

## Regional workshop

# One year later – The rehabilitation of fisheries and aquaculture in coastal communities of tsunami affected countries in Asia





---

## **Regional workshop**

# **One year later – The rehabilitation of fisheries and aquaculture in coastal communities of tsunami affected countries in Asia**

**30 - 31 March 2006**

**Bangkok, Thailand**

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
REGIONAL OFFICE FOR ASIA AND THE PACIFIC**

**Bangkok, 2006**

The designation and presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area of its authorities, or concerning the delimitation of its frontiers and boundaries.

© FAO 2006

#### NOTICE OF COPYRIGHT

All rights reserved. Reproduction and dissemination of material in this information product for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged. Reproduction of material in this information product for sale or other commercial purposes is prohibited without written permission of the copyright holders. Applications for such permission should be addressed to the Senior Fishery Officer, FAO Regional Office for Asia and the Pacific, Maliwan Mansion, 39 Phra Athit Road, Bangkok 10200, Thailand.

For copies write to:      The Senior Fishery Officer  
FAO Regional Office for Asia and the Pacific  
Maliwan Mansion, 39 Phra Athit Road  
Bangkok 10200  
THAILAND  
Tel: (+66) 2 697 4000  
Fax: (+66) 2 697 4445  
E-mail: [FAO-RAP@fao.org](mailto:FAO-RAP@fao.org)

## FOREWORD

Following the disaster caused by the tsunami waves following the earthquake on 26 December 2004, regional fishery organizations in the region quickly joined together to form a Consortium to Restore Shattered Livelihoods in Tsunami-devastated Nations (CONSRN). CONSRN organized a regional workshop on the rehabilitation of fisheries and aquaculture in coastal communities of tsunami affected countries in Asia that was held in Bangkok, Thailand from 29 February to 1 March 2005. The workshop developed and adopted a Regional Strategic Framework for the rehabilitation of fisheries and aquaculture in tsunami affected countries in Asia.

A year has passed since the Regional Strategic Framework was finalized and it was deemed timely to review progress against the strategy, re-assess needs and help coordinate the longer-term rehabilitation that is now needed in affected countries. A second regional workshop was therefore organized whose objectives were to (i) review progress against the regional strategy, (ii) share and discuss national strategies for rehabilitation, and (iii) plan how CONSRN partners can assist countries implement these strategies.

This document presents a report of the meeting including a review of progress against the activities recommended in the Regional Strategic Framework, summary of country strategies, and recommendations for future work for the affected countries and CONSRN partners. The recommendations for action in tsunami rehabilitation emphasized the need for coordination and the importance of capacity building within communities, particularly in enabling them to access and manage the financial resources they need to effectively rebuild their livelihoods. The meeting also stressed the importance of ensuring that rehabilitation within the fishery sector was undertaken with due care and consideration of the fisheries resources and the livelihoods of those who depend upon them.



He Changchui  
Assistant Director-General and  
Regional Representative for Asia and the Pacific

# Table of Contents

	<i>Page</i>
<b>Foreword</b> .....	iii
<b>List of Acronyms</b> .....	vi
<b>1. Opening Session of the meeting</b> .....	1
<b>2. Election of Chairperson</b> .....	1
<b>3. Introduction to workshop and regional strategic framework</b> .....	1
<b>4. Session I – What has been done including lessons learnt and constraints? and Session III – What is needed from now?</b> .....	4
4.1 India – country presentation .....	4
4.2 Indonesia – country presentation .....	5
4.3 Malaysia – country presentation .....	7
4.4 Maldives – country presentation .....	8
4.5 Myanmar – country presentation .....	9
4.6 Sri Lanka – country presentation .....	10
4.7 Thailand – country presentation .....	13
<b>Session II – What are the outstanding issues?</b> .....	14
<b>5. Session IV – Future actions and recommendations for countries and CONSRN partners</b> .....	18
<b>6. Conclusion and adoption of the workshop recommendations</b> .....	19
<b>APPENDIX A – Workshop Agenda</b> .....	20
<b>APPENDIX B – List of Participants</b> .....	21
<b>APPENDIX C – List of Documents</b> .....	26
<b>APPENDIX D – Opening statement by the ADG/RR, FAO/RAP</b> .....	27
<b>APPENDIX E – Working Group outputs: Country priorities, issues and solutions ....</b>	29

## List of Acronyms

APFIC	Asia Pacific Fishery Commission
BOBP-IGO	Bay of Bengal Programme Inter-Governmental Organization
CBO's	Community Based Organizations
CONSRN	Consortium to Restore Shattered Livelihoods in Tsunami-devastated Nations
CRM	Coastal Resource Management
DOF	Department of Fisheries
FAO	Food and Agriculture Organization of the United Nations
FRP	Fibre Reinforced Plastic
GOM	Government of the Maldives
IDP's	Internally Displaced Persons
IUU fishing	Illegal, Unregulated and Unreported fishing
MCS scheme	Monitoring, Control and Surveillance
MFAR	Ministry of Fishery and Aquatic Resources
NACA/STREAM	Network of Aquaculture Centres in Asia-Pacific/STREAM initiative
RSF	CONSRN Regional Strategic Framework
SEAFDEC	The Southeast Asian Fisheries Development Center
WorldFish	WorldFish Center

## **1. Opening Session of the meeting**

The regional workshop **One year later – The rehabilitation of fisheries and aquaculture in coastal communities of tsunami affected countries in Asia** was organised by a consortium of regional fisheries/aquaculture bodies (CONSRN<sup>1</sup>) and was hosted by FAO at its Regional Office for Asia and the Pacific, Bangkok, Thailand from 30 to 31 March 2006. The meeting was attended by 40 participants including representatives from seven of the tsunami affected countries and representatives from the CONSRN consortium, donor agencies and NGOs.

A full list of participants is attached as Appendix B.

The workshop was opened by Mr He Changchui, Assistant Director-General and Regional Representative, FAO Regional Office for Asia and the Pacific, Bangkok. Firstly he reviewed the background and purpose of the formation of the CONSRN Consortium. He stated that this CONSRN workshop would review the issues that have emerged through the tsunami rehabilitation process and the outstanding needs for action. The workshop would be an opportunity to outline national strategies that had been put in place and how they would be implemented. The report of the workshop would outline progress towards rehabilitation as it related to the major elements of the CONSRN strategic framework for tsunami rehabilitation and offer the opportunity to communicate to the international community the needs for further work in the longer-term rehabilitation of tsunami affected communities.

Mr He noted the continuing importance of coordination and planning for longer-term rehabilitation and development despite the great progress made in the year following the tsunami. FAO stressed the need for a continued shared vision of a sustainable approach to reconstruction. Mr He asserted that those involved in tsunami rehabilitation must make sure that in restoring the livelihoods of those affected, the sustainable development of the fishery and aquaculture sectors and sound management of the natural resource base, such as coral reefs and mangrove forests, was assured.

The opening statement is attached in Appendix D.

## **2. Election of Chairperson**

Mr Andin Taryoto, Secretary General, Ministry of Marine Affairs and Fisheries, Indonesia, was elected chairperson of the meeting.

## **3. Introduction to workshop and regional strategic framework**

Mr Derek Staples, Senior Fishery Officer of the FAO Regional Office for Asia and the Pacific presented the objectives of the workshop. He emphasized that the workshop would be looking for a clear and frank review of the issues that faced tsunami rehabilitation and the future needs in this respect.

---

<sup>1</sup> Consortium to restore shattered livelihoods of communities in tsunami affected nations (CONSRN). The consortium comprises of the Bay of Bengal Programme Inter-Governmental Organization (BOP-IGO), the Food and Agriculture Organization of the United Nations (FAO), the Network of Aquaculture Centres in Asia-Pacific (NACA), the Southeast Asian Fisheries Development Center (SEAFDEC) and the WorldFish Center (WorldFish).

Mr Staples continued with a short review of the six strategic elements of the CONSRN Regional Strategic Framework. The CONSRN consortium was founded with the view to providing support to tsunami affected countries with a focus on the fishery sector. The vision of the consortium was to assist in rehabilitation which would:

- Contribute to poverty reduction, sustainable livelihoods and food security;
- Be based on good management and governance;
- Recognize sustainable limits of harvesting natural resources;
- Take a holistic view of coastal ecosystems;
- Would emphasize a well integrated supply chain; harvest – consumer.

The six elements within the CONSRN rehabilitation strategy are:

1. Improving policy and institutions;
2. Providing appropriate physical assets;
3. Restoring the environment (while ensuring equitable access);
4. Providing appropriate financial support;
5. Improving capacity in support of community livelihoods, responsible coastal resource management;
6. Rebuilding of social assets.

Mr Staples informed the participants that the purpose of the CONSRN regional workshop **One year later – The rehabilitation of fisheries and aquaculture in coastal communities of tsunami affected countries in Asia** was to review progress against these elements and recommend future directions for addressing outstanding needs and achievement of national strategic policies.

Reviewing the progress against the strategic elements from the perspective of the CONSRN Consortium, Mr Staples summarized how the countries with CONSRN partners assistance had contributed to policy direction and strengthening of institutions, regarding tsunami rehabilitation. Capacity building and the strengthening of fisheries management institutions has now started to emerge as on the ground action and would be the basis for much future work. Regarding the promotion of integrated coastal planning and management, Mr Staples noted that several countries had such approaches as part of their rehabilitation activities but that there was still much to do in this respect. Systematic damage and needs assessments have been carried out, however, there were issues concerning the value and use of these assessments outside of the organizations that carried them out. There was also a general lack of coordination between different assessments of needs. In addition, the assessments had also been over-focussed on replacement of assets and inputs and less on rehabilitation needs.

The strategic element regarding the provision of appropriate physical assets has been the focus of debate in the fishery sector and, in particular, the extent to which fishing vessels had been replaced in excess of reported losses. The appropriateness of replaced assets has also been commented on, for example, instances where the assets replaced have been of limited immediate use to the beneficiaries, or had not been addressed to immediate needs. He also noted that there has been limited evaluation of the impact and effect of the asset replacement to date.

**Restoration of the natural environment** focussed on ensuring sustainable management and equitable access to inputs. Mr Staples commented that this appears to have been partially successful in some focussed interventions. The issues of movement or relocation of fishers and communities



and establishment of buffer zones had been contentious. However, many of the decisions that relate to this issue lie outside the mandate of the fisheries institutions involved in rehabilitation. Ecosystem restoration has had less attention as there appeared to have been relatively limited direct impact of the tsunami on ecosystems.

