

## **ANNEX XIII – FISHERIES**

### **A. INTRODUCTION**

1. The fishery sector in Sri Lanka contributes 2.4 percent of GDP. Sea fishing and fishery related services provide employment and livelihood for a larger proportion of the rural communities living around the coast of Sri Lanka. The sector employs an estimated number of 142,500 active fishermen and about another 20,000 people indirectly, many of whom were living in 1,333 fishery villages and used 703 boat landings, including fishery harbors, along the coast. About 120,000 households depend on this industry. Average living conditions of these fishermen are low, and the average monthly income of a fishing family is scarcely above the poverty line of LKR 3,100. The tsunami therefore had a severe impact on undiversified and already impoverished economies, especially in the conflict affected North and East, where fishing and agriculture were the main economic activities.

2. Prior to the tsunami, there were about 28,138 boats in business including 1,614 multi-day boats (MDBs), 10,924 motorized day boats (MoDBs), and about 15,600 non-motorized (NMBs) as registered at the last national census in 2002. However, the fisheries sector in the North and East was relatively unsophisticated, with few MDBs, storage facilities, fishery harbors and relying mostly on small vessels. Across the country, only a very few individuals owned more than 1-2 boats and 2-6 people used to go on fishing in a single boat, depending on the type and size of the vessel, either with or without the boat owner on the basis of some pre-agreed fish catch sharing arrangements among them. So the entire fishing communities were dependent on the fishing boat fleets that were in operation prior to the tsunami. The sector is intimately integrated with rural livelihoods and income. The MDB fleet is majority absentee owned with employed skippers and crews. However this fleet has high levels of debt, low quality product, high-levels of by-catch (dolphins and turtles) and poor working conditions and payment terms to the crews. All MDB and majority of day boat landings are commercial in that fish catch is auctioned at port landings for entry in to distribution chains and markets.

3. The sector produced about 264,760 metric tons of sea fish annually. This output per boat or per fishermen, when compared to outputs of other countries is low. For example, in Norway, 12,000 fishermen produce 2 million tons of fish annually.

### **B. DAMAGE OVERVIEW**

4. This damage assessment was carried out mainly on the basis of the discussions with and the data and information shared by the FAO team of consultants who carried out a preliminary damage assessment of the sector. The FAO team carried out the assessment on the basis of data and information provided by the Ministry of Fisheries and the field visits to all the districts of the Southern, Eastern and Northern provinces. In addition, the assessment was benefited from the field visits of the Bank team members to the affected districts.

5. The sea fishing is the most severely affected sector, industry and the livelihood by the tsunami. In ten of the fourteen coastal districts the damage to the industry, fishing boats and implements, fishing communities and livelihoods is enormous. The damage to the industry and

the fishing vessels in Colombo, Gampaha, Puttlam and Mannar districts are lesser than the other districts. The disaster has almost paralyzed the industry and livelihoods of the dependent communities. It is reported that about 27,000 fishermen and their family members died, with the largest number [approximately about 20,000 – source Liberation Tigers of Tamil Eealam (LLTE)] in the North and East. About 90,000 fisher communities have displaced due to the loss of housing and other household assets.

6. Of about the total 28,000 boat fleet, a large number of boats have either been fully destroyed or damaged to varying degrees. This includes mainly single day motorized boats and traditional non-motorized boats, but also a considerable number of MDBs have been destroyed/damaged. It is estimated that a total of about 15,600 boats are destroyed or damaged. The fishing implements such as out board motors, ice storages, fishing gears and nets also have been destroyed. Most of the damaged boats have been washed ashore by powerful sea tides and seen to be lying scattered on the adjoining coastal lands. Owners of these boats will have to incur additional costs to hire heavy mechanical equipment to transport the displaced boats back to the shore and fishery harbors. The total estimated cost of the damage to boats and fishing implements in terms of replacement and repair costs is LKR 10,884 million (\$ 98.41 million).

7. Several of the large fishing harbors and small boat landings in Hambantota (*Kirinda, Tangalle, Kudawella, Puranawella harbors*), Matara (*Devundara. Mirissa*), Galle (*Galle, Hikkaduwa*), Kalutara (*Beruwala, Panadura*) and Trincomalee (*CodBay*) have been destroyed in varying degrees. There is comparatively lesser damage to the fishery harbors and boat landings in the other districts. The damage to marine structures and service facilities and equipment of the harbors (including shore structures, dredgers and heavy mechanical equipment, ice plants, buildings, breakwater boulders, ice plants, boat repair yards, and pumps and distributor systems etc.) is enormous. Most of these components are beyond repair. All of the severely damaged fishery harbors and small boat landings may require extensive dredging and removing debris and sand from the basins. The total estimated cost of the damage to infrastructure of the fishery harbors/ports is LKR 792 million (\$7.2 million). The damage caused by silting up the port basins and beach landings is estimated as LKR 220 million (\$ 2.0 million).

8. In addition, buildings and assets mostly in the field including vehicles, those belong to the National Aquatic Resources Agency (NARA) headquarters, Coast Conservation Department, National Institute of Fisheries and Nautical Engineering (NIFIN), Ceynor Foundation and the monitoring, control and surveillance system of the Ministry of Fisheries and Aquatic Resources have been severely damaged. Some private ice plants also got damaged. The replacement and repair cost of this damage is LKR 605 million (\$ 5.47 million).

