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COMMITTEE ON FISHERIES

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REHABILITATION OF THE FISHING COMMUNITIES AND THE FISHERIES AND AQUACULTURE SECTORS AFFECTED BY THE TSUNAMI IN THE INDIAN OCEAN

SUMMARY

1. The tsunami of 26 December 2004 has killed an estimated 300,000 people and devastated the livelihoods of millions of coastal people, many of them poor fishers, fish farmers and their families. The swift and dedicated emergency relief response by affected countries and the international community have largely met the immediate basic needs of survivors and averted widespread hunger and disease. As short-term relief is largely complete, the challenge for the affected countries and the international community is to judiciously and efficiently use the unprecedented generous assistance by public and private donors in order to rehabilitate in a sustainable and equitable manner the millions of livelihoods that were affected by the tsunami. Coordination and technical guidance have become priority issues for the governments of the disaster affected countries. The United Nations Agencies, World Bank and Asian Development Bank have been called upon to support governments in these tasks. COFI is invited to review and comment on the response by FAO to the disaster and provide guidance on the Fisheries Department's medium and long-term strategies to support affected countries in the rehabilitation of their fisheries and aquaculture sectors.

THE EVENT AND ITS IMPACT

2. The earthquake off the coast of Sumatra of 26 December 2004 was the fourth largest in the world since 1900 and the largest in nearly half a century. It triggered large tsunamis that surged with devastating force against at least 12 countries, reaching as far as the Horn of Africa and causing one of the world's worst natural disasters in modern times. The tsunami disaster in

the Indian Ocean has killed an estimated 300,000 people - a precise figure will never be known - and shattered the livelihoods of several million people who lost their homes and productive assets. While the enormous scale of the physical damage of this catastrophe, currently estimated at more than US \$ 7 billion, has become increasingly clear, the immense human suffering is unfathomable and will reverberate among the survivors long after their livelihoods and economies have been rebuilt.

3. The tsunami disaster disproportionately affected poor people, especially poor fishing communities which were inflicted with the highest death tolls - an estimated one quarter of all fatalities - and which lost all or most of their livelihood assets. In several localities the communities were destroyed in their entirety.

4. Brief summaries of impact assessments in the most affected countries are provided below.²

5. In India, the tsunami caused extensive damage in Andaman and Nicobar Islands and in the coastal areas of Andhra Pradesh, Kerala, Pondicherry and Tamil Nadu. More than 10 thousand people lost their lives and over two million livelihoods were affected. In Tamil Nadu, the worst affected Indian state, the tsunami killed some 8 thousand people of whom more than four-fifth were from fishing communities.

6. In Indonesia, the worst affected country, the tsunami devastated the coastal areas of two districts of North Sumatra province, especially the northern and western communities of Banda Aceh province. The number of dead or missing is estimated at 230,000 and the number of displaced people in Aceh at over 400,000.

7. The total estimate of damages and losses is in the order of US\$4.45 billion, nearly two thirds of it in the private sector including housing, commerce, agriculture, fisheries, and transport. Some two-thirds of fishing implements including boats and gear, and half of the fisheries and aquaculture infrastructure were destroyed or damaged. Fisheries sector output in the affected districts is expected to decline by as much as 60 percent as a consequence of physical loss, the large number of killed fishermen, and the post-trauma fear to recommence fishing. Direct damage of fishing and aquaculture assets, excluding income losses due to lost production, has been estimated at about US \$ 140 million.

8. The entire population of the Maldives was affected as the country's more than 1100 islands became inundated. Twenty of the 198 inhabited islands were largely devastated. Over one-third of the total population of 280,000 was severely affected - their homes destroyed or severely damaged and their water and food supply undermined. Eighty people were killed and twenty remain missing. About 12,000 people continue to be displaced. Tourism and fisheries, which are the main economic sectors of the Maldives, were severely impacted by the tsunami. In macroeconomic terms, the Maldives is the worst affected country as the damage to productive assets, housing and infrastructure is estimated at US \$ 470 million equal to nearly two-thirds of the country's gross domestic product. The direct damage to fishing and fish processing implements and indirect income losses in the fishery sector have been estimated at US \$ 25 million.