- There have been some activities carried out with the objective of restoration of habitats in some locations. The cleaning of coral reefs or replanting of mangrove trees and establishment of buffer zones is probably the most significant activity in this regard. There are currently ongoing discussions as to how appropriate and useful this may be in regard to coastal protection from tsunami. There have been technical issues raised, which relate to the selection of restoration sites and the use of inappropriate species.
- Assessment of the impact of the tsunami on fisheries stocks, indicates that changes in fish distribution may have occurred, but that overall, the stocks are intact and species composition remains relatively unchanged.
- In order to ensure that seed and broodstock for aquaculture come from sustainable sources, hatcheries have been restored to production, although the practice of sourcing broodstock from the wild does not appear to have changed significantly.

**Ensuring that appropriate financial mechanisms** are made available during rehabilitation is an ongoing effort. The review of existing financial mechanisms has yet to be undertaken in a comprehensive manner. The control of loans for large scale vessels appears to have occurred in some countries and there has been little large vessel construction as a result. There have been difficulties in accessing finance and loans for those who lost assets and lacked collateral to take out loans. The establishment of an enabling environment for the financial/credit sector has yet to be systematically addressed, but is occurring at local level in community strengthening activities. The provision of financial support to harvesting operations has occurred whilst support to other links in the supply and value chains has been limited.

**Building capacity for livelihoods and sustainable management** of resources has been undertaken and the strengthening of communities through participatory and holistic approaches has occurred in some projects. Ensuring that communities are empowered and involved in the planning of rehabilitation has been a fundamental part of the implementation approach of many agencies. However, there has been a lack of general coordination between organizations regarding geographic areas and approaches. Coverage of relief has not been comprehensive with some areas receiving relatively more attention than others.

**The CONSRN agencies response in support of implementation of the regional strategic framework** has seen extensive collaboration and sharing of information between the partners. Collaborative work to ensure coherent rehabilitation plans has been quite successful in terms of idea sharing and development of best practices. However, collective mobilization of resources has been limited by the nature of funding agency priorities and delivery approaches. Joint implementation of plans has been partially successful and field activities have depended on the approach of the different partners. A flagship programme has been developed but has yet to find donor support.

In summary, Mr Staples concluded there had been good progress made over the past year and that the CONSRN partners have provided significant support to governments both collectively or individually, but that much remains to be done. He concluded that the workshop would enable the discussion and sharing of opinion over what remains to be done along with prioritisation. In particular, the workshop should look at how rehabilitation could proceed now that the emergency is over and how CONSRN could facilitate action on this.

## 4. Session I – What has been done including lessons learnt and constraints? and Session III – What is needed from now?

### 4.1 India – country presentation

India presented an overview of the impact of the tsunami and subsequent relief and rehabilitation efforts. The tsunami had a major impact on coastal communities and the fisheries sector with losses to craft and gear, housing and lives. Immediately following the tsunami, all agencies (including NGOs, government and private sector) pulled together with the communities to support the emergency and rehabilitation efforts.

**The most heavily impacted state was Tamil Nadu** but Kerala, Andhra Pradesh, and the Andaman and Nicobar Islands also suffered significant damage. In total 635776 people were moved to safe areas. In the fisheries sector, 83 788 vessels were affected. Fish production was impacted by the tsunami and was lower than in previous years (for example, marine production during January to March in tsunami affected states 2004-2005 was 199 000 tonnes whilst for the same period in 2003-2004 it was 342 000 tonnes.

**The relief operation and institutional arrangements** at national and state level were described (including the creation of emergency committees). In the fisheries sector, special packages for relief for small scale fishers were developed. In addition, replacement of gear, vessels and infrastructure (such as ice plants, harbours and landing facilities) and support to entrepreneurs have also been undertaken. The total value of the government rehabilitation programme for the special package was US\$ 277 million, comprising grants and loans.

**Support for livelihood rehabilitation** has five aspects which include provision of working capital, assistance for fresh water fish farmers, compensation for loss of special projects (such as pearl oyster and crabs), repair of ice plants and compensation for aquaculture losses.

**Constraints to rehabilitation efforts were outlined.** These included: organization of communities, the large scale of the damage, the disproportionately large impact on subsistence fishers, lack of availability of materials, weak capacity of implementing agencies, inadequate infrastructure, lack of understanding of socio-economic and traditional practices, lack of alternative technologies, lack of awareness and a time lag in gearing up the response.

**The lessons learned during rehabilitation** were outlined and included: the importance of transparency (the right to information), constitution of committees and accountability, use of local materials, gender sensitization, use of a holistic approach which emphasizes horizontal and vertical as well as a “forward backward” linking.

**The workshop discussion** covered clarifications on the responses described and whether it had included the NGO sector. India explained that whilst many NGOs cooperated well and provided information, many others did not, which has resulted in coordination problems. The number of NGOs had proliferated hugely since the tsunami and there was concern that many may not be there for the longer term and would not be sustainable. Issues related to beneficiary selection were discussed and India explained that whilst this was a difficult area, assessments had been made at state level with village communities to identify beneficiaries and agree a master plan (developed with the agreement of beneficiaries). Overall, few complaints have been received by the government.

## India – future strategy

India outlined the development and contents of their national tsunami rehabilitation strategy. India has a tsunami rehabilitation programme which was developed very quickly after the tsunami struck. A planning commission was set up involving all concerned departments. The programme coverage was described which included finances (US\$ 2 220 million), time frame (four years) and budget. The budget for this is from the finance ministry. The key components of the plan included housing, infrastructure, livelihoods and social development. Total funding for the plan was described with US\$ 235 million allocated to fisheries and livelihoods. The funds were sourced from the government of India and donors such as the World Bank and Asian Development Bank. Funds would be allocated to both state and national governments.

**The components of the fisheries plan included:** activities relating to boats and gear (repair and replacement), infrastructure improvements (upgrading, repair and building of landing centres) and value adding to fishery products (improved handling, processing and strengthening of cooperative groups).

**Guiding principles** had been developed for sector rehabilitation and included issues such as good environmental management, adoption of participatory approaches, involvement of privates sector and gender sensitivity.

**The institutional mechanisms and roles and responsibilities** for delivery of the rehabilitation plan were described. These included the use of a core planning group, empowerment group (at Ministry level) and the Nodal agency concept. Monitoring of the programme would be carried out by state governments and reporting to the core groups on a quarterly basis. The programme monitoring mechanisms were outlined with civil society and NGOs to play a major role.

Other broad issues considered important to implementation included: commitment to implementation in a time bound manner; coordination, need based approaches, environmental issues, sustainability, information on boat builders, gender, value adding, transparency and accountability, credit, quality assurance and sea safety.

A question was asked concerning the way environmental issues would be incorporated into the infrastructure rehabilitation components of the plan. India responded that they would be taken care of.

## 4.2 Indonesia – country presentation

The Indonesian presentation began by describing the efforts immediately after the tsunami. The first action was to establish a taskforce. This taskforce was very effective in coordination between Government and NGOs, since, within the taskforce, there were no requirements for formal agreements.

**The importance of fisheries and aquaculture in Aceh was emphasized.** On the east coast coastal brackish water aquaculture of shrimp and milkfish are important. Aceh is an important source of good quality broodstock of shrimp and is third in volume of aquaculture production of shrimp in Indonesia. In marine fisheries, nets are more commonly used along the east coast whilst along the west coast, long lining is more common. The damage was described in the numbers of casualties, length of coastline affected, and the number of villages and towns damaged. Ten percent of the fishers died. These were mainly the fishers who were on land during the tsunami. Around 10 000 boats of various sizes and types were destroyed. The main organizations involved in rehabilitation were described; with the local fisher communities being typically represented by the traditional structure in Aceh, the Panglima Laut.

**The main intervention methods:** Cash for work at a daily wage of US\$ 4/day. Replacement of tools, repair and replacement of fishing craft and rehabilitation of fish ponds. Major efforts were also made in the reconstruction of infrastructure, housing and roads. Livelihoods were recovered by assistance with the rehabilitation of fish processing tools for the drying and salting of fish. The replacement of small fishing vessels was a popular activity of donors since this gave a quick result (easy, fast, cheap and visible).

**Key issues:** It was difficult to maintain quality, and sometimes the wrong approach was used. Lack of coordination on working areas resulted in the tendency to work in areas most easily reached. Oversupply of support caused conflicts in the community, while some difficult to reach areas received less support. Implementation of assistance was slower than expected.

**Looking forward:** Future improvements in fisheries can be achieved through increased training efforts especially in improved aquaculture methods. Fisheries stock assessment can be improved by the service of a fisheries research vessel. More construction effort is needed for rehabilitation of landing centres, irrigation systems for coastal ponds and the replacement of cold storage facilities.

**Some examples of best practice:** FAO produced guidelines of rehabilitation of coastal ponds and on good boat-building standards. Emphasis on rehabilitation through working through cooperatives and communities ensured greater chances of success. Value adding to livelihoods through rehabilitation of fish processing through fish processing groups was also encouraged.

During plenary discussions it was queried whether support to entry to deep sea fishing is a request by the fisher community and whether the required infrastructure is in place. It was replied that deep sea fishing should be promoted, specifically on the island of Sabang, where the needed infrastructure is already available. It is suggested that it is actually the donor community who prefers to replace the small boats, while the fisher community also requests them to supply larger vessels.

**Strengthened disaster preparedness:** the workshop was informed how better preparations are in place, with better networking, a large storage of rice and establishment of a cash fund available for emergencies through the Ministry of Social Affairs. An early warning system has also now been developed in each province.

The workshop noted that is commendable that in Indonesia, after a detailed assessment, a maximum was set to the number of boats to be replaced. This will avoid oversupply and resultant over fishing.

## **Indonesia – Future strategy**

The overall goal is to alleviate poverty and within this three approaches were identified:

1. Restore private goods such as fishing boats, restart aquaculture and introduce new technologies;
2. Restore public goods, fisheries infrastructure and support services;
3. Strengthen the communities with training and working capital.

