Relief Services (CRS), India

C. M. Muralidharan of Action for Food Production (AFPRO) provided information about the livelihoods revival programmes of Caritas India/CRS for tsunami-affected populations. The focus was on ensuring sustainable livelihoods. Strategically it was decided to focus only on the traditional sector. Certain practices and principles were followed to avoid duplication of efforts and to ensure sustainability. While providing new craft, for example, quality checks were performed, agreements between the manufacturer and beneficiary were finalized, and compulsory registration and insurance of craft was ensured. Several areas of intervention were identified, including provision of fishing nets, repair of boats and engines, support to fishery-based livelihoods, support to agriculture and agri-based livelihoods, skill development and promotion of alternative livelihoods. Where cash support was provided, it was through self-help groups (SHGs). Long-term measures, including organizing fisherpeople for marketing and economic independence, and promotion of artificial reefs and mangroves for the revival of fisheries are also being considered.

Muralidharan also outlined some of the best practices followed, such as the following: insurance of life and boats in the Pulicat area; supporting joint ownership of boats in villages in Chengalpet, in response to the community's willingness for this; multiple income-generation programmes for women in Cuddalore and Pondicherry; survey of employment opportunities with local potential employers and training for skill development accordingly in Pondicherry area, making fishermen responsible for boat quality assurance in Nagapattinam and compulsory registration of boats and *vallam*s before distribution in Kanyakumari. There were also some concerns about the increase in the number of boats and their variable quality in some areas, and about the fact that resource management interventions were still at a very early stage of planning.

During the discussion, questions about joint ownership of boats were raised. It was pointed out that while joint ownership was accepted in some areas, it was not so in others. Several development organizations preferred to provide boats under group ownership. In Kanyakumari, for example, while the diocese insisted on joint ownership, the fishermen were convinced that it would not work. In such cases, even if the boats are provided to the group, ownership eventually reverts to one individual. Muralidharan also stressed the importance of linkages. In Pondicherry, for example, a group of women who learned tailoring were linked to meet the government's requirement. Without such links, the presence of two or three tailors in a village was not a viable proposition.

Sahara and WALHI, Indonesia

Fauzi Ismail Zainal Abidin of Sahara Foundation and Sag Sofyan of Wahana Lingkungan Hidup Indonesia (WALHI) made a presentation on their project on disaster management and livelihoods development post-tsunami. Its focus has been on soil research for agricultural purposes, and on the environment and community-based disaster management campaigns. Sahara performed participatory village mapping with the community's support to map both natural and human resources, to facilitate rehabilitation. It also provided support for salt manufacturers and crab farmers who were exploiting the existence of the mangrove forests. All the beneficiaries were women. Sahara and WALHI also highlighted some best practices, such as planning with the community in all matters, the community itself determining beneficiaries and identifying its requirements, supporting local wisdom and initiatives, and involving the community in the monitoring and evaluation process.

Urban Poor Consortium (UPC), Indonesia

Muhammad Nawir reported about the Udeep Beusaree Network, a people's organization, in Banda Aceh, Indonesia that made a declaration in March 2005 in response to the government's policy to shift communities beyond 2 km from the beach. The declaration stressed the importance of communities returning to their home villages. The UPC has worked on mapping of site and *kampong* (village) borders with the participation of the community, and on participatory designs for housing. It is working in 24 villages, and constructing a total of 659 units. Sixty per cent of what is spent goes back to the *kampong*, as payment for local labour and materials used. Discussions with the community help in choosing decentralized water and sanitation options. UPC has worked on optimizing the use of existing topography

to provide an escape route during a flood or tsunami. Vegetation is being used to provide connecting links between two public spaces (located at the entrance of the *kampong* and on the other side of the hill), as an easy-to-follow route for escape. UPC stresses that management of construction should be by the people, that there should be collaboration with professionals, and that the rights of the artisanal fishermen should be recognized.

Save Andaman Network (SAN), Thailand

The presentation was made by representatives of SAN. The SAN is an alliance of six people's organizations, public organizations and non-profit organizations. It was formed on 28 December 2004 to provide assistance to coastal communities/villages affected by the tsunami, and to ensure better co-ordination in relief and rehabilitation toward longer-term betterment of livelihoods. SAN is part of the Collaborative Network for the Rehabilitation of Andaman Communities and Natural Resources, which is a National Network under the NGO-Co-ordinating Committee on Development (NGO-COD). The Sustainable Development Foundation (SDF), a registered NGO, serves as the legal entity of both networks. SAN believes in: community revival; direct participation by villagers; turning crisis into opportunity by addressing issues such as land conflict and natural resources management; and sustainable long-term rehabilitation, including by helping communities set up village funds. It works to build the capacity of communities to restore natural resources and ecosystems. SAN also organizes forums to draw out lessons learned from tsunami relief and rehabilitation.

The focus is on long-term rehabilitation, and the network will work with communities for another three years to ensure rehabilitation. Critical issues that have emerged relate to: land conflict, as private landowners came forward post-tsunami to claim lands on which communities had earlier been living; problems of ethnic minorities (sea gypsies) and migrant workers and their lack of access to relief and rehabilitation; and the problems of women and children in accessing relief and rehabilitation. The government plans to relocate fishing communities away from the sea, which goes against the way of life of communities. SAN has supported communities in rebuilding their villages *in situ* on condition that communities construct their own houses.

SAN is trying hard to maintain the social fabric of communities in a context where 'free' aid is creating conflicts. The effort is to ensure that communities also pay back to a community common fund to be used for community activities, such as education. This approach has not been easy, as there are many organizations in the field. A lot of effort has been put into building awareness between receiving the money for free and using that money for community regeneration. This did not happen overnight but over the past one-year period, the positive effects are clearly visible.

National Fisheries Solidarity (NAFSO), Sri Lanka

Herman Kumara of NAFSO said that in the post-tsunami period, Sri Lanka had received considerable aid. The Sri Lankan government had appointed the Task Force for Rebuilding the Nation (TAFREN) to co-ordinate tsunami rehabilitation. However, there was little representation of people's groups or community perspectives in TAFREN. The plan finalized by TAFREN concentrated mainly on megatourism, cities, highways, and commercial harbours. The focus was on shifting communities away from the coast (100 m buffer zone), to facilitate development of tourism. To counter such programmes, several people's movements, labour unions, women's groups and NGOs set up a People's Planning Commission. This commission held consultations in various parts of Sri Lanka, including with communities, NGOs, INGOs and church groups. Based on these inputs, the commission has finalized an alternative people's plan for tsunami rehabilitation. This will also be presented to the government. In place of TAFREN, the government has now created a new body, and there are plans to have a dialogue with this body.