9. In Sri Lanka, the devastating tsunami struck 12 of its 14 coastal districts, killed over 31,000 people, destroyed fully or partially some 140,000 houses, and damaged natural ecosystems, and coastal infrastructure. Vulnerable groups, such as poor fishing communities living close to the shore in simple houses and shelters, have borne the brunt of the negative impacts. Overall economic damage is estimated at close to US \$ 1 billion (approx. 4.4% of GDP) with losses concentrated in the housing, tourism, fisheries, and transport sectors.

²Based on various assessment reports by multi-agency missions of staff of international financial institutions, UN agencies and bilateral donors. Less affected countries include Kenya, Myanmar, and Tanzania.

10. Most of the killed people were fishermen and their families. In addition, some 90,000 fisherfolk have been displaced due to the loss of housing and other household assets. More than 20,000, or two-thirds, of the country's fishing fleet of about 28,000 vessels, were either fully destroyed or damaged to varying degrees. Fishing inputs such as out board motors, ice storages, fishing gear and nets also have been destroyed as has fisheries infrastructure such as fishing harbours. The total damage to the fisheries sector but excluding the damage to housing and personnel assets of the affected fishing population is estimated at US \$ 120 million.

11. In Southern Thailand along the coast of the Andaman Sea, more than 5,000 people were killed about half of them foreign tourists. People working in fishing and allied activities and in tourism were the most affected. Overall, the livelihoods of several hundred thousand people have been affected by the tsunami. Large-scale damage was inflicted upon some 400 fishing villages including damage or destruction of 4500 fishing boats. About 30,000 mostly poor households that depended on fisheries lost their means of livelihood.

12. In Africa, the north eastern coastline of Somalia was the worst affected. The tsunami hit hard on already vulnerable people caused by civil war, chronic droughts and floods. An estimated 150 people have died, with an additional more than 50,000 people having been directly affected through damages of houses, boats, wells, and water reservoirs. As the tsunami coincided with the height of the fishing season, the impact was exacerbated on fishing livelihoods and fish consumers.

13. The Seychelles archipelago suffered severe flooding and widespread damage to roads, fishing infrastructure, and tourism resources. The overall damage has been estimated at about 4% of the country's GDP while the estimated loss in fishing infrastructure is US\$6.8 million.

GLOBAL RESPONSE

14. Governments have provided leadership in the relief efforts in the aftermath of the disaster. They have drawn on the support of national disaster and relief management structures, wide-spread solidarity among their populations, and on the support of United Nations Agencies and bilateral donors for short relief. These efforts have been successful in the delivery of emergency food, shelter, and medical supplies to most of the survivors thereby averting widespread hunger or disease. Relief efforts continue to be required for the hundreds of thousands of displaced people who still live in temporary housing and are dependent on food assistance.

15. There has been an unprecedented level of solidarity with and support to the affected countries and people by the international community. The United Nations Flash Appeal in early January raised more than \$700 million for UN agencies for relief and early recovery efforts. The aggregate amount of public donor commitments to relief and rehabilitation, as reported by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), is over US \$ 5.5 billion. This amount does not yet including relief and rehabilitation commitments through the Asian Development Bank and the World Bank and also excludes US \$1 to 2 billion of donations from private parties as estimated by the World Bank.

16. With the emergency relief phase largely completed, the challenge for the affected countries and the international community is to judiciously and efficiently use the potentially available assistance to rehabilitate in a sustainable and equitable manner the millions of livelihoods that were affected by the tsunami and restore the capacity of the affected national, regional and local economies for sustained development. In this context, there is an urgent need for coordination and technical guidance to build consensus on the what, who and how, that has become a priority issue for the governments of the disaster affected countries, the UN including FAO, and other donors.