From 2005 to 2009 two phases are identified, which are characterized by different activities related to short-term rehabilitation and medium-term reconstruction. The amounts of funding were presented as well as the main sources of funds. Diagrams were presented in which the operational implementation and the mechanism of donor coordination were shown.

A map and graph were presented which showed distribution of funds over the districts of Aceh, by sector portfolio. These also showed the gap between funds available and those needed. It is clear that some sectors are receiving more funds than needed, while others receive less than required. The fisheries sector has a positive gap. The plans for the future were similar to the points already discussed in the previous session. Recommendations for the future were given that emphasized the need for sustainability, coordination and participation by local institutions.

### **4.3 Malaysia – country presentation**

The states most affected by the tsunami, were Perlis, Kedah, Penang, Perak and Selangor, impacting more than 7 500 fishermen and around 300 aquaculturists. The estimated losses were estimated to be US\$ 15.4 million. Both fisheries and the aquaculture sector were affected by the tsunami. The Malaysian Government, international organizations, donors, and NGOs have been doing a lot of work to get things back to normal. Data collection has been undertaken by the government coordinated by the Ministry of Agriculture and Agro-Based Industry.

#### **A number of initiatives have been started:**

- Cleaning and recovery of fishing communities;
- Establishment of a national disaster fund which is used to compensate the fishermen;
- Rebuilding of infrastructure related to fisheries and aquaculture;
- Motivation program for the affected fishermen/families. There was a need to rebuild the confidence and “heart” of many communities;
- Surveys and research have been done by Fisheries Research Institute In Malaysia;
- Financial assistance has been provided through Government, Bank of Malaysia, Fishermen Fund, Japanese grant, group projects.

The Malaysian government report that much progress has been made during the past year and that things are on the right track. However there have been constraints for implementing some of the initiatives due to mainly the educational level of fishermen, severe trauma suffered by the fishermen and families, shortage of local inputs and financial inputs. There has been good support from The Malaysian government. It was noted in the discussion that it was interesting that work was being done with the fishermen and their families to recover from the trauma experienced after the tsunami.

Regarding the determination of levels of vessel distribution/replacement it was replied that the target is to achieve the same distribution as before the tsunami with small adjustments where suitable.

#### **Malaysia – future strategy**

Financial assistance for tsunami rehabilitation came from the Tsunami National Disaster Fund. A task force was formed at three levels, under the Prime Minister’s Office, at ministry level and at ground level, with the following goals:

**Financial support to aquaculture:** with promotion of industrial ventures in aquaculture and working with the Agriculture Bank of Malaysia (BPM).

**Government Policy on mangroves:** Land management is controlled by the state governments. Mangroves will be protected by strict regulation of mangrove exploitation. The first 200 meters from the sea will not be utilized.

**Relocation of coastal communities:** New housing areas for fishers communities are set up.

**Tsunami Early warning system:** An early warning system is being developed. Two buoy units have been installed.

**Awareness program:** The confidence of fishers is to be built up so they will be able to restart fisheries activities.

**Development of traditional fishers:** The fishers groups are giving training which will lead to restructuring of the groups into viable economic entities. Fisheries related businesses will be developed which will lead to alternative income generating activities and diversification of income, for example in fish processing and boat building.

Through training, motivation and technical support, the fishers group will establish itself as a company in future with support in kind based on the group's business plan.

#### 4.4 Maldives – country presentation

The constraints in tsunami rehabilitation were listed. In particular these covered issues relating to beneficiary identification, information validation and needs assessment.

- Limitations on validation of damage assessment and beneficiary identification due to logistical difficulties;
- High cost of participatory needs assessment, lack of agreement within communities leading to delays in delivery;
- Disproportionately negative impact of such delays on most needy people;
- Defined methodologies need to be developed and used consistently by all partners;
- Tough policy decisions needed to be taken immediately after disaster with regard to level of assistance and period of assistance;
- Need to ensure equity between affected communities and other communities in order to avoid social conflicts;
- Increased funding requirement than first estimated. High funding gap in all areas of livelihood rehabilitation.

There have been delays in finalizing implementation arrangements for donor funded programs, this has been due to:

- Different donors dictating different implementation requirements;
- Limited co-ordination and data sharing between donor agencies;
- Subsequent delays in delivery resulting in loss of trust of beneficiaries towards government/donor agencies;
- Need to have quick disbursement arrangements, but very few donor agencies use such arrangements;
- Limited staff and capacities of GOM agencies, especially at atoll and island level to effectively manage, coordinate and deliver relief and rehabilitation assistance.

There are large numbers of internally displaced persons in temporary shelters, living in difficult conditions. The livelihoods of IDP's are difficult to revitalize because basic needs have not been met. Critical difficulties are also faced in reaching agreement between some IDP communities and GOM/donors on relocation to safe islands.

These difficulties lead to a loss of trust by IDPs in GOM and this negatively impacts livelihoods revitalization efforts. The working unit is the fisher family unit and the dispersal of family members to different temporary shelters poses obstacles to restarting livelihoods activities. There is a need to coordinate with other livelihoods and shelter programs, to improve effectiveness. High numbers of young people who are not in school and unemployed/underemployed youths in IDP communities, will constrain livelihoods rehabilitation. Women in temporary shelters have few options for their traditional livelihoods activities due to extremely difficult living conditions and the relocation from their home islands.

### **Maldives future strategy**

- Need to shift programs from simple asset replacement to programs that target whole community, with a focus on vulnerable groups such as women and the elderly;
- Need to incorporate social welfare and community partnership policies and approaches to post tsunami livelihoods rehabilitation activities.

The Maldives emphasized that their economy is narrowly based on the tourism and fishing industries and the impact of the tsunami was significant in both sectors. Maldives described their tsunami recovery strategy as having two phases: the short term strategy covering the first six months and the medium term strategy extending to December 2007.

**In the short term** the Maldives has focused on replacing and reconstructing basic assets and infrastructure as well as providing quick access to finance and carrying out some initial resource assessments.

**In the second phase** the Maldives has expanded its program to cover a diverse range of activities summarized as follows:

1. Continuing repair work;
2. Provision of shelter for displaced persons;
3. Filling financial gaps estimated at about US\$ 10 million for the fisheries sector;
4. Strengthening financial mechanisms;
5. Empowering fishing communities;
6. Fleet capacity management;
7. Post harvest supply chain development; and
8. Strengthening of resource management including legal frameworks, planning and resource assessment.

### **4.5 Myanmar – country presentation**

Myanmar provided a background history of the impact of the tsunami across the four states (Divisions) affected and within key townships. The key areas impacted in Myanmar are Pyinsalu sub-township, Laputta Township, Myaung Mya District, in Ayeyarwaddy Division. Impacts included the death of 25 people, the destruction of 289 homes and 123 fishing boats.

A range of bio-geological characteristics were identified as important factors in determining the extent of impacts from the tsunami. These included the geographic location of particular islands chains and the presence of natural barriers around some island areas (principally coral reefs and mangrove plantations) that helped mitigate impacts.

Myanmar identified valuable lessons for the future which include mangrove reconstruction, appropriate location and construction of buildings, improved communication systems, the development of effective early warning and response systems and the need for relief planning.

### **Myanmar – future strategy**

Myanmar described two key tsunami rehabilitation objectives. They are to provide support to fishing communities in replacing fishing gear and boats and supporting the replacement of equipment for agriculture. Myanmar detailed rehabilitation activities so far undertaken and key contributors to these efforts.

Immediately after the tsunami, the Myanmar Government took very prompt relief action through the Ministry of Social Welfare, Relief and Resettlement and local authorities. The relief teams provided aids to the victims such as, cash, rice, edible oils, cloths, blanket, etc. Donations of cash and kind were also received and they were being sent to the affected region.

Myanmar did not request any aid or help for tsunami victims. However it receives voluntary contributions and donations. The state Peace and Development Council have formed a Committee to provide assistance to the victims and to distribute donated relief items to the victims. Myanmar's strategy for the future has five target areas:

1. Mobilization of aid and diverse intervention towards relief and rehabilitation of tsunami-affected populations, including fishing communities;
2. Ongoing and future interventions by government agencies and NGOs, towards strengthening short-term and long-term rehabilitation;
3. Replacing, repairing and reconstructing lost or damaged fishermen's houses, boats and fishing gears in the shortest time possible;
4. Healthcare facilities provided by international, state and local agencies with baseline data for current and future capacity. This will provide medical services in affected areas after tsunami period;
5. The coordination and efficient utilization of relief and rehabilitation assistance for the fisheries sector (offered from private and public domestic sources and the international community, including governments, UN agencies, international financial institutions and civil society and NGOs) and the development and implementation of a strategy and program for short-term and long-term reconstruction and development of the fisheries communities.

### **4.6 Sri Lanka – country presentation**

The presentation covered the status of tsunami affected areas in Sri Lanka, one year on. The principal damage was to the marine capture fisheries sector, whilst aquaculture was marginally affected. Civil unrest in north and eastern areas have had an impact on slowing down rehabilitation.

The presentation stated that there has been much progress over the past year in the recovery of the fishing fleet, supporting infrastructure, marketing, post harvest facilities and coastal structures and ecosystem rehabilitation. A joint working committee with FAO has assisted the MFAR in its coordination with donors and NGOs. The Secretary of MFAR has now taken the lead role in the joint working committee further emphasizing the importance of this work.

**Vessel replacements:** Some 78 percent of destroyed boats have been replaced. However, there have been some inequities in replacement of boats (e.g., some districts have received more boats



than were destroyed whilst several genuine fishers have not received any boats). Furthermore, 18.9 percent new boats and 8.4 percent of repaired boats were found to be sub-standard or not seaworthy. Only 28 percent of lost fishing gear has been replaced to date. Data on progress of tsunami rehabilitation has to be considered against the backdrop of lack of pre-tsunami data and the reliability of damage assessment data, shortcomings in beneficiary selection and the opportunistic behaviour of fishers.

**Key challenges:** Those identified included: containment of the fishing fleet for sustainability, addressing gaps in assets replacement, and mitigation of current problems in over supply of assets. Some options considered include; a “buy back” scheme, limited registration of boats, limiting asset replacement, etc. A committee has been appointed to pilot an initiative to “buy back” excess and poor quality boats and other related equipment. This will be tried in one district, and if successful, can be expanded.