In response to a question on the current situation regarding the buffer zone, Kumara said that though there has been no clarification on the issue, communities are, in some cases, rebuilding, while others are still waiting. In some cases, the buffer zone has been reduced as a result of people's pressure.

CARE, India

In her presentation, Meera Sundararajan said that CARE is a humanitarian aid agency that has been working in India for a long time. CARE works on

savings and credit, and children. Post-tsunami, CARE has been working in Cuddalore, Kanchipuram, Nagapattinam and Karaikal districts of Tamil Nadu, with local partners. It has made two primary interventions—in the areas of water and sanitation, and psychosocial care and support. It has looked at sanitation issues in temporary shelters, and the cleaning and repair of water bodies. It has built temporary shelters and trained women to use toilets. In psychosocial care, it has been working with the National Institute of Mental Health and Neurosciences (NIMHANS) in mainstreaming psychosocial care and support. Short-term interventions for improving livelihoods have included cash-for-work programmes, training, and repairing and restoring community facilities. CARE is also constructing about 2,000 permanent houses. The focus has been on shelter aspects and involving the community in designing houses. Women have been consulted, which has led to changes in building layout, such as the location of doors and toilets. CARE intends to focus on vulnerable groups including *dalit*s, *irula*s, crew and women-headed households. CARE has strategically decided not to replace boats and nets, and rather, focus on shelter.

ActionAid, India

In his presentation, Amar Jyoti said that ActionAid India had worked to address the immediate needs of people in relief and rehabilitation, partnering with 25 organizations along the coast. It believes that livelihood and shelter are closely linked issues, and so there is a need to question the government order according to which communities would not be supported to reconstruct their houses in the 0-200-m zone, even though fishing communities had traditionally lived on these lands. ActionAid India was drawing attention to the problems being created by relocating fishing communities far from their original hamlets. In Chennai, for example, communities had been resettled at a location that was completely flooded during the recent rains. ActionAid India supports *in situ* reconstruction, as in Sadraskuppam, where it is helping in the *in situ* reconstruction of 63 houses. ActionAid India is partnering with organizations for rebuilding houses, where the focus is on retrofitting and repair to increase safety. Amar also drew attention to the tensions emerging between the old and the new owners of craft, and the possible impact on social relations. ActionAid India is concerned that the oversupply of boats will lead to marginalization of artisanal fisheries. The organization is trying to develop alliances between groups such as *dalits*, tribals and artisanal fishers, to prevent the exploitation of natural resources.

South Indian Federation of Fishermen Societies (SIFFS), India

V. Vivekanandan introduced SIFFS as an apex organization of 6,000 small-scale boatowning fishermen, employing 25,000 fishermen, and organized into 100 primary societies. SIFFS and its members were affected by the tsunami in various ways. Post-tsunami, SIFFS found itself as the largest NGO on the coast, despite having a presence in only four of the eight affected districts of Tamil Nadu. Since SIFFS had a presence in Nagapattinam and Kanyakumari, the two worst-affected districts, it was decided to focus activities there, apart from providing limited support to other areas. SIFFS played five roles in the rehabilitation process: (i) as a direct provider of relief and rehabilitation; (ii) as a service provider to others involved in relief and rehabilitation; (iii) as a partner with NGOs working in other sectors, such as agriculture; (iv) in co-ordination of relief and rehabilitation; and (v) in long-term development activities. As a direct provider, SIFFS set up relief camps in Kanyakumari and Nagapattinam. Perhaps 60 per cent of boat repairs along the coast were done by SIFFS. SIFFS worked for the restoration of livelihoods, including the provision of boats, nets and working capital and has begun construction of over 2,000 houses in two districts under the public-private partnership process with the Tamil Nadu government. As a service provider, SIFFS has manufactured boats and also helped in supply of engines to other NGOs. The organization has set up boatbuilding facilities to ensure availability of quality boats at reasonable prices. SIFFS has also worked with other NGOS in sectors such as agriculture (including with the organic farmers movement), and to support relief activities to *dalit* and Muslim families and women's groups for post-harvest activities. In its co-ordination role, SIFFS has been instrumental in setting up the NGO Co-ordination and Resource Centre (NCRC) in Nagapattinam and the Kanyakumari Rehabilitation

Resource Centre (KRRC) in Kanyakumari. SIFFS also links with the resource centre in Auroville, for Villupuram district. SIFFS has also set up centres in Tirunelveli, Tuticorin, Chennai, Kollam in Kerala, and TRINet (Tsunami Rehabilitation Information Network) to co-ordinate information flow in Chennai. SIFFS is using the tsunami to pursue long-term development work among the fisherfolk in the affected area, and has started new societies in Nagapattinam and Pondicherry, new boatyards, repair centres, ice plants, and so on. SIFFS has also come up with new boat models for offshore fishing with inboard diesel engines, and a new canoe model for inland fishermen.

Practical Action (formerly ITDG), Sri Lanka

The presentation, by Erwin Crishantha Rathnaweera highlighted some of key issues with regard to replacement of fishing vessels and gear, that is: supply of fishing vessels that were not seaworthy, and oversupply of fishing vessels; conflicts among fishermen; corruption and bureaucracy in selection of beneficiaries; and a lack of long-term orientation. Practical Action works towards providing appropriate technology options, and promotes an approach that recognizes consultation and participation, specific needs of communities, concerns about environment, disaster preparedness, sensitivity to conflict and the needs of people with disabilities. Apart from boatbuilding and housing, key areas of interventions have included community-based coastal resources management, micro-enterprises, waste management, ecosanitation, cycle-based transport options and rainwater harvesting.

Given the various kinds of conflicts between fishermen, such as between lagoon and marine fishermen and between owners and crew, Practical Action adopted an approach to consult people to design and build their own boats. It identified the type of boats used by the community after realizing that many organizations had donated boats not suitable for local conditions. Information about designs provided by the community was then verified with the government. Practical Action has trained the community in boat manufacture—this helped in avoiding duplication of boats. This approach was also used in other sectors such as housing and infrastructure development.