FAO RESPONSE

17. In the first week after the disaster, FAO committed US\$1.5 million from its own limited Technical Cooperation Programme (TCP) resources to needs assessments and early recovery in Indonesia, Maldives, Sri Lanka, and Thailand.

18. Through the UN Flash Appeal of early January, and on the basis of the initial needs assessment, FAO appealed for US\$26.5 million for six countries – Indonesia, Maldives, Myanmar, Seychelles, Somalia, and Sri Lanka - and for US\$2.5 million for regional activities in partnership with UNDP and UNEP. Immediate priorities covered by FAO's appeal included:

- coordination and technical assistance;
- supply of fishing gear, repair and replacement of boats, rehabilitation and restocking of fish ponds, early rehabilitation of harbours, anchorages, fish storage and processing;
- seeds, tools, and other agricultural inputs to allow resumption of food production; and
- repair of irrigation and drainage infrastructure, and reclamation of crop land affected by salt water flooding.

19. As of 21 February, funds approved for FAO amount to US\$ 29.3 million including \$13.4 million in cash received, of which \$1.5 million from the TCP and \$11.9 million from donors – Japan (\$5 million), Norway (\$3 million), Germany (\$1.4 million), UK (\$1.1 million), China (\$ 0.4 million), Belgium (\$0.2 million), Canada (\$ 0.8 million), Gov of. Palau (\$25 000) - and another \$16 million committed by Belgium (\$3.9 million), China (\$1.6 million, in kind), Italy (\$9.3 million), Norway (\$ 1 million), Germany (\$ 135 000). Donations have also been pledged from Algeria and Greece. It is worth noting that contributions from Germany, Norway and the United Kingdom are being channelled through the Special Fund for Emergency and Rehabilitation Activities (SFERA), which allows FAO to advance funds for priority interventions in a flexible manner in accordance with the needs identified by FAO and the Governments of the concerned countries.

20. Additional funding is being negotiated with a number of other donors – the pipeline amounts to US\$ 27million. If the entire pipeline materializes, the total funding available to FAO would be in the excess of US\$ 56.5 million, and maybe more as the focus moves towards recovery and reconstruction.

COORDINATION OF RESPONSE

21. At the international level, FAO and the FAO Fisheries Department closely cooperate with the UN Development Group, the UN Office for the Coordination of Human Affairs (OCHA), other UN organizations, the International Financial Institutions, fisheries networks, Inter-Governmental Organization, NGOs and civil society. The FAO Fisheries Department, together with other FAO Departments, reports its assessments and responses on a daily basis to OCHA, which includes these reports in the OCHA Situation Reports on Earthquake and Tsunami.

22. In order that the benefits of FAO's know-how and resources reach the largest number of fishers, fish farmers and their families affected by the tsunami, a main task of the staff of FAO's Fisheries Department is to assist those who are responsible for planning and implementing relief and rehabilitation activities at national and regional levels.

23. At the national level, staff and consultants of the FAO Fisheries Department form part of national task forces, established by Governments to coordinate all tsunami related assessment, relief and rehabilitation measures.

24. As part of the overall FAO efforts to assist the affected countries, close collaborations have been maintained with the International Financial Institutions (IFIs) such as the World Bank, Asian Development Bank (AsDB) and the Islamic Development Bank. FAO is collaborating with IFIs in the areas of:

- Needs and damage assessments in agriculture and fisheries sectors;
- Formulation of rehabilitation and recovery strategies;
- Participation in missions to help design project/programme intervention, and
- Facilitating the exchange of technical and operational information.

25. Staff and consultants of the FAO Fisheries Department, together with their colleagues in the FAO Investment Centre and the IFIs have assisted national Governments in the assessment of damages in the fisheries and aquaculture sectors and related relief and rehabilitation needs in Indonesia, India, Sri Lanka, the Maldives, Thailand, and Myanmar.