**Gaps and constraints:** These include: the replacement of larger boats, safety and construction of fishing vessels (small and larger/multi-day boats); infrastructure rehabilitation funding; coastal ecosystem rehabilitation; rehabilitation of fishery institutions; strengthening of institutional and community based organizations, and improved coordination mechanisms. Lack of funding, lack of a reliable data base on the industry and the depletion of experienced and skilled manpower are all areas that still need to be addressed, and the government has recognized these gaps and is trying to address them through government and donor assistance.

The workshop noted that Sri Lanka and Indonesia were the two countries most affected by tsunami; in Indonesia there is the Panglima Laut system for community and fishers organization, In Sri Lanka, involving communities was achieved through fishery cooperatives. These are being mobilized and their capacity is being enhanced. MFAR is working with the NGO Coordinating Committee. Recovery assessment indicated a higher percentage of genuine beneficiaries were accommodated in districts where strong and active cooperatives were involved in the rehabilitation process.

In answer to a question on the identification or classification of non-seaworthy vessels, Sri Lanka replied that the reports of this are generally coming from fishers themselves by physical inspection. Further, a recent survey by a Norwegian mission indicated more than 25 percent of FRP boats are poor quality as lamination thickness is too low. There are concerns that after 1-2 years such boats will break or become unusable and there will be no funds available for their replacement.

### **Sri Lanka – future strategy**

Sri Lanka has developed a strategy and programme for post-tsunami reconstruction and development of the marine fisheries sector in collaboration with FAO, donors and other stakeholders. The strategy includes the marine sub-sector which was the most affected by the tsunami. It creates a consistent strategic framework and overall programme guide for the reconstruction and development of the fisheries sector as a basis for planning and coordination at all levels of government. The goals are to rehabilitate and improve the fishing communities and the fishing industry beyond the pre-tsunami conditions of living and wealth generation respectively. Finally the Strategy in its intent to “build back better” has two distinct phases: Short term Rehabilitation and Reconstruction of up to two years, 2005-2006: and a Medium and Long-term Development phase from 2005-2009.

**Objectives over the short term:** While building on the ongoing humanitarian recovery work it seeks to:

- be community focused;
- complete repairs and replacement of fishing assets;

- re-establish the post harvest sector and market chain;
- strengthen capacities for reconstruction and development.

**Medium and long-term objectives:** In parallel with the above, this phase seeks to:

- ensure communities sustain their livelihoods, increase incomes and have alternative employment opportunities outside the sector;
- strengthen the community capacity for input and involvement into the management processes with government;
- implement post harvest modernization and value addition to fish products;
- strengthen capacity of support services (government, NGOs and the private sector) at all levels for fisheries management and coordination.

**Guiding principles for post tsunami rehabilitation.** The presentation listed the following:

1. provide a basis for sustainable management and development of fisheries and aquaculture;
2. enhance the role of local communities;
3. adopt a livelihood approach;
4. adopt a coordinated and transparent approach;
5. introduce integrated and participatory management in coastal areas;
6. ensure compliance with national and regional agreements and guidelines.

**Challenges facing the rehabilitation process.** These included:

1. containment of fleet size;
2. enhanced landing sites and facilities;
3. management of anchorages and fish landing sites;
4. early warning systems and improved beach access for evacuation;
5. strengthening of construction for shore support infrastructure;
6. enhanced facilities and maintenance of higher fish quality;
7. better designs of vessels for safety;
8. implementation of minimum construction standards for fishing boats.

The workshop questioned the issue of tourism versus fisheries, and how the government was addressing this. It responded that the Government agreed to leave hotels on the beach as it was difficult to remove them, but that fisher's safety was the concern of the government and it is trying to convince fishers to remain away for the seashore area. It was further commented that the Government changed its decision regarding the 100/200 m zone, to allow for lower elevation and higher elevation areas which have differing vulnerability. A disaster area map is being used to determine the whether fishers have to relocate or not. There is currently no enforcement.

The workshop enquired whether there was an intention to improve the MCS scheme. Sri Lanka responded that the Government is considering implementation of a better MCS system using the Coast Guard under guidance of MOFAR. This will need training and equipment. Observers are not being considered due to the size of the vessels.

## 4.7 Thailand – country presentation

Six provinces on the Andaman coast were affected by the tsunami, and total estimated damage to fisheries and aquaculture is valued at US\$ 440 million. The relief activities were summarised, focusing on livelihoods and rehabilitation of fisheries and other resources. A total of 68 organizations have provided assistance to communities, which included humanitarian as well as fisheries and alternative livelihoods aspects. Close to 4 500 boats have been repaired or replaced. The figures for actual replacement of lost vessels is difficult to ascertain, but is assumed that there has been an overall increase above pre-tsunami levels.

The Andaman Forum was initially set up for coordination and cooperation in the provision of assistance to communities in the aftermath of the tsunami. More recently a DOF-FAO post-tsunami rehabilitation coordination unit was established at the Thai DOF. The objective is to strengthen coordination in the delivery of rehabilitation assistance to fishing communities.

### Lessons learned include:

- Disaster preparedness was not in place;
- Benefits of donor contributions could have been increased with more donor cooperation and better guidance for donor inputs;
- There was a lack of strategy and it should have been needs based and have had more involvement by communities;
- Coordination between government agencies, donors and other players was insufficient;
- There was a lack of facilitation for responsible decisions on the provision of fisheries inputs;
- Community leadership is essential in the planning and implementation of relief and rehabilitation;
- There should have been more focus on self-help;
- To the extent possible, rehabilitation efforts should work with/through local institutions.

During the plenary discussion it was stated that, initially, donors did not support projects aimed at coordination of relief efforts, and focussed more on relief and input provision. The presentation described how many agencies collected data and information, but that these efforts were generally limited in scope and the results were not available to other agencies. Communities were in some cases “fed up” with answering questions; information gathering should be coordinated. Maldives pointed out that there is a need to develop disaster impact and needs assessment approaches/guidelines. In response it was commented that community participation in needs assessment is needed, but will only work well if the framework is made clear (i.e. what help can be expected and who will/should benefit).

### Thailand – future strategy

Thailand identified seven areas that need to be addressed:

1. Better Coordination
  - The DOF-FAO coordination unit will maintain a directory of organizations, a website and other activities.
  - Stakeholder meetings will be arranged.

2. Capacity building
  - There is need to build capacity for monitoring and quality assurance of current and future assistance efforts.
  - Community based management needs are to be developed to support local communities and local government organizations.
3. Early warning system
  - A pilot early warning system will be set up in selected villages.
4. Revolving fund, micro credit, soft loans
  - There is a need for a simple and standardized credit system, available to fishers.
5. Strengthen community groups
  - Post-tsunami experience has showed that well managed and organised communities are more resilient and can recover faster after an emergency situation.
  - Women and youth need to be specifically targeted.
6. Coastal and fisheries resources rehabilitation
  - There is a need for work towards restoring fishing grounds and other fisheries habitats. This may be achieved to a large extent through enhancement of co-management institution.
7. Coastal infrastructure
  - Fish landing sites, markets.

Finally, Thailand emphasised that there is continued need for regional sharing of experiences in the post-tsunami rehabilitation of fisheries and aquaculture. The workshop enquired whether there were any programmes directed at larger fishing vessels. The reply was that they have not received much attention. Although some relief funds were provided these had been rather limited. Some large vessels were seriously affected, e.g. a medium sized vessel that lost communication systems and gear valued at US\$ 50000 to 75000, but had only received US\$2500 in compensation. The result is that larger vessels must rely, mainly, on commercial loans.

## **Session II – what are the outstanding issues?**

The working groups identified a range of issues which fell under nine principal themes:

1. A need for coordination of assistance and for fishery management;
2. Assessment of impacts/scientific studies for decision making;
3. Clarifying fishery policy managing capacity and institutions for coastal management;
4. Aligning assistance with needs;
5. Strengthening human capacity;
6. Preparedness, safety and simple early warning systems;
7. Strengthening communities;
8. Appropriate financial mechanisms and access to them, funds and finance;
9. Post harvest/value adding – opportunities for alternative employment.

The priority issues raised by the countries under each theme, and recommended solutions, are presented in full in Appendix E.

### **Indonesia – five priority need areas included:**

- Improving coordination between government, donors, NGOs and communities which has not been effective. What was needed was well planned meetings among stakeholders, assigning of tasks and responsibilities, use of feedback and control mechanism;
- Matching needs to requirements was important. Donors tended to make assumptions about the needs. It was important to make interventions sustainable. This could be achieved through improving the profile of the sector, strengthening the community, using participatory approaches and controlling delivery and implementation;
- Mechanism for distributions were too focussed around the main centres and needed to be broadened. A coordination team was needed, additional information should be provided to the public along with good monitoring and accountability;
- Capacity building was needed for beneficiaries and organizations. This should involve assessment of training needs, formulation of training content etc.;
- An early warning system was needed along with safety awareness. Infrastructure plans for the future were required, an understanding of disasters and a natural disaster fund established.

### **India – five priority need areas included:**

- Scientific studies to better understand the impact of the tsunami, especially in the longer term;
- Development of institutional arrangements for capacity building (identification and strengthening of institutions);
- Prioritising the balance between economic and social issues (identify stakeholders, multi level meetings, development of consensus, development of policy and strategy (using a bottom up approach);
- Planning and implementation of infrastructure projects with consideration of issues related to ownership and management (e.g. to identify actors, collect plans, linking of policies, development of plans with dialogue between agencies and building consensus);
- Building of social capital to handle credit, marketing and resource management (developing a framework which is conducive to collaboration, common programmes) and training.

### **Malaysia – five priority need areas included:**

- Human resource development (ensuring knowledge of and ability to support policy implementation). Understanding of fisheries management and economics, additional training of government officers, additional training for fishers;
- Sustainability of long term plans. Human capacity and social assets were required to enable community empowerment, perhaps through extension services;
- A need to align needs with rehabilitation activities and planning. This requires development of a fishery profile, strengthening of the communities, use of participatory approaches, communication and control over delivery and implementation;
- National disaster preparedness and a plan is important. The government needs to pre-position a store of emergency materials, develop community warning systems, software and hardware;

- Appropriate financial mechanisms need to be developed and linked to a national disaster fund.