Responding to a question, Rathnaweera explained that the people in a community who are already undertaking boat repairs are identified and trained for two to three days to build new fibre-reinforced plastic (FRP) boats, under the guidance of a technically qualified person. The trainers prepare the moulds. The marine engineer with the fisheries department is requested to check the quality of boats, mainly aspects such as the quality of fibre used, the number of layers, etc. No standards have been set by the Fisheries Department for boat design. Practical Action has so far built about 235 boats in the northern, southern and eastern regions of Jaffna through pilot projects.

SNEHA, India

Kumaravelu said that Social Need Education and Human Awareness (SNEHA) is an organization working in the coastal villages of Nagapattinam. SNEHA has been working with children, to organize SHGs, people's movements, co-operatives, unions, etc. Post-tsunami, it has focused on shelter issues and has supported the repair/reconstruction of 7,150 houses. It has provided seed money for carrier autorickshaws and income-generating activities, and care and psychosocial support for orphaned children. It has also been engaged in various campaigns against tourism development and the Sethusamudram Ship Canal Project. SNEHA's basic emphasis is on protecting the rights and livelihoods of fishworkers, especially their rights to traditional habitats on the coast. SNEHA is part of the Coastal Action Network.

Coastal Campaign, Norway

Gunnar Album of Coastal Campaign, Norway said that he is currently working with a coalition of fisheries organizations in Sri Lanka. He pointed out that there is little reliable information about the size of the fishing fleet in Sri Lanka after the tsunami. Even estimates of the number of canoes destroyed, for example, have increased over time, as have the number pledged as replacements. It appeared that the numbers reflect what could be donated rather than how many were actually destroyed. There were also problems with incorrect distribution—for example, lagoon canoes were donated to marine fishermen. There was great competition amongst INGOs and local NGOs. There is likely to be an oversupply of about 2,000 FRP boats. Given that many of the boats being given as

replacements were of poor quality, it was difficult to say how many will actually survive. It was also difficult to say why co-operatives accepted poor-quality boats. Album said that most of Coastal Campaign's work was in the north and northeast of Sri Lanka, and focused on boat and engine repair.

Muslim Women's Research and Action Forum (MWRAF), Sri Lanka

Mohamed Sally Jaleel said that MWRAF has been working on behalf of Muslim women, empowering them by providing livelihood training and financial assistance. Though women play an important role in fisheries, the compensation amounts distributed as tsunami relief were handed over to the men, and no help given to the women who were actually managing the families. MWRAF is working to help women manage savings and to organize livelihood interventions. Prior to the tsunami, ownership of boats had been concentrated in a few hands. MWRAF has, therefore, worked to identify and organize fishermen who had worked on a daily-wage basis, and has helped them to get boats. In addition, it has provided other services. The government's policy on the 200-m buffer zone is a major problem, and INGOs and donors are reluctant to rebuild in this zone. MWRAF, a member of NAFSO, is currently campaigning to get this decision changed. Most of the relief assistance is going to politically well-connected people, as international agencies insist on official letters from government agencies before giving aid. Thus, some people have received two boats, while others who actually lost boats, are finding it difficult to obtain even the letters. MWRAF is trying to assist such persons who have been left out, to enable them to develop their livelihoods.

Centre for Marine and Fishery Studies, Syiah Kuala University, Banda Aceh, Indonesia

The Centre for Marine and Fishery Studies has taken up projects in co-operation with Oxfam, the University of Hamburg, Germany, the Worldfish Centre and the Coral Reef Degradation in the Indian Ocean (CORDIO) project, said Syamsul Rizal, a professor at the Centre. The progress of reconstruction in Aceh after the initial three months has been slow. Through the Oxfam project, women and men have been supported with boats, canoes and fishing gear in Aceh Jaya and Pidie. Cottage industries for women have also been supported. Rizal raised concerns about the small-mesh nets being used by women in Pidie to catch shrimp in rivers. There was a need to shift fishing pressure to deeper waters, he said.

Bina Aneuk Nanggroe, Indonesia

Muchtar Rodi Basyari Ibrahim explained that Bina Aneuk Nanggroe works in Aceh, Indonesia. It is supported by Oxfam and USAID for cash-for-work projects. Through the Oxfam project, it is building 50 boats, co-operating with a cluster of villages and working with a system of revolving funds. It is planning to distribute microcredit on a daily recovery basis, focusing on fish vendors and small traders. Money will be given without any interest, according to Islamic principles. This is being planned for Pidie district under Banda Aceh, starting with 100 people. The organization is also working to rebuild schools destroyed or damaged by the tsunami.

National Fishworkers' Forum (NFF), India

T. Peter of NFF stressed that NFF was a political organization not involved directly in rehabilitation activities. It had joined hands with NGOs to protest against the forcible eviction of fishers from the 200-500-m coastal zone, stressing the right of fishing communities to the zone and the need to protect it from tourism and other interests. NFF had worked through its member unions in the States of Tamil Nadu, Kerala and Andhra Pradesh. NFF was also extremely concerned about the long-term impact of the tsunami on fish habitats and coral reefs, and was stressing the need for a comprehensive and scientific study. NFF was also stressing the need for fisher organizations, NGOs, trade unions, the scientific community, and the government to evolve a joint plan to make use of tsunami funds.

Session 2: Recommendations for post-tsunami rehabilitation of fishing communities

This session was chaired by Herman Kumara of NAFSO. He requested V. Vivekanandan to present the draft recommendations that had been prepared by the secretariat, based on the studies that had been undertaken in four countries on the post-tsunami situation of fishing communities. After the

recommendations were presented, participants broke into country-based groups to discuss them, as well as to discuss country-specific issues that would need to be highlighted. The rapporteurs of each country group met at the end of the discussion to integrate into the general recommendations, issues arising from country-specific discussions. It was agreed that country-specific recommendations would be presented after the presentation of study reports at the *Regional Workshop on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods* on 18 and 19 January 2006.