26. The FAO Fisheries Department is actively contributing to the development of country-driven programme frameworks for tsunami affected countries. These frameworks are developed by governments with multi-agency assistance provided by the IFIs and the UN system. Each country framework has a fisheries component and incorporates a livelihoods based approach and other cross cutting issues such as food security, gender and the protection of the coastal and marine environment, noting that the fishers and farmers livelihoods constituted the largest group affected in most countries, aside from those heavily invested in tourism.

27. The FAO Fisheries Department has developed and is operating a web-site on fisheries and aquaculture interventions in tsunami affected areas that seeks to provide consolidated information on needs in the fisheries and aquaculture sector and relief and rehabilitation measures and to serve as a focal point for all stakeholders and donors. The web-site is part of the overall FAO tsunami web site and connected to the UN Atlas of the Oceans website maintained by FAO on behalf of UN Agencies. This site is to assist in the coordination of all agencies' information on ocean-related activities and on which intense activity is developing around the tsunami issue.

ISSUES AND CONSTRAINTS IN THE REHABILITATION OF FISHERIES AND AQUACULTURE

28. The most important issue facing medium and long-term rehabilitation measures and a possible constraint to the long-term sustainable rehabilitation of the fisheries and aquaculture sectors of the tsunami affected countries is the danger of the re-institutionalization factors of vulnerability and unsustainability. This concerns first and foremost the risk of developing fishing capacity in excess of the productive capacity of the fisheries resources - a risk that is high if fishing capacity rebuilding is not carefully monitored and managed. It also includes the danger of introducing fishing craft and gear or indirectly promoting fishing practices and methods, that are not appropriate and that may contribute to over-exploitation of fisheries resources or have a negative impact on the coastal and aquatic environment. The same is true for aquaculture technology and practises.

29. A related issue is to account for the impact of the tsunami on fisheries and aquaculture production potentials. Specific research is required to assess the extent of environmental damage to fisheries/aquaculture habitats and sites and its effect on production potential, and to advise on actions that may be required to rehabilitate these habitat/sites and productivity.

30. In some instances, rebuilding fishing capacity to past level may not be compatible with the guiding principles of sustainable fisheries - some communities may not be able to return to areas they were previously living in. In this case attention would need to be paid to the difficulty of building alternative livelihoods, as well as to the possibility of doing so through improvements in fisheries and aquaculture production, processing and marketing.

31. Given the scale of the disruption it is not clear to what extent fisheries “communities” and related institutional capacity remains in some coastal areas. This has implications in terms of involving communities and their institutions in the planning and implementation of rehabilitation efforts. This also has implications in terms of achieving sustainable livelihoods. For example, microfinance is likely to play a role in rehabilitation, but traditional savings and credit mechanisms may no longer exist.

32. Another important issue in preventing and reducing the negative impact of future natural disasters such as tidal waves and tropical storms is related to the settlements of coastal and fishing communities and their location, which are in many cases extremely vulnerable and unprotected. The involvement of these communities in coastal and land use planning needs to be strengthened as well as their use and property rights to the land, on which their houses and settlements are located.

33. Closely related to this is the issue of coastal conservation and protection. Measures need urgently to be taken to prevent further soil erosion in coastal areas, rehabilitate mangrove forests and to use natural and other means of soft armouring and protecting coastlines against the destruction by tidal waves, floods and storms. All these measures need to be designed and implemented in close consultation and with the involvement of local authorities and communities.

34. Issues of land and resettlement are already becoming important, especially with many governments currently contemplating relocation of communities further from the shore to protect them from future tragedies. The extent to which communities will be willing or able to do that is to be assessed. This may have many consequences for fishing communities and fish farmers in terms of access rights to land and water, re-organizing the logistics of production, processing and marketing, as well as in terms of livelihoods.