**Maldives – five priority need areas included:**

- Provision of shelter and displacement of people away from original home Islands and lack of livelihoods opportunities at new locations;
- Provision of alternative livelihoods while in shelter housing;
- Need to create social institutions to increase community resilience and assist with post tsunami recovery;
- Lack of processing infrastructure, technology and marketing;
- Lack of access to investment capital.

Maldives recognized that there is an ongoing need to secure financial support for addressing shelter housing issues. An associated factor is implementing appropriate programs to mitigate transitional and long term impacts from displacement from traditional fishing grounds by providing short term employment opportunities and skill retraining. Maldives was beginning to engage in the process of establishing and building community and cooperative organizational capacity and this was an ongoing need. Developing processing technology towards adding value and improving fish quality and safety was identified as a key future direction. Developing financial institutions and mechanisms to underpin capital investment was also recognized as important for the future of the Maldives.

In a discussion session following the group presentations, a question was raised for India regarding whether or not they saw the issue of building social capital as a long or short term exercise. India responded that it was considered a long term process.

Points were also raised regarding clarification on how outstanding current issues were to be dealt with (such as any groups or individuals that may have missed out on rehabilitation support). There was concern that there still may be a relief gap in some countries. There was also a request to consider the danger of exporting problems to other sectors/areas unless comprehensive planning was carried out (for example moving large number of fishers into another sector).

There was also a request that the groups recognize the consideration of regional issues (such as transboundary fisheries/ecosystems and migrant workers). These issues may be a good area for CONSRN to work in. Lastly, there was a concern expressed regarding the common coordination issues. Coordination does not deliver unless there are clear objectives and leadership. The workshop agreed that there are many lessons to be learnt from the different countries.

**Myanmar – five priority need areas included:**

- Displaced people in shelters and lack of permanent housing;
- Lack of access to investment capital;
- Communication to fishers/communities about tsunami warnings and rehabilitation process;
- Immediate lack of vessels and managing vessel capacity into the future;
- Resource status is unknown and there is no effective management.

Problems identified with shelter housing and lack of access to investment capital requires the mobilization of financial resources both within Myanmar and amongst the donor community. It

was also recognized that a review of the institutional framework and mechanisms underpinning capital finance is required. Myanmar sees a critical need to develop telecommunications infrastructure to open communication with isolated fisher communities. This would need to be backed up with a dedicated education and awareness program. There is still an immediate need to replace fishing boats damaged or destroyed during the tsunami but Myanmar also recognized that the management of vessel capacity into the future would be a key issue. There is little information on resource status and there is an immediate need to carry out baseline resource assessments and develop fishery management plans.

**Sri Lanka – five priority need areas included:**

- Development of policy for the sector, a policy paper was underway but this may also need mobilisation of funds establishment of coordination units, data systems, MIS, fisheries ID cards and vessel registration;
- Strengthening of coordination and information flow in the sector, funding for institutional infrastructure and rehabilitation development (for example addressing gaps such as the multi-day boat issue);
- Institutionalisation of coastal management approaches and capacity building for coastal communities, government officers, fishers and stakeholders;
- Capacity building for livelihoods development through credit/microfinance and value addition for products;
- Evaluation of the tsunami impact on ecosystems through conducting surveys and assessments, regular monitoring and linking with the capture fishery sector.

**Thailand – five priority need areas included:**

- Coordination, which was currently insufficient. There is a lack of human resources. What is needed is a lead agency with staff assigned for the long term to gather and communicate information;
- An early warning system is required (simple system). Infrastructure is needed and perhaps a project piloted;
- Capacity building for management for fisheries and development (training for fishers and officials) and a resource impact assessment;
- Revolving fund/micro-credit is needed. These could be soft loans. There is a need to provide the community with funds and capacity building to manage them (including soft loans);
- Community group strengthening and empowerment is needed. It is important to make sure the community was united with an emphasis on cooperative approaches.

## 5. Session IV – Future actions and recommendations for countries and CONSRN partners

Review of progress against the RSF showed that the original elements are still valid. However, there has been a shift in focus from asset provision towards capacity building, institutional building and improving management. This shift highlights the need for continued action and support for the rehabilitation and reconstruction process over the next five years.

The workshop agreed that in order to move from emergency relief to longer-term rehabilitation and reconstruction the following cross-cutting challenges needed to be addressed:

1. **Improved data and information and the need for better coordination** asset distribution as well as all activities involved in the fishery/aquaculture rehabilitation. These include:
  - Strengthening communication and sharing of information;
  - Maintaining and improving the function of coordination units;
  - Key information elements for fishery/aquaculture management systems (e.g. beneficiary identification, registration, licensing etc.);
  - Management Information Systems;
  - Monitoring and feedback on the impacts of tsunami rehabilitation programmes.
2. **Assuring appropriate financial mechanisms are in place** at both the macro level for fishery/aquaculture infrastructure reconstruction and at the micro level for development of fishing communities. These include:
  - Securing donor/government funds;
  - Establishing support from rural financial institutions and systems (e.g. soft loans, revolving funds, credit etc.);
  - Promotion of community level capacity to access/manage financial resources.
3. **Strengthening human capacity** (through training and skill upgrading) for communities, government officials and NGOs, in the areas of:
  - Resource assessment and mitigation/restoration;
  - Fisheries/Coastal Resource Management/co-management;
  - Capacity building at community level in leadership/organizational skills;
  - Socio-economics and financial management.
4. **Empowering and ensuring full participation of communities** in the rehabilitation process.
  - Reducing dependency and encouraging self sufficiency/self help;
  - Reducing vulnerability and increasing resilience;
  - Strengthening social institutions/networks (e.g. communities; cooperatives, fishers groups) and involving them in decision making;
  - Promotion of consensus and ownership of rehabilitation processes.

More specifically, country priorities depended on the stage at which countries had reached, between emergency relief to full rehabilitation and reconstruction.

These included:

- Ensuring all affected parties have been identified and addressing any outstanding gaps in asset replacement or rehabilitation needs;
- Aligning assistance with the real needs of the affected parties (appropriate scales of input, communication of needs, financial sustainability);



- Resource assessment, based on scientific studies and traditional knowledge; to inform decision making on implementation of responsible fisheries and aquaculture (e.g. fishing capacity, appropriate infrastructure development, aquaculture zoning etc.);
- Clarifying policy objectives in terms of economic, social and resource objectives, for coastal resource allocation, managing fishing capacity, strengthening institutions for fishery (coastal and offshore) management and responsible aquaculture;
- Improving fishery and aquaculture co-management through the effective participation of stakeholders, dialogue and consensus in decision making;
- Strengthening disaster preparedness at both national and local levels, through contingency planning and simple and effective early warning systems (e.g. pilot systems for fishing communities);
- Promoting resilience of fishers and fishing communities (e.g. improving sea-safety for fishers, fishing operations, vessel quality; insurance etc.);
- Ensuring that development of fishery/aquaculture infrastructure is appropriate and commensurate with the capacity of the fishery/aquaculture resources; and ensuring that the developments can be financially sustained;
- Promoting opportunities for income diversification and alternative employment particularly amongst groups which remain vulnerable;
- Improved post harvest/value adding of fishery products (e.g. product development, access to market information, value chain analysis, training).

The workshop recognized that there are issues relating to migrant workers and the shelter and relocation of internally displaced persons and (e.g. foreign fishing crews, persons housed in camps, persons who are unable to return to their homes). However, it was concluded that these are outside the immediate competence of CONSRN. The workshop further recognized that where these people are engaged in fishing/aquaculture, CONSRN has a role relating to supporting skills enhancement and addressing their rehabilitation needs.

It was also noted that management of transboundary fishery issues were important, but were beyond the scope of this workshop (management of shared resources, addressing the causes and management of IUU fishing etc.).

At a regional level, a number of broad activities were identified including:

1. Resource assessments (especially the impact of tsunami on resources);
2. Early warning system communication;
3. Lessons learned, experience and information sharing.

Priority action for CONSRN could include:

1. Assessment of resources;
2. Conduct training needs assessments and implement capacity strengthening;
3. Support to clarification of fishery/aquaculture policy objectives;
4. Coordination and information sharing.

## **6. Conclusion and adoption of the workshop recommendations**

The workshop concluded with a vote of thanks to the participants for their efforts, excellent preparations for the workshop and to the Chairperson for his guidance throughout the workshop.

## Workshop Agenda

Time	Activity
<b>Day 1</b>	
08.30 – 09.00	Registration
09.00 – 09.20	Welcome remarks – ADG/RR FAO Regional Office for Asia and the Pacific
09.20 – 09.25	Election of Chairperson
09.25 – 09.55	<b>Introduction to workshop, objectives and progress with the regional strategic framework.</b> CONSRN Secretariat
09.55 – 10.00	Group photo
10.00 – 10.30	<i>Coffee/Tea</i>
<b>SESSION I – What has been done including lessons learnt and constraints?</b>	
10.30 – 10.50	India
10.50 – 11.10	Indonesia
11.10 – 11.30	Malaysia
11.30 – 12.00	Maldives
12.00 – 12.20	Myanmar
12.30 – 14.00	<i>Lunch</i>
14.00 – 14.20	Sri Lanka
14.20 – 14.40	Thailand
<b>SESSION II – What are the outstanding issues?</b>	
14.40 – 16.00	Session introduction. Secretariat Working Groups – brainstorm critical outstanding issues and possible solutions
16.00 – 16.30	<i>Coffee/Tea</i>
16.30 – 17.30	Session introduction. Secretariat Working Groups – brainstorm critical outstanding issues and possible solutions
<b>Day 2</b>	
08.30 – 09.30	Working Group Reports on issues and solutions
<b>SESSION III – What is needed from now?</b> Presentations of national rehabilitation strategies and plans	
09.30 – 09.50	India
09.50 – 10.10	Indonesia
10.10 – 10.30	<i>Coffee/Tea</i>
10.30 – 10.50	Malaysia
10.50 – 11.10	Maldives
11.10 – 11.30	Myanmar
11.30 – 11.50	Sri Lanka
11.50 – 12.10	Thailand
12.30 – 14.00	<i>Lunch</i>
<b>SESSION IV – Actions for countries and CONSRN Recommendations</b>	
14.00 – 15.30	Country top five priorities and actions/recommendations
15.30 – 16.30	<i>Coffee/Tea</i>
16.30 – 17.30	Conclusions and adoption of recommendations Closing of meeting