Appendix 4

Regional Workshop on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods

FIELD TRIP TO VILLUPURAM AND NAGAPATTINAM

20 to 22 January 2006

PROGRAMME

Day 1:	*Friday, 20 January 2006*
1045 – 1300 hrs	Visit to Auroville – Aurolec/Centre for Scientific Research (CSR) a. Introduction to alternative building technologies b. Introduction to renewable energy programme
1300 – 1400 hrs	*LUNCH*
1400 – 1600 hrs	Visit to Auroville (contd.) a. Exposure visit to eco-restoration and watershed sites b. Introduction to Auroville Tsunami Rehabilitation Project
1600 – 1615 hrs	*TEA*
1615 hrs 2200 hrs	Departure for Nagapattinam Arrival at Nagapattinam
Day 2:	*Saturday, 21 January 2006*
0900 – 1100 hrs	Presentation on the efforts of Nagapattinam district administration towards tsunami relief and rehabilitation *by J. Radhakrishnan, District Collector, Nagapattinam*
1100 – 1230 hrs	Visit to SNEHA, an NGO working in Nagapattinam a. Presentation on the post-tsunami activities of SNEHA
1230 – 1400 hrs	Visit to Akkarapettai, a fishing village a. Interaction with members of self-help groups
1400 – 1500 hrs	*LUNCH*
1500 – 1800 hrs 1800 – 2000 hrs	Visit to Village Information Centre Visit to NGO Co-ordination and Resource Centre (NCRC)
Day 3:	*Sunday, 22 January 2006*
0730 - 0900	Visit to Tharangambadi fishing village a. Visit to fish-landing centre b. Visit to SIFFS society c. Visit to SIFFS housing reconstruction site
0900 – 0930 hrs	*BREAKFAST*
0930 – 1030 hrs 1030 hrs	Overview of SIFFS housing reconstruction programme *by Benny Kuriakose* Departure to Chennai

Appendix 5

Regional Workshop on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods

IMAGE Auditorium, MRC Nagar, R A Puram, Chennai, India

18- 19 January 2006

LIST OF PARTICIPANTS

INDIA

1. A. G. Gopalakrishnan
   Scientist (Fisheries)
   M.S. Swaminathan Research Foundation
   3rd Cross street
   Institutional area, Taramani
   Chennai 600 113
   Tamil Nadu
   INDIA
   Tel: + 91 44 22542698
   Fax: + 91 44 22541319
   Email: ag_krishnan@yahoo.com

2. Ahana Lakshmi
   TRINET, C/o Bhoomika Trust
   Flat No. 3A, Third Floor
   New No. 40/Old No.12
   Murrays Gate Road
   Alwarpet
   Chennai 600 018
   Tamil Nadu
   INDIA
   Tel: + 91 44 24981967
   Mobile: + 91 44 9840740404
   Email: info.trinet@gmail.com
   ahanalakshmi@gmail.com

3. Amar Jyoti
   ActionAid India
   Chennai Regional Office
   No.23, West Park Road
   Near Shenoy Nagar Post Office
   Shenoy Nagar
   Chennai 600 030
   Tamil Nadu
   INDIA
   Tel: + 91 44 26191620
   Fax: + 91 44 26191621
   Email amarn@actionaidindia.org

4. Annie George
   Chief Executive Officer
   NGO Coordination and Resource Center (NCRC)
   31, Mahalakshmi Nagar
   South Palpannaichery
   Nagapattinam 611 001
   Tamil Nadu
   INDIA
   Tel: + 91 4365 252618
   Mobile: +91 9345400074
   Emailinfo.ncrc@gmail.com
   annie.anniegeorge@gmail.com

5. Anuradha Vidyasankar
   Tamil Nadu Tsunami Resource Centre (TNTRC)
   No.5, Sivaganga Road
   Nungambakkam
   Chennai 600 034
   Tamil Nadu
   INDIA
   Tel: + 91 44 2826 4141
   Fax: + 9144 2826 6161
   Email anuradha.vidyasankar@tntrc.org

6. Arul Das
   Unorganised Workers Federation
   No. 39, Dr.Alaggappa Road
   Purasawakkam
   Chennai 600 084
   Tamil Nadu
   INDIA
   Tel: + 91 44 26650544 / 55471562
   Email: nmps@eth.net

7. Anthony Benchilas
South Indian Federation of Fishermen Societies (SIFFS)
Karamana
Thiruvananthapuram 695 002
Kerala
INDIA
Tel: + 91 471 2343711
Fax: + 91 471 2342053
Email: anthony@siffs.org

8. B. Subramanian
South Indian Federation of Fishermen Societies (SIFFS)
12, Dhanalakshmi Avenue
3rd Cross Street, Kasturba Nagar
Adyar,
Chennai 600 020
Tamil Nadu
INDIA
Tel: + 91 44 42117680
Mobile: + 91 9840942555
Email: bsk_04@rediffmail.com

9. C.M. Muralidharan
Unit Manager
Action for Food Production (AFPRO) Task Force
Plot No. HP-8, BDA Locality
Laxmi Sagar
Bhubaneswar 751 006
Orissa
INDIA
Tel: + 91 674 2571465 / 2572194
Email: cmmuralidharan@afpro.org

10. Devyani Chakrabarti
School of Architecture and Planning
Anna University
Sardar Patel Road
Chennai 600 025
Tamil Nadu
INDIA
Mobile: + 91 9840753787
Email: gdevyanioo@yahoo.co.in

11. Harekrishna Debnath
National Fishworkers' Forum (NFF)
20/4, Sil Lane
Kolkata 700 015
West Bengal
INDIA
Tel: + 91 3216 221769
Fax: + 91 33 2328 3989
Mobile Tel: +91 9434039599
Email: nffcal@cal3.vsnl.net.in

12. H. Mohamad Kasim
Principal Scientist and Officer-in-Charge
Central Marine Fisheries Research Institute (CMFRI)
75, Santhome High Road
Chennai 600 028
Tamil Nadu
INDIA
Tel: + 91 44 24617264
Fax: + 91 44 24617290
Email: chcmfri@md3.vsnl.net.in

13. K.M. Parivelan
Tamil Nadu Tsunami Resource Centre (TNTRC)
No.5, Sivaganga Road
Nungambakkam
Chennai 600 034
Tamil Nadu
INDIA
Tel: + 91 44 2826 4141 / 2826 5151
Fax: + 91 44 2826 6161
Email: k.m.parivelan@yahoo.uk