FAO’S STRATEGY FOR MEDIUM AND LONG- TERM REHABILITATION OF THE FISHERIES AND AQUACULTURE SECTORS IN AFFECTED COUNTRIES

35. In order to address the above issues and constraints and ensure that fisheries and aquaculture are rehabilitated in a sustainable and equitable manner, FAO has developed a Strategic Framework for Medium and Long-Term Fisheries/Aquaculture Rehabilitation and Reconstruction³. This framework is being revised and elaborated upon as more detailed and precise information becomes available on the impact of the tsunami in the different localities and the specific rehabilitation and livelihood needs. Important principles that should govern FAO’s assistance to medium and long-term rehabilitation by affected countries include the following:

- Ensure that rehabilitation is perceived by people as a right and addressed as such with people and for people.
- Adopt a collaborative approach with international development partners under the overall coordination framework of concerned governments.
- Closely follow the Code of Conduct for Responsible Fisheries and the related technical guidelines.
- Adopt a livelihoods approach and its principles (people-centred, responsive and participatory, multi-level, conducted in partnership, sustainable, adaptive).
- Couple rehabilitation with reforms in order to avoid the re-institutionalization and repetition of factors of vulnerability or unsustainability formally identified as affecting the livelihoods and living conditions of fishing communities.
- Ensure that the fishing capacity that is being rebuilt is compatible with sustainable resource use, related precautionary principles and the rights of small-scale fishworkers to a secure and just livelihood.

³ See <http://www.fao.org/tsunami/fisheries/index.htm>.

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- In the rehabilitation of the means of production for fisheries/aquaculture, rely essentially on inputs that were used previously, especially when produced locally (e.g. fishing boats and gear).
 - Ensure that institutional capabilities are also rehabilitated to allow for sound governance of the sector, responsible fisheries management and effective community participation in rebuilding livelihoods.
 - Nest fisheries/aquaculture rehabilitation efforts within a multi-sectoral approach that conserves the environmental integrity of coastal areas.

36. FAO will continue to closely collaborate with other UN organizations and the international financial institutions in providing assistance to the affected countries for medium and long-term rehabilitation. FAO will also continue to collaborate with its Asia regional partners in the Consortium to restore Shattered Livelihood Communities in Tsunami-devastated Nations (CONSRN)⁴. The Consortium held a meeting from February 28 to March 1 2005 with representatives of fisheries agencies from the affected countries in the region and elaborated a Regional Strategic Framework for Rehabilitation that will serve as a basis for sound project formulation and dialogue with interested donors.

37. The FAO Fisheries Department is relatively small in size and has had to reorganize its regular programme activities to answer the emergency crisis. Much of the emergency funding has been for the purchase of inputs, whereas assistance in technical coordination and planning of relief interventions has been the most widely requested type of support by the Governments concerned. Most of the anticipated projects for rehabilitation and reconstruction will address the sustainable recovery of fisheries and aquaculture and related management and development aspects.

38. In preparing for the rehabilitation and reconstruction effort, the Fisheries Department requires the creation of a Tsunami Rehabilitation Coordination and Technical Support Unit that would assist with technical servicing and coordination of national and regional projects throughout the project cycle work (identification, preparation, implementation, monitoring, and evaluation). The establishment of such a unit will require extra-budgetary funding.

SUGGESTED ACTION BY THE COMMITTEE

39. The Committee is invited to review and comment on the response by FAO to the disaster and provide guidance on the Fisheries Department's medium and long-term strategies to support affected countries in the rehabilitation of their fisheries and aquaculture sectors. The Committee may more specifically consider:

- the need for fisheries and aquaculture rehabilitation to focus on rebuilding the livelihoods of fishers and fish farmers in a sustainable manner that gives due account to improving sectoral governance and efficiency;
- the need to rebuilding fishing capacity in line with sustainable resource use using more appropriate fishing practices and building community processes that strengthen fisheries management and the conservation of the coastal environment.

⁴ Members of the Consortium are: Asia Pacific Commission (APFIC); Bay of Bengal Programme – Intergovernmental Organization (BOB-IGO); FAO Regional Office for Asia and Pacific (FAO-RAP); Network of Aquaculture Centers in Asia and Pacific (NACA); South East Asia Fisheries Development Centers (SEAFDEC); and WorldFish Center (WorldFish).