## List of Participants

## COUNTRIES

## INDIA

**Amarjit Banga**

Director (Fisheries)  
Department of Animal Husbandry, Dairying and Fisheries  
Ministry of Agriculture  
240 Dr. Rajendra Prasad Road  
Krishi Bhavan, New Delhi 110 001  
India  
Tel./Fax: +91-11 23097012  
E-mail: aj\_banga@hotmail.com

**D.K. Sinha**

Deputy Director (Fisheries)  
Department of Animal Husbandry, Dairying and Fisheries  
Ministry of Agriculture  
240 Dr. Rajendra Prasad Road  
Krishi Bhavan, New Delhi 110 001  
India  
Tel.: +91-11 2338941  
Fax: +91-11 23097012  
E-mail: dilipkumar\_sinha@yahoo.co.in

## INDONESIA

**Andin Taryoto**

Secretary-General  
Ministry of Marine Affairs and Fisheries  
Jalan Medan Merdeka Timur  
17<sup>th</sup> Floor, Jakarta 10110  
Indonesia  
Tel: +62-21 3500045  
Fax: +62-21 3500049  
E-mail: andin@dkp.go.id

**Soen'an Hadi Poernomo**

Director  
Centre for Human Resources Development  
Ministry of Marine Affairs and Fisheries  
Jalan Medan Merdeka Timur  
17<sup>th</sup> Floor, Jakarta 10110  
Indonesia  
Tel: +62-217918 0303  
Fax: +62-21 798 7525  
E-mail: pusdiklatkan@hotmail.com;  
pusdiklatkam@dkp.go.id

**Mian Sahala Sitanggang**

Deputy Director of Multilateral Cooperation  
Ministry of Marine Affairs and Fisheries  
Jalan Medan Merdeka Timur  
17<sup>th</sup> Floor, Jakarta 10110  
Indonesia  
Tel: +61-21 352 0337  
Fax: +61-21 352 0337  
E-mail: miansahala@yahoo.com

## MALAYSIA

**Ahamad Sabki bin Mahmood**

Deputy Director-General (Operation)  
Department of Fisheries Malaysia  
Ministry of Agriculture  
6<sup>th</sup> Floor, Tower Block, 4G2, Wisma Tani  
Percint 4, 62628, Putrajaya  
Malaysia  
Tel: +6 03 8870 4004  
Fax: +6 03 8889 5490  
E-mail: asm\_dof@yahoo.com

**Johari bin Tim**

Fisheries Officer  
Extension and Fish Quality Assurances Division  
Department of Fisheries Malaysia  
2<sup>nd</sup> Floor, Podium Block, 4G2  
Wisma Tani, Percint 4, 62628, Putrajaya  
Tel: +603 8870 4542  
Fax: +603 8889 1055  
E-mail: johari\_tim@yahoo.com

## MALDIVES

**Faathin Hameed**

Deputy Minister  
Ministry of Fisheries, Agriculture and Marine Resources  
Ghaazee Building, Ground Floor  
Malé 20-05, Republic of Maldives  
Tel: +960 3330096  
Fax: +960 3326558  
E-mail: faathin.hameed@fishagri.gov.mv

**Abdulla Naseer**

Executive Director  
Ministry of Fisheries, Agriculture and Marine Resources  
Ghaazee Building, Ground Floor,  
Malé 20-05, Republic of Maldives  
Tel: +960 3321705  
Fax: +960 3326558  
E-mail: abdulla.naseer@fishagri.gov.mv

## **MYANMAR**

### **U Than Oo Wai**

Deputy Director  
Department of Fisheries  
Ministry of Livestock and Fisheries  
Sin Min Road, Ahlone Township  
Yangon, Myanmar  
Tel: +95-02 2817088  
Fax: +95-01 228258  
E-mail: DOF@mptmail.net.mm

### **U Naing Win Thein**

Deputy Fisheries Officer  
Department of Fisheries  
Ministry of Livestock and Fisheries  
Sin Min Road, Ahlone Township  
Yangon, Myanmar  
Tel: +95-02 2817088  
Fax: +95-01 228258  
E-mail: DOF@mptmail.net.mm

## **SRI LANKA**

### **Ranepura Hewage Piyasena**

Additional Secretary (Development)  
Ministry of Fisheries and Aquatic Resources  
Maligawatte Secretariat  
Colombo 10, Sri Lanka  
Tel: +94-11 2437948  
Fax: +94-11 2437948  
E-mail: pranepura@fisheries.gov.lk

## **DONOR ORGANIZATIONS**

### **John Ackerman**

Fisheries and Marine Sciences Program  
Bureau of Rural Sciences  
Department of Agriculture, Fisheries and Forestry  
GPO Box 858  
Canberra, ACT  
Australia 2601  
Tel: +61 2 6272 5104  
Mobile: +61 400 499 846  
Fax: +61 2 6272 3882  
E-mail: John.Ackerman@brs.gov.au

### **Peter Funegard**

Senior Fisheries Officer  
Swedish Board of Fisheries (SWEDMAR)  
P.O. Box 423  
SE - 401 26 Göteborg  
Sweden  
Tel: +46 (0)31 743 03 76  
Fax: +46 (0)31 743 04 45  
E-mail: peter.funegard@fiskeriverket.se

### **Murukkuwadura Gunawansa**

Senior Assistant Secretary (Development)  
Ministry of Fisheries and Aquatic Resources  
Maligawatta Secretariat  
Colombo 10, Sri Lanka  
Tel: +94-11 2445088  
Fax: +94-11 2445088  
E-mail: mdgunawansa@fisheries.gov.lk

## **THAILAND**

### **Waraporn Prompoj**

Chief, International Cooperation Group  
Foreign Affairs Division  
Department of Fisheries  
Chatuchak, Bangkok 10900  
Thailand  
Tel: +66-2 5798215  
Fax: +66-2 5620529  
E-mail: wprompoj@yahoo.com

### **Lukhana Kaennakum**

Department of Fisheries  
Chatuchak, Bangkok 10900  
Thailand  
Tel: +66-2 5798215  
Fax: +66-2 5620529  
E-mail: lukhana91@yahoo.com

### **Robin Lundgren**

Principal Officer  
Swedish Board of Fisheries (SWEDMAR)  
P.O. Box 423  
SE - 401 26 Göteborg  
Sweden  
Tel: +46 (0)31 743 0393  
Fax: +46 (0)31 743 04 44  
E-mail: robin.lundgren@fisheriverket.se

## INTER-GOVERNMENTAL AGENCY/ASSOCIATION

### **Birgitta Liss (Ms)**

Junior Programme Officer  
East Asian Seas Regional Coordinating Unit (EAS/RCU)  
United Nations Environment Programme  
2<sup>nd</sup> Floor UN Building Block B  
Rajdamnern Avenue, Bangkok 10200  
Tel: +66-02-2882214  
Fax: +66-02-2812428  
E-mail: liss@un.org

## NON-GOVERNMENTAL ORGANIZATIONS

### **Sebastian Matthew**

Programme Advisor  
International Collective Support of Fishworkers  
(ICSF)  
27, College Road  
Chennai 600 006  
India  
Tel.: +91-44 28275303  
Fax: +91-44 28254457  
E-mail: icsf@vsnl.com

### **Sirisook Duangkamol**

Information Officer  
Sustainable Development Foundation  
86 Soi Ladprao 110 (Yeak 2)  
Wangthonglang, Bangkok 10310  
Thailand  
Tel: +66-09 6685580; 935 2983-4  
Fax: +66-2 9352980  
E-mail: preecha@mozart.inet.co.th

### **V. Vivenkanandan**

Chief Executive  
South Indian Federation of Fishermens' Societies  
(SIFFS)  
Karamana, Trivandrum 695 002  
India  
Tel: +91-471 2343711  
Fax: +91-741 2342053  
E-mail: vivek@siffs.org

## CONSRN PARTNERS

### **Yugraj Yadava**

Director  
Bay of Bengal Programme Inter-Governmental  
Organization (BOBP-IGO)  
91, St. Mary's Road, Abhiramapuram  
Chennai 600 018  
Tamil Nadu, India  
Tel: +91-44 24936188; 24463714  
Fax: +91-44 24936102  
E-mail: bobpysy@md2.vsnl.net.in;  
y.yugraj@mailcity.com

### **Pedro Bueno**

Director-General  
Network of Aquaculture Centres in Asia-Pacific  
(NACA)  
Kasetsart University Campus  
Bangkhen, Bangkok 10900  
Thailand  
Tel: +66-2 5611728  
Fax: +66-2 5611730  
E-mail: pedro.bueno@enaca.org

### **S.S. Tabrez Nasar**

Senior Programme Advisor  
Bay of Bengal Programme Inter-Governmental  
Organization (BOBP-IGO)  
91, St. Mary's Road, Abhiramapuram  
Chennai 600 018  
Tamil Nadu, India  
Tel: +91-44 24936188; 24463714  
Fax: +91-44 24936102  
E-mail: tabrez.nasar@bobpigo.org

### **Simon Wilkinson**

Network of Aquaculture Centres in Asia-Pacific  
(NACA)  
Kasetsart University Campus  
Bangkhen, Bangkok 10900  
Thailand  
Tel: +66-2 5611728  
Fax: +66-2 5611730  
E-mail: simon.wilkinson@enaca.org

**Siri Ekmaharaj**  
Secretary-General  
Southeast Asian Fisheries Development Center  
(SEAFDEC)  
Kasetsart University Campus  
P.O. Box 1046 Kasetsart University Post Office  
Bangkok 10903, Thailand  
Tel: +66-2 9405682  
Fax: +66-2 9406336  
E-mail: siri@seafdec.org

**Suriyan Vichitlekarn**  
Policy and Program Coordinator  
Southeast Asian Fisheries Development Center  
(SEAFDEC)  
Kasetsart University Campus  
P.O. Box 1046 Kasetsart University Post Office  
Bangkok 10903, Thailand  
Tel: +66-2 9406326 ext. 111  
Fax: +66-2 9406336  
E-mail: suriyan@seafdec.org

**Supaporn Anuchiracheeva**  
Coastal Fisheries Management Expert  
Southeast Asian Fisheries Development Center  
(SEAFDEC)  
Kasetsart University Campus  
P.O. Box 1046 Kasetsart University Post Office  
Bangkok 10903, Thailand  
Tel: +66-2 9406326 ext. 131  
Fax: +66-2 9406336  
E-mail: supaporn@seafdec.org