14. K. N. Tamil Kumar
Tamil Nadu Tsunami Resource Centre (TNTRC)
No.5, Sivaganga Road
Nungambakkam
Chennai 600 034
Tamil Nadu
INDIA
Tel: + 91 44 2826 4141 / 2826 5151
Fax: + 9144 2826 6161
Email: tamil.kumar@tntrc.org

15. Kumaravelu
Trade Union Coordinator
SNEHA
30, Kariangudi Chetty Street
Velippalayam
Nagapattinam 611 001
Tamil Nadu
INDIA
Tel: + 91 4365 248622
Fax: + 91 4365 248675
Email sneha_kmb@sancharnet.in

16. Meera Sundararajan
Manager (Monitoring and Evaluation)
CARE - India
New No. 27 (Old No.17)
Nagendra Nagar
Chennai 600 042
Tamil Nadu
INDIA
Tel: + 91 44 55143770
Fax: + 91 44 22447592
Email: msundararajan@careindiatn.org

17. M. Subbu
Construction Workers Building Centre
7/R-86, Muthamil Nagar
Chennai 600 118
Tamil Nadu
INDIA
Tel: + 91 44 55449903
Email: msubbu_cwbc@vsnl.net

18. N.B. Gomathy
Freelance Consultant
603, Bahar Doordarshan Apartments
Gokuldham, Goregaon (East)
Mumbai 400 063
Maharashtra
INDIA
Mobile: + 91 44 28203782
Email: gomdzilla@yahoo.com

19. N. D. Koli
National Fishworkers' Forum (NFF)
13/2, Pitru Smruti
239 L.J.Road, Mahim
Mumbai 400 016
Maharashtra
INDIA
Tel: + 91 22 24363398
Fax: + 91 22 24324729
Email: flametech@vsnl.net

20. N. Hariharan
B-10, Hiranya Apartments
68 Greenways Road
Chennai 600 028
Tamil Nadu
INDIA
Tel: + 91 44 42303279
Mobile: +91 9841238055
Email: indiaincforum@yahoo.com

21. N. Radha
Executive Director
LEAD (League for Education and Development)
No. 40, First Street, Sri Ramapuram
Tiruchirappally 620 006
Tamil Nadu
INDIA
Tel: + 91 431 2432803
Fax: + 91 431 2432521
Email: radha_lead@satyam.net.in
radha_lead@hotmail.com

22. N.V. Arun
School of Architecture and Planning
Anna University
Sardar Patel Road
Chennai 600 025
Tamil Nadu
INDIA

23. Prashant Hedao
Planning Coordinator
Auroville Tsunami Relief and Rehabilitation Project
Aurelec
Auroville 605 101
Tamil Nadu
INDIA
Tel: +91 413 2622297 / 2622184
Email: prashant@auroville.org.in

24. P. Thaddeus Koriya
South Indian Federation of Fishermen Societies
(SIFFS)
Karamana
Thiruvananthapuram 695 002
Kerala
INDIA
Tel: + 91 471 2343711
Fax: + 91 471 2342053
Email: thaddeus@siffs.org

25. P. Ramalingam
Samudra Theera Matsya Karmikula Union
PO- Madanoor
Via- Eethamakala
Dist- Prakasham 523280
Andhra Pradesh
INDIA
Tel: + 91 8592 232008
Mobile: +91 9440359338
Email: snird_org@yahoo.com

26. P. Thamizholi
M.S. Swaminathan Research Foundation
3 rd Cross Road, Institutional area
Taramani
Chennai 600 113
Tamil Nadu
INDIA
Tel: + 91 44 22541229
Email: thamizoli@mssrf.res.in

27. Ram Mohan
NGO Coordination and Resource Centre (NCRC)
31, Mahalakshmi Nagar
South Palpannaichery
Nagapattinam 611 001
Tamil Nadu
INDIA
Tel: + 91 4365 252579
Mobile: + 91 9341220210
Email: rammohan1948@gmail.com,
info.ncrc@gmail.com

28. Saravanan
Auroville Tsunami Relief and Rehabilitation
Aurelec
Auroville 605 101
Tamil Nadu
INDIA
Tel: +91 413 2622297
Mobile: +91 936050343
Email: avtsunami@gmail.com

29. S. Karuppa Swamy
Ramnad District Fisworkers' Trade Union
No.-7 North Street
Near SVM Petrol Bunk
Valipattinam
Ramanathapuram 623 504
Tamil Nadu
INDIA
Tel: + 91 4567 229072
Mobile: + 91 9443862360

30. S. Sajith
South Indian Federation of Fishermen Societies (SIFFS)
Karamana
Thiruvananthapuram 695 002
Kerala
INDIA
Tel: + 91 471 2343711
Fax: + 91 471 2342053
Email: sajith@siffs.org

31. Satish Babu
South Indian Federation of Fishermen Societies (SIFFS)
Karamana
Thiruvananthapuram
Kerala 695 002
INDIA
Tel: + 91 471 2343711
Mobile: +91 9447027274
Fax: + 91 471 2342053
Email: satish.inapp@gmail.com

32. Shanti Doraisamy
TRINET
C/o Bhoomika Trust
Flat No. 3A, Third Floor
New No. 40/Old No.12
Murrays Gate Road
Alwarpet
Chennai 600 018
Tamil Nadu
INDIA
Tel: + 91 44 24981967
Mobile: +91 9840261240
Email: info.trinet@gmail.com,
shantiduraisamy@yahoo.com

33. Sibu Mathew
Tsunami Relief & Rehabilitation Coordination (TRRC)
6, Vallabhai Road
Chokkikuklam
Madurai 625 002
Tamil Nadu
INDIA
Tel: + 91 9842128521
Email: louis@pwtn.org

34. Sithara Khan Azad
First Secretary
Sri Lankan Deputy High Commission
196, TT K Road
Alwarpet
Chennai 600 018
Tamil Nadu
INDIA
Tel: + 91 44 24987896
Fax: + 91 44 24987894
Email: sldhcchennai1@vsnl.net

35. S.R. Kalavathy
Unorganised Workers Federation
No. 39, Dr.Alaggappa Road
Purasawakkam
Chennai 600 084
Tamil Nadu
INDIA
Tel: + 91 44 26650544
Mobile: + 91 9444050071

36. T. K. Rahiman
A.P. Traditional Fishworkers' Union
Door No. 2-11-7
Shiva Ganesh Nagar (Near Apughar)
Visakhapatnam 530 017
Andhra Pradesh
INDIA
Mobile: +91 9849286467
Email: thanks506@yahoo.com