**Madan Mohan Dey**  
Regional Director for East and South East Asia  
WorldFish Center  
Jalan Batu Maung, 11960 Bayan Lepas  
Penang, Malaysia  
Tel: +6-04 6202122  
Fax: +6-04 6265530  
E-mail: m.dey@cgiar.org

**Neil Andrew**  
Discipline Director, Natural Resources Management  
WorldFish Center  
Jalan Batu Maung, 11960 Bayan Lepas  
Penang, Malaysia  
Tel: +6-04 6261606  
Fax: +6-04 6265530  
E-mail: n.andrew@cgiar.org

**Derek J. Staples**  
Senior Fishery Officer  
FAO Regional Office for Asia and the Pacific  
Phra Athit Road, Bangkok 10200  
Thailand  
Tel: +66-2 6974119  
Fax: +66-2 6974445  
E-mail: derek.staples@fao.org

**Simon Funge-Smith**  
Aquaculture Officer  
FAO Regional Office for Asia and the Pacific  
Phra Athit Road, Bangkok 10200  
Thailand  
Tel: +66-2 6974149  
Fax: +66-2 6974445  
E-mail: simon.fungesmith@fao.org

**Jesper Clausen**  
Associate Professional Officer  
FAO Regional Office for Asia and the Pacific  
Phra Athit Road, Bangkok 10200  
Thailand  
Tel: +66-2 6974242  
Fax: +66-2 6974445  
E-mail: jesper.clausen@fao.org

**David Brown**  
FAO Consultant (Tsunami)  
c/o FAO Regional Office for Asia and the Pacific  
Phra Athit Road, Bangkok 10200  
Thailand  
Tel: +66-2 6974196  
Fax: +66-2 6974445  
E-mail: david.brown@fao.org

## **FAO ROME**

**Michael Arbuckle**  
Fishery Technology Officer  
Fishery Technology Service (FIIT)  
Fisheries Department  
FAO, Rome  
Italy  
Tel: +39-06 57054076  
E-mail: michael.arbuckle@fao.org

## **FAO FIELD STAFF**

### **Peter Flewwelling**

Chief Technical Officer  
FAO ERCU Sub-Office  
Ministry of Fisheries and Aquatic Resources  
Maligawatti Secretariat  
Colombo 10, Sri Lanka  
Tel/Fax: +94-11 2421 491  
E-mail: [pete.flewwelling@fao.org](mailto:pete.flewwelling@fao.org)

### **Hendrik Jan Keus**

Chief Technical Officer  
FAO RSCU Office  
Jl. Angsa No. 12  
Kp. Ateuk Deah Tanoh  
Banda Aceh, Nanggroe Aceh Darussalam  
Indonesia  
Fax: +62-651 635 636; +62-651 742 8576  
E-mail: [eric.keus@fao.org](mailto:eric.keus@fao.org)

### **Leslie Joseph**

Consultant  
National Fisheries Development and Management  
FAO ERCU Sub-Office  
Ministry of Fisheries and Aquatic Resources  
Maligawatti Secretariat  
Colombo 10, Sri Lanka  
Tel/Fax: +94-11 2647842  
E-mail: [leslie.joseph@fao.org](mailto:leslie.joseph@fao.org)

## **OBSERVER**

### **Niklas S. Mattson**

P.O. Box 7035, Vientiane, Lao PDR  
Tel: +856-21-223436  
E-mail: [niklas@laopdr.com](mailto:niklas@laopdr.com); [niklasm\\_99@yahoo.com](mailto:niklasm_99@yahoo.com)

## **FAO Regional Office for Asia and the Pacific Secretariat**

### **Derek J. Staples**

Senior Fishery Officer

### **Simon Funge-Smith**

Aquaculture Officer

### **Jesper Clausen**

Associate Professional Officer

### **David Brown**

Consultant

### **Pornsuda David**

Technical Assistant

### **Kesara Aotarayakul**

Secretary

## List of Documents

### Working papers

- RC/WP-01: Provisional agenda and timetable
- RC/WP-02: Background paper
- RC/WP-03: Strategic framework paper (draft)
- RC/WP-04: CONSRN flagship programme (draft)
- RC/WP-05: Country papers
  - 1. India
  - 2. Indonesia
  - 3. Malaysia
  - 4. Myanmar
  - 5. Sri Lanka
  - 6 Thailand

### Information papers

- RC/INF-01: Provisional list of documents
- RC/INF-02: List of delegates and observers
- RC/INF-03: CONSRN Concept Note
- RC/INF-04: Workshop prospectus
- RC/INF-05: Agency programme papers
  - 1. BOBP-IGO
  - 2. FAO
  - 3. NACA/STREAM
  - 4. SEAFDEC
  - 5. WorldFish
- RC/INF-06: CONSRN Project proposal for assessment needs review
- RC/INF-07: Statement from the Regional conference on rebuilding peasants' and fisherfolks' livelihoods
- RC/INF-08: UNEP guiding principles



## Opening Statement

By

*He Changchui*

Assistant Director-General and  
Regional Representative for Asia and the Pacific

It is my pleasure to welcome all participants to this regional workshop on *One year later – The Rehabilitation of Fisheries and Aquaculture in Coastal Communities of Tsunami Affected Countries in Asia*.

As you know, the CONSRN consortium was rapidly formed after the 26 December 2004 tsunami to provide support for the tsunami rehabilitation process through specialized networks and the sharing of information among international and regional organizations. The organizations involved include the Bay of Bengal Programme Inter-Governmental Organization (BOBP-IGO); the Network of Aquaculture Centres in Asia-Pacific (NACA); the Southeast Asian Fisheries Development Center (SEAFDEC); the WorldFish Center (WorldFish); and the Food and Agriculture Organization of the United Nations (FAO) through its Regional Office for Asia and the Pacific and the Asia Pacific Fishery Commission (APFIC). CONSRN has met regularly over the last year, principally to review progress, share information and coordinate actions, but also to develop joint policy guidelines and advice for governments.

The consortium partners have been closely involved in the emergency and rehabilitation work in the fisheries and aquaculture sector of all the tsunami-affected countries. Soon after the disaster, FAO quickly mobilized teams of national and international experts to assess the damage to the agriculture and fisheries sectors and identify the assistance needed. This resulted in its participation in the United Nations Flash Appeal (launched on 6 January 2005) and the commitment of over US\$ 60 million for tsunami rehabilitation in the affected countries. FAO has also worked closely with a wide range of partners to support the rehabilitation efforts, such as UN agencies, NGOs and governments.

One year ago, the CONSRN consortium partners and governments from affected countries met here to discuss and agree a regional strategic framework in support of tsunami rehabilitation. This regional workshop on “Rehabilitation of Fisheries and Aquaculture in Coastal Communities of Tsunami Affected Countries in Asia” was held from 28 February to 1 March 2005. Six strategic elements in support of an agreed vision were developed. These included support for:

- improving policy and institutions;
- providing appropriate physical assets;
- restoring the environment (whilst ensuring equitable access);
- providing appropriate financial support; and
- improving capacity in support of community livelihoods and responsible coastal resource management and the rebuilding of social assets.

The framework outlined the rationale for these strategic elements and described potential activities and outputs in support of them. In addition, a series of “guiding principles” were agreed which were intended to guide the rehabilitation and development activities described in the framework.

In order to support further action, a provisional implementation strategy for activities in its support was also developed. The key elements of this included: collaboration in conducting needs assessments; development of agreed rehabilitation plans; working together to mobilise resources for rehabilitation and implementation of these plans through projects and programmes either independently as members or jointly as a consortium.

One year on from this meeting we again come together here to review what progress we have made towards achieving the goals set out in the strategy, to re-assess needs and to determine how best to help coordinate the longer-term rehabilitation that is still needed in affected countries. The objectives of the second regional workshops are, therefore, (i) to review progress against regional strategy, (ii) to review and discuss national strategies and (iii) to plan how CONSRN can further assist countries in this task.

Despite the great progress made in the last year it is more important than ever before that we coordinate and plan for the longer-term rehabilitation and development that will be needed. FAO stresses this need for a continued shared vision of a sustainable approach to reconstruction. We must continue to ensure that in restoring the livelihoods of those affected we can ensure sustainable development of the fishery and aquaculture sectors and sound management of the natural resource base, such as coral reefs and mangrove forests and associated fisheries on which these sectors depend.

The primary output of this workshop will be a report which will include: a review of progress towards achieving the goals set out in the CONSRN Strategic Framework, a summary of country strategies and recommendations for future work for CONSRN partners. We hope to encourage widespread dissemination of the findings of this meeting.

I am confident that our collective wisdom, expertise and joint mission provide a firm footing to build on the results we have already achieved.

I wish you well in your endeavours and look forward to seeing the output of this workshop.

I hereby declare the workshop open.