37. T. Peter
Kerala Independent Fish Workers Federation (KSMTF)
Cherureshmi Centre
Valiyathura P.O.
Thiruvananthapuram 695 008
Kerala
INDIA
Tel: +91 471 2505216
Email: ksmtf@keralafishworkers.org

38. T. Peter Das
Tamil Nadu Fishermen Union
13/2 Kesari Street (1st floor)
Nagercoil 629 001
Kanyakumari
Tamil Nadu
INDIA
Tel: + 91 4652 278188

39. V. Dayalan
Team Leader
Development of Humane Action (DHAN)
23, West Park Road
Shenoy Nagar
Chennai 600 030
Tamil Nadu
INDIA
Tel: + 91 44 22581849
Mobile: +91 9444063195
Email: dhan_foundation@eth.net

40. Venkatesh Salagrama
Integrated Coastal Management (ICM)
64-16-3A Pratap Nagar
Kakinada 533 004
Andhra Pradesh
INDIA
Tel: + 91 884 2364851
Fax: +91 884 2354932
Email: vsalagrama@gmail.com,
icm_kkd@satyam.net.in

41. V. Vivekanandan
Chief Executive
South Indian Federation of Fishermen Societies (SIFFS)
Karamana
Thiruvananthapuram 695 002
Kerala
INDIA
Tel: + 91 471 2343711
Mobile: +91 9847084840
Fax: + 91 471 2342053
Email: vivek@siffs.org

42. V. Sampath
Senior National Consultant
Fisheries Project
United Nations Development Programme
Orissa Hub, UN House II
256, Forest Park
Bhubaneswar 751 009
Orissa
INDIA
Tel: + 91 674 2595850 / 2595851
Fax: + 91 674 2595254
Email: samadhwaith@gmail.com

43. V. S. Bahadur
ActionAid India
Chennai Regional Office
No.23, West Park Road
Near Shenoy Nagar Post Office
Shenoy Nagar
Chennai 600030
Tamil Nadu
INDIA
Tel: + 91 44 26191620
Fax: + 91 44 26191621
Mobile: +91 9444402195
Email: bahadurs@actionaidindia.org

GOVERNMENT OF ANDHRA PRADESH

44. P. Sundara Kumar
Commissioner of Fisheries
Government of Andhra Pradesh
Matsya Bhavan, Animal Husbandry Compound
Shanthi Nagar 4th Main Street, Masab Tank
Hyderabad 500 028
Andhra Pradesh
INDIA.
Tel: + 91 40 23308585
Email: comfish@pol.net.in

GOVERNMENT OF TAMIL NADU

45. R. Santhanam
State Relief Commissioner
(Special Commissioner and Commissioner of Revenue Administration)
Disaster Management and Mitigation Department
Government of Tamil Nadu
Chepauk
Chennai 600 005
Tamil Nadu
INDIA
Tel: + 91 44 28523299/ 25361556
Fax: + 91 44 28546624 / 28511593 / 28511594
Email: rsanthanam@tn.nic.in

46. C. V. Sankar
Officer on Special Duty (Relief and Rehabilitation)
Government of Tamil Nadu
Chepauk
Chennai 600 005
Tamil Nadu
INDIA
Tel: + 91 44 55515898
Fax: + 91 44 28411654
Email: relief@tn.nic.in

47. Dharmendra Pratap Yadav
Director of Fisheries
Directorate of Fisheries
Government of Tamil Nadu
New Administrative Office Building
DMS Campus
Chennai 600 006
Tamil Nadu
INDIA
Tel: + 91 44 2432 0791
Fax: + 91 44 2433 5585

48. S. Noorjahan Beevi
Directorate of Fisheries
Government of Tamil Nadu
New Administrative Office Building
DMS Campus
Chennai 600 006
Tamil Nadu
INDIA
Tel: + 91 44 2432 0199
Fax: + 91 44 2433 5585

GOVERNMENT OF INDIA

49. Amarjit Banga
Director (FE&Fy Coord)
Department of Animal Husbandry, Dairying & Fisheries
Ministry of Agriculture
Room No: 346A, Krishi Bhawan
Dr Rajendra Prasad Road
New Delhi 110 001
INDIA
Tel: + 91 11 23097012
Fax: +91 11 23097012
Email: dirfy@nic.in, aj_banga@hotmail.com

INDONESIA

50. Fauzi Ismail Zainal Abidin
Sahara Foundation
Jl. Mesjid No 30 C
Lhoksuemawe 24352
INDONESIA
Tel: + 62 645 43562
Fax: + 62 645 43562
Email: sahara.aceh@telkom.net

51. Hilde Janssen
Independent Journalist
Jl. Kemang Raya 79A
Jakarta Selatan 12730
INDONESIA
Tel: + 62 21 71793221
Mobile: +62 812 9507247
Fax: + 62 21 71793221
Email: hjanssen@cbn.net.id

52. Muchtar Rodi Basyari Ibrahim
Bina Aneuk Nanggroe
Jl. Prof. A. Madjid Ibrahim
No. 15, Simpang Lingkar Sigli
Tijue
Pidie
INDONESIA
Tel: + 62 653 23615
Email: lsm_banna@telkom.net

53. Muhammad Adli Abdullah
Secretary, Pangalima Laot Aceh
(Traditional Institution of Fishing Community in Aceh)
Jl. T. Nyak Arief No. 25-26
A Pasar Lamnyong
Banda Aceh, Aceh
INDONESIA
Tel: + 62 651 7409692
Fax: + 62 651 635608
Email: dekpon_p5laot@yahoo.com

54. Muhammad Imran Amin
Jaring Pela/Telepak
Perkumpulan Telapak
Jl. Palem Putri III No. 1-3,
Taman Yasmin V, Bogor
West Java,
INDONESIA–16112
Tel: + 62 251 715 9902
Fax: + 62 251 753 7577
Email: ranamin@telapak.org

55. Muhammad Nawir
Urban Poor Linkage (Uplink)
Urban Poor Consortium
(Konsorsium Kemiskinan Kota)
Komplek Billymoon Blok H1-7
Pondok Kelapa East Jakarta 13450
INDONESIA
Tel: + 62 21 8642915/ 86902407
Fax: + 62 21 86902408
Email:upc@centrin.net.id, seknas@uplink.or.id

56. Sag Sofyan
Wahana Lingkungan Hidup Indonesia (WALHI)
Tegal Parang Utara No 14
Jakarta 12790
INDONESIA
Tel: + 62 21 794 1672
Fax: + 62 21 794 1673
Email: sofyan@walhi.or.id, eyanks@telkom.net

57. Syamsul Rizal
Center for Marine and Fishery Studies
Universitas Syiah Kuala
Gedung KPA
Unsyiah Darussalam
Banda Aceh
INDONESIA
Tel: + 62 651 7428680
Mobile: +62 85260248440
Email: rizalsyamsul@gmail.com

GOVERNMENT OF INDONESIA

58. Saut P. Hutagalung
Director of Planning and International Cooperation Bureau
Ministry of Marine Affairs and Fisheries
Jl. Medan Merdeka Timur No. 16
Jakarta Pusat
INDONESIA
Tel: + 62 21 3520337
Fax: + 62 21 3520337
Email: rorendkp@yahoo.com

MALDIVES
GOVERNMENT OF MALDIVES

59. Fathimath Shafeega
Assistant Director
Ministry of Fisheries
Agriculture and Marine Resources
Ghazee Building, Ground floor
Ameer Ahmed Magu, Male'
MALDIVES
Tel: + 960 33 22625 / 3316340
Fax: + 96 - 0 – 3326558
Email: fathmath.shafeega@fishagri.gov.mv

PHILIPPINES

60. Elmer M. Ferrer
CBCRM Resource Center
University of The Philippines
13 A, Maaralin Street, Barangay Central
Diliman, Quezon City
PHILIPPINES
Tel: + 63 2 9203368
Fax: + 63 2 929 24 77
Email: emferrer2002@yahoo.com,
emferrer@cbcrmlearning.org

SRI LANKA

61. Augustine Sosai Siluvaitharsan
Department of Geography
University of Jaffna
10/2, A, Sivankovil Road
Kantharmadam
Jaffna
SRI LANKA
Tel: + 94 21 2225317
Fax: + 94 21 2222936
Email: assoosai@yahoo.co.in

62. Erwin Crishantha Rathnaweera
Intermediate Technology Development Group (ITDG)
South Asia, Practical Action
No. 5, Lionel Edirisinghe Mawatha
Kirulapone
Colombo 5
SRI LANKA
Tel: + 94 11 2829 412
Fax: + 94 11 2856188
Email: itdg@itdg.slt.lk, erwinr@itdg.slt.lk

63. Jayantha Rathnakumara Gunasekera
Intermediate Technology Development Group (ITDG)
South Asia, Practical Action
No. 5, Lionel Edirisinghe Mawatha
Kirulapone, Colombo 5
SRI LANKA
Tel: + 94 11 2829 412
Fax: + 94 11 2856 188
Email: itdg@itdg.slt.lk,
jayantha.gunnasekera@practicalaction.org

64. Lokuyaddehige Wasantha
National Fisheries Solidarity (NAFSO)
No. 10, Malwatta Road
Negombo
SRI LANKA
Tel: + 94 31 2239750
Fax: + 94 31 4872692
Email: fishmove@slt.lk

65. Mohamed Sally Jaleel
Muslim Women's Research and Action Forum (MWRAF)
East-Based Coordination Office
494 Moulana Road
Sainthamaruthu
14, Kalmunai.
SRI LANKA
Telefax: + 94 67 2224600
Email: mwraf@sltnet.lk, mwrafeco@hotmail.com

66. Oscar Amarasinghe
Senior Lecturer, (Agricultural Economics)
Faculty of Agriculture
University of Ruhuna
Mapalana
Kamburupitiya
SRI LANKA
Tel: + 94 41 2292200
Fax: + 94 41 2223606
Email: oscar1@sltnet.lk

67. Wijethunge Herman Kumara
Convener, National Fisheries Solidarity (NAFSO)
No. 10, Malwatta Road
Negombo
SRI LANKA
Tel: + 94 31 2239750
Fax: + 94 31 4872692
Email: fishmove@slt.lk

GOVERNMENT OF SRI LANKA

68. Ranepura Hewage Piyasena
Additional Secretary (Development)
Ministry of Fisheries and Aquatic Resources
Maligawatta Secretariat
Colombo 10
SRI LANKA
Tel: + 94 11 2437948
Fax: + 94 11 2437948
Email: pranepura@fisheries.gov.lk

THAILAND

69. Dawan Sanlee
Save Andaman Network (SAN)
8/3 Cockan Road
Tambon Thap Tieng
Ampur Muang
Trang Province 92000
THAILAND
Tel: + 66 - 75 – 212414
Fax: + 66 - 75 – 212414
Email: sampantrang@hotmail.com

70. Duangkamol Sirisook
Sustainable Development Foundation (SDF)
86, Ladpraw 110 (yeak 2)
Ladpraw Road, Wangtonglang
Bangkok 10310
THAILAND
Tel: + 66 2 9352983
Fax: + 66 2 9352980
Email: preecha@mozart.inet.co.th, oysirisook@hotmail.com

71. Naiyana Prapaiwong
Save Andaman Network (SAN)
160/ 9 Praram 6th Road
Tambon Tab Tieng
Ampur Muang, Taptheang
Trang 92000
THAILAND
Tel: + 66 75 220471
Fax: + 66 75 220471
saveandaman@yahoo.com

72. Naowares Chaonampad
Save Andaman Network (SAN)
160/ 9 Praram 9 Road
Tambon Tab Tieng
Ampur Muang
Trang 92000
THAILAND
Tel: + 66 75 220471
Fax: + 66 75 220471
Email: saveandaman@yahoo.com

73. Pisit Charnsnoh
Yadfon Association
16/8 Rakchan Road
Muang District
Trang Province 92000
THAILAND
Tel: + 66 75 219737
Fax: + 66 75 219327
Email: yadfon@loxinfo.co.th

74. Saowalak Prathumthong
Save Andaman Network (SAN)
160/ 9 Praram 6th Road
Tambon Tab Tieng
Ampur Muang
Taptheang
Trang 92000
THAILAND
Tel: + 66 75 220471
Fax: + 66 75 220471
Email: saveandaman@yahoo.com, cha_emz@yahoo.com