## Working Group outputs: Country priorities, issues and solutions

### A NEED FOR COORDINATION OF ASSISTANCE AND FOR FISHERY MANAGEMENT

ISSUE	SOLUTIONS
<p>Indonesia ■ Insufficient coordination between government, donors, NGOs and community. Mechanisms are not effective and lead to slow implementation</p> <p>Thailand ■ Insufficient coordination – lack of human resources</p> <p>Sri Lanka ■ Strengthening coordination, sector data base and information flow for current and future needs</p>	<p><b>COORDINATION OF ASSISTANCE</b></p> <ul style="list-style-type: none"> <li>■ Need a body to take charge</li> <li>■ Mobilize funds</li> <li>■ Designate Staff/resources for the long term</li> <li>■ Well defined responsibilities and mechanisms</li> <li>■ Meetings among stakeholders – regular and well planned</li> <li>■ Setting clear responsibilities and coordination amongst institutions (database, finance etc.)</li> <li>■ Implement feedback control mechanisms</li> <li>■ Gather information to communicate effectively</li> </ul> <p><b>COORDINATION OF VESSELS AND FOR FISHERY MANAGEMENT</b></p> <ul style="list-style-type: none"> <li>■ Establish a programme coordinating unit</li> <li>■ Establish a data system covering all fishery sectors</li> <li>■ Establish management information system</li> <li>■ Implement fishers ID, vessel registration and licensing scheme</li> <li>■ Manage boat capacity (including boat supply now)</li> </ul>

### ASSESSMENT OF IMPACTS/SCIENTIFIC STUDIES FOR DECISION MAKING

ISSUE	SOLUTIONS
<p>Sri Lanka ■ Evaluating impact of tsunami on eco systems and resources for future planning</p> <p>India ■ Conduct and coordinate scientific studies, disseminate information/ knowledge on post-tsunami environmental changes and its impact in the long run</p> <p>Myanmar ■ Resource status unknown and no management</p>	<p><b>ASSESSMENT OF IMPACT</b></p> <ul style="list-style-type: none"> <li>■ Review</li> <li>■ Identify data and information gaps</li> <li>■ Conduct surveys on selected resources/ ecosystems</li> <li>■ Conduct resource assessments</li> </ul> <p><b>LINKING TO MANAGEMENT</b></p> <ul style="list-style-type: none"> <li>■ Designate Team (coordination) for decision making</li> <li>■ Link with reliable capture fishery statistic system</li> <li>■ Regular monitoring and analysis</li> <li>■ Commission further studies</li> <li>■ Provide information for policies</li> <li>■ Additional public information (i.e. communication)</li> <li>■ Disseminate to fishing communities</li> </ul>

## CLARIFYING FISHERY POLICY MANAGING CAPACITY & INSTITUTIONS FOR COASTAL MANAGEMENT

ISSUE		SOLUTIONS
Sri Lanka	<ul style="list-style-type: none"> <li>■ Institutionalization of coastal resources management and required capacity building among coastal communities, government and non-fishery stake holders</li> </ul>	<p><b>NATIONALLY</b></p> <ul style="list-style-type: none"> <li>■ Identify stakeholders and levels</li> <li>■ Multi level, multi-stakeholder meetings</li> <li>■ Develop policy and strategy</li> <li>■ Develop master plan, coordination and periodic dialogue among implementing agencies</li> <li>■ Develop management plans</li> <li>■ Develop required legal instruments</li> </ul> <p><b>LOCALLY</b></p> <ul style="list-style-type: none"> <li>■ Facilitate dialogue and develop consensus</li> <li>■ Identify actors, collect plans, additional information</li> <li>■ Develop/implement pilot initiatives in CRM</li> <li>■ Awareness creation/training on CRM (mobilize funds)</li> </ul>
India	<ul style="list-style-type: none"> <li>■ Prioritize and find a balance between social, economic and ecological policy objectives</li> </ul>	
Myanmar	<ul style="list-style-type: none"> <li>■ Immediate lack of vessels management of capacity into the future</li> </ul>	
India	<ul style="list-style-type: none"> <li>■ Plan and implement appropriate coastal eco-restoration/enhancement programmes</li> </ul>	

## ALIGNING ASSISTANCE WITH NEEDS

ISSUE		SOLUTIONS
Indonesia	<ul style="list-style-type: none"> <li>■ Needs vs. implementation. Donors make assumptions about needs due to lack of communication with communities. Sustainability of assistance should be considered</li> </ul>	<ul style="list-style-type: none"> <li>■ Needs analysis</li> <li>■ Development of a fishery profile</li> <li>■ Strengthen community structure</li> <li>■ Participatory approach and better communication (develop database and guidelines)</li> <li>■ Control over delivery and implementation</li> <li>■ Rebuild infrastructure</li> </ul>
Malaysia	<ul style="list-style-type: none"> <li>■ Assets – aligning with need</li> </ul>	
Indonesia	<ul style="list-style-type: none"> <li>■ Mechanism for distribution – focused on main centres due to logistical issues and comprehensive assessment of needs</li> </ul>	
India	<ul style="list-style-type: none"> <li>■ Plan and implement appropriate infrastructure projects taking into account ownership, management and sustainability issues</li> </ul>	
Maldives	<ul style="list-style-type: none"> <li>■ Provision of shelter. Displacement away from original home islands and lack of alternative livelihoods</li> </ul>	

## STRENGTHENING HUMAN CAPACITY

ISSUE		SOLUTIONS
Thailand	<ul style="list-style-type: none"> <li>Capacity building for management of fisheries and aquaculture development</li> </ul>	<ul style="list-style-type: none"> <li>Assessing training needs (generic and specific)</li> <li>Formulation of training content and skills development for personnel</li> <li>Training for officials (policy, planning, implementation) and communities</li> <li>Training in resource assessment</li> <li>Training in Fisheries management and economics</li> <li>Additional training for government officers</li> <li>Additional training for fishers</li> </ul>
Malaysia	<ul style="list-style-type: none"> <li>Human resources development – knowledge, policy implementation</li> </ul>	

## PREPAREDNESS, SAFETY AND SIMPLE EARLY WARNING SYSTEMS

ISSUE		SOLUTIONS
Indonesia	<ul style="list-style-type: none"> <li>Developing knowledge/safety awareness</li> </ul>	<ul style="list-style-type: none"> <li>Government plan for preparedness</li> <li>National disaster fund</li> <li>Infrastructure, plans for the future (training)</li> <li>Software, hardware and training</li> </ul> <p><b>HARDWARE</b></p> <ul style="list-style-type: none"> <li>Develop telecommunications network</li> <li>Development of information package</li> <li>Storage of necessary materials</li> <li>Development of simple community level warning system through pilot project</li> <li>Facilities (warning system infrastructure), supporting activities and training</li> </ul> <p><b>SOFTWARE</b></p> <ul style="list-style-type: none"> <li>Develop and implement an education awareness campaign</li> <li>Q&amp;A form on people's understanding of disasters</li> <li>Develop through pilot project</li> </ul>
Thailand	<ul style="list-style-type: none"> <li>Simple natural disaster early warning system for fishing communities</li> </ul>	
Malaysia	<ul style="list-style-type: none"> <li>National disaster preparedness system and plan</li> </ul>	
Myanmar	<ul style="list-style-type: none"> <li>Communication to fishers/communities about tsunami warnings and rehabilitation process</li> </ul>	

## STRENGTHENING COMMUNITIES

ISSUE		SOLUTIONS
Indonesia	<ul style="list-style-type: none"> <li>Capacity training for beneficiaries – improving knowledge for communities</li> </ul>	<ul style="list-style-type: none"> <li>Emphasize cooperative approaches (livelihoods as a whole)</li> <li>Collaboration to build community capacity and institutions</li> <li>Community empowerment through extension services and communication</li> <li>Make sure community is united</li> <li>Education at community level</li> </ul>
Thailand	<ul style="list-style-type: none"> <li>Strengthening community groups – developing resilience, empowerment</li> </ul>	
Malaysia	<ul style="list-style-type: none"> <li>Human capacity and social assets – long term plans, must address sustainability</li> </ul>	
Sri Lanka	<ul style="list-style-type: none"> <li>Capacity building of CBOs for livelihood development and enhancing social capital (women in sector, opportunities)</li> </ul>	
Maldives	<ul style="list-style-type: none"> <li>Need to create social institutions to increase community resilience and assist with recovery</li> </ul>	

## APPROPRIATE FINANCIAL MECHANISMS AND ACCESS TO THEM, FUNDS AND FINANCE

ISSUE		SOLUTIONS
Thailand	<ul style="list-style-type: none"> <li>Revolving funds, micro-credit and soft loans are insufficient at community level</li> </ul>	<p><b>DONOR</b></p> <ul style="list-style-type: none"> <li>Donor assistance</li> <li>Conduct donor coordination meeting to promote funding support for Fisheries strategy</li> <li>Mobilize financial resources (donor and national)</li> <li>Leverage donor assistance to fill financing gap</li> <li>Mobilize financial resources (donor and national)</li> <li>Review of financial institutions/mechanisms</li> <li>Develop project concepts and proposals for donor funding</li> <li>Providing funds for soft loans</li> <li>Public private sector partnerships</li> </ul> <p><b>ACCESS TO FINANCE</b></p> <ul style="list-style-type: none"> <li>Develop common programme and training aids linked to credit supply</li> <li>Establish appropriate rural financing mechanisms</li> <li>Provision micro-credit facilities</li> <li>Income generation training</li> <li>Financial management/savings</li> <li>Provide community funds</li> <li>Provide mechanisms to manage/accounting i.e. give back to community</li> </ul>
Malaysia	<ul style="list-style-type: none"> <li>Financial mechanisms</li> </ul>	
Sri Lanka	<ul style="list-style-type: none"> <li>Funding for institutional, infrastructure rehabilitation and development; addressing gaps in other areas, e.g. multi day boats, gear, quality enhancements (safety standards/“sea to table” and coordination)</li> </ul>	
Myanmar	<ul style="list-style-type: none"> <li>Lack of access to investment capital</li> </ul>	
Maldives	<ul style="list-style-type: none"> <li>Lack of access to investment capital</li> </ul>	

**POST HARVEST/VALUE ADDING – OPPORTUNITIES FOR ALTERNATIVE EMPLOYMENT**

<b>ISSUE</b>		<b>SOLUTIONS</b>
India	<ul style="list-style-type: none"> <li>▪ Develop institutional arrangements for capacity building in the area of post harvest (value addition) and alternative employment</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide employment opportunities/skills during transitional period</li> <li>▪ Identification of institutions, development of common programme</li> <li>▪ Strengthen institutions for dissemination of post harvest technology and information with stress on value addition and market linkages</li> <li>▪ Value addition of fishery products and marketing (market chain development)</li> <li>▪ Transfer added value technology and quality assurance skills</li> <li>▪ Support development of producer organizations/cooperatives</li> <li>▪ Implement programs to mitigate impacts from displacement from traditional fishing grounds</li> </ul>
India	<ul style="list-style-type: none"> <li>▪ Building social capital among fishing communities to handle marketing, credit and resource management</li> </ul>	
Maldives	<ul style="list-style-type: none"> <li>▪ IDP/LIVELIHOODS Provision of alternative livelihoods while in shelter housing</li> </ul>	
Maldives	<ul style="list-style-type: none"> <li>▪ Lack of processing infrastructure, technology and marketing in post harvest and supply chain</li> </ul>	

**ASIA-PACIFIC FISHERY COMMISSION**  
**FAO Regional Office for Asia and the Pacific**  
**39 Phra Athit Road, Bangkok, Thailand**  
**[www.apfic.org](http://www.apfic.org)**