GOVERNMENT OF THAILAND

75. Waraporn Prompoj
Chief, International Cooperation Group
Fisheries Foreign Affairs Division
Department of Fisheries
Kasert-klang, Phaholyotin Road
Chatuchak
Bangkok 10900
THAILAND
Tel: + 66 2 5620529
Fax: + 66 2 5620554
Email: wprompoj@yahoo.com

MULTILATERAL/INTER-GOVERNMENTAL ORGANIZATIONS

76. Deepak Singh
Asian Development Bank (ADB)
5th floor, Apex Towers
2nd Main Road, R.A. Puram
Chennai 600 028
Tamil Nadu
INDIA
Tel: + 91 44 52303991
Fax: + 91 44 52303996
Email: dsingh@adb.org

77. Derek Staples
Senior Fisheries Officer
FAO Regional Office for Asia and the Pacific
Maliwan Mansion
39 Phra Attit Road
Bangkok 10200
THAILAND
Tel: + 66 2 697 4119
Fax: + 66 2 697 4445
Mobile: + 66 18275769
Email: derek.staples@fao.org

78. Didier Trebucq
United Nations Development Programme (UNDP)
Apex Towers, 4th Floor
No. 54, 2nd Main Road
R.A. Puram
Chennai 600 028
Tamil Nadu
INDIA
Tel: + 91 44 42303551
Mobile: +91 9840906791
Fax: + 91 44 42303556
Email: didier.trebucq@undp.org

79. Grant Milne
World Bank
1818 H Street, NW
Washington D.C.20433
USA
Tel: + 1 202 458 1284
Email: gmilne@worldbank.org

80. M. Srinath
United Nations Development Programme(UNDP)
United Nations Team for Recovery Support
Apex Towers, 4th Floor
54, 2nd Main Road
R.A. Puram
Chennai 600 028
Tamil Nadu
INDIA
Tel: + 91 44 42303551
Fax: + 91 44 42303556
Email: mnathmagal@hotmail.com

81. Philip Gordon Townsley
IMM Ltd
Via Roma 21
01100 Viterbo
ITALY
Tel: +39 761 346066
Mobile: +39 329 6291816
E-mail: ptownsley@fastwebnet.it, ptownsley@tin.it

82. S.V. Anil Das
Livelihood Specialist
Asian Development Bank (ADB)
Extended Mission in Tamil Nadu
5th floor, Apex Towers
2nd Main Road, R.A. Puram
Chennai 600 028
Tamil Nadu
INDIA
Tel: + 91 44 42303991
Fax: + 91 44 42303996
Email: svanildas@adb.org

83. Y S Yadava
Director
Bay of Bengal Programme
Inter-Governmental Organisation
91 St. Mary's Road
Abhiramapuram
Chennai 600 018
Tamil Nadu
INDIA
Tel: + 91 44 24936188 / 24936294
Fax: + 91 44 24936102
Email: bobpysy@md2.vsnl.net.in,
yugraj.yadava@bobpigo.org

OTHER ORGANIZATIONS

84. Arthur Neiland
Institute for Sustainable Development and Aquatic Resources (IDDRA)
Portsmouth Technopole
Kingston Crescent
Portsmouth
England
United Kingdom
Tel: + 44 2392 658201
Fax: + 44 2392 658201
Email: neiland@iddra.org

85. Imelda Abarquez
Oxfam Hong Kong
17 F, China United Centre
28 Marble Road
North Point
HONG KONG
Tel: + 852- 3120 5256
Email: meng@oxfam.org.hk,
mengabarquez@yahoo.com

OBSERVERS

86. Gunnar Album
Barents Sea Office
8285 Leines
Norway
Tel: + 47 75 778 410
Mobile: + 47 9 775 6810
Email: album@online.no

ICSF SECRETARIAT

87. Chandrika Sharma
Executive Secretary
ICSF
27 College Road
Chennai 600 006
Tamil Nadu
INDIA
Tel: +91 44 28275303
Fax: +91 44 28254457
Email: icsf@vsnl.com

88. Pamela Gordon
Office Secretary
ICSF
27, College Road
Chennai 600 006
Tamil Nadu
INDIA

89. Sebastian Mathew
Programme Adviser
ICSF
27, College Road
Chennai 600 006
Tamil Nadu
INDIA

90. Venugopalan N.
Consultant
ICSF Documentation Centre
ICSF
27 College Road
Chennai 600 006
Tamil Nadu
INDIA

91. Neena Elizabeth Koshy
Programme Associate
ICSF Documentation Centre
ICSF
27 College Road
Chennai 600 006
Tamil Nadu
INDIA

92. K. Karthegheyan
Accounts Assistant
ICSF
27, College Road
Chennai 600 006
Tamil Nadu
INDIA

93. P. Santhosh Kumar
Documentation Assistant
ICSF Documentation Centre
ICSF
27, College Road
Chennai
Tamil Nadu 600 006
INDIA

94. R. Deepak
Office Assistant
ICSF
27, College Road
Chennai
Tamil Nadu 600 006
INDIA

Proceedings

Regional Workshop on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods

The *Regional Workshop on Post-tsunami Rehabilitation of Fishing Communities and Fisheries-based Livelihoods* was held in Chennai, India on 18 and 19 January 2006, with the participation of fishworker organizations, NGOs, policymakers and representatives of multilateral agencies, from India, Sri Lanka, Thailand, Indonesia and Maldives.

This publication contains the proceedings of the workshop, reports from countries, and the recommendations made at the workshop. It will be found useful for all those engaged in post-tsunami rehabilitation of fishing communities.

ICSF is an international NGO working on issues that concern fishworkers the world over. It is in status with the Economic and Social Council of the UN and is on ILO's Special List of Non-Governmental International Organizations. It also has Liaison Status with FAO. Registered in Geneva, ICSF has offices in Chennai, India, and Brussels, Belgium. As a global network of community organizers, teachers, technicians, researchers and scientists, ICSF's activities encompass monitoring and research, exchange and training, campaigns and action, as well as communications.

International Collective in Support of Fishworkers (ICSF)
27 College Road, Chennai 600 006, India
Tel: + 91-44-2827 5303 Fax: + 91-44-2825 4457
Email: icsf@icsf.net
http://www.icsf.net

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