9. Based on these estimates the total damage is about LKR 13,299 million (\$120.25 million) excluding the damage to housing and personnel assets of the victims, which have been included in the damage assessment of the housing Sector. A breakdown of the overall damage to the sector is in Attachment 1.

### C. RECONSTRUCTION AND RECOVERY NEEDS

10. **Short term needs.** There is a need to undertake the reconstruction and recovery in two phases. Primarily, in the short-term phase (1-12 months) there should be a coordinated national effort to bring the industry back to operation as early as possible. Commencement of the rebuilding and renovating the urgently needed infrastructural facilities such as ports and anchorages, boats, small port landings etc. is absolutely essential. However, the completion of the reconstruction would extend beyond the short-term phase. During this phase, focus should be placed on helping the affected families to recover from the loss. This can be done by ensuring that those who depended on the sea fishing are included in general housing and other financial assistance programs. The option for possibly providing concessions to those whom have already taken loans and provide new loans to the affected people at concessionary terms should be explored with commercial banks. In addition, they should be provided with micro-credit facilities through community-based revolving fund mechanisms to restart the lost income sources. There are considerable funds already available for this activity through some on-going government and donor-funded programs that have related assistance components.

11. In the short term there would be a huge demand for the boats and which the local market may not be able to supply for. There is a need to review the feasibility of working with the private sector for importing certain type of boats of an agreed design. Rebuilding the damaged boat fleet through local boatyards may also substantially delay the reconstruction efforts. This needs to be done in close coordination with the large local as well as overseas commercial boat yards, facilitating and providing necessary assistance to them, to mitigate this risk.

12. Until the fishermen are able to repair the damaged boats or acquire new ones, they need to have alternative sources of income. Assistance strategies are discussed in detail in the Annex on Livelihoods.

13. *Medium and Long term needs.* At present, the management of the sector is poor with poor regulation, surveillance and monitoring by the government, infrastructure and deep sea fishing are underdeveloped, efficiency of the vessels are low, and consequently the total annual production and the production levels per vessel and fisherman are low. In the short-term, it will be necessary to carry out a more detailed assessment of the damage and the sector issues and mobilize technical assistance to begin studies to modernize the sector with a view to improve the productivity and efficiency of the sector in the long run.

14. There is a need to use this opportunity to rationalize and modernize the sector with a long term vision. An essential element of the vision should be to make the sector more productive and efficient. In this regard, strategies should be adopted strategies for improving the fishing vessel design, fish handling and packaging techniques, quality assurance, fishery information management, licensing and regulating fishing crafts and use of fishing gear, surveillance fishing zones and boundaries and providing vocational training to fishermen. Sri Lanka has a long history of heavy investment in shore based facilities including ports and boats but catches per boat and vessel income have been modest as fish resources have been excessively exploited. This situation will require a closer analysis of the ideal fleet size, composition of fleets, design of the fishing vessels, and the shore based fishery infrastructure that would lead to a sustainable balance between the resources base and the fish harvests while optimizing the catches per boat

and vessel incomes. A longer term rebuilding of the sector and its physical and economic infrastructure should be based on a detailed technical study and its recommendations. With regards to fishery harbors, strategies should be adopted to improve their management, in particularly, through exploring public-private partnerships.

**Table 1: Needs Assessment  
(In Millions)**

No.	Activities	Phase I Short-term	Phase II Mid-term	Total Amount	
		LKR	LKR	LKR	US\$
1	Providing new fishing boats or repairing damaged boats, including fishing gears	8,000	2,844	10,884	98.41
2	Reconstruction of fishery ports/harbors, anchorages and landing center facilities, provision of machinery and equipment.	500	1,500	2,000	18.1
3	Dredging of harbor basins and removing and cleaning of sand and debris from harbor and boat landing basins		553	553	5.0
4	Micro-credit		110	110	1.0
5	Reconstruction and repairs to ice plants other fishery related small service infrastructure.	500		500	4.52
6	Repairing public buildings and replacing damaged office facilities	300	1,100	1,400	12.65
7	Technical and financial assistance for modernizing the sector	50	500	550	4.97
8	Vocational training and skill development		55	55	0.5
	<b>Total</b>	9,350	6,662	16,052	145.2

15. Given the large numbers of poor people involved in the sector and the future management and efficiency issues discussed above, there will be a need to create alternative income generating opportunities in the affected areas. Creation of such opportunities, especially labor intensive industries, would take excess labor away from the sector, provide alternative and better employment to young fishermen, help achieving high sector productivity and sustainability, and higher levels of income to those engaged in fishing and productivity. There is also a need to explore the feasibility of using the reconstruction funds toward this initiative too.

#### **D. OTHER OBSERVED IMPACTS**

16. Several side-impacts of the tsunami will make a quick recovery of the fishery sector relatively difficult. First, Government's policy decision to relocate the affected people outside a 100 meter coastal reservation may have adverse social and economic impact on the fishing communities. Traditionally local fishing communities have strong community bonds and help each other in their day to day fishing activities. There is a risk that this community spirit may be lost if the relocation and resettlement is not managed diligently with due attention to the associated socio-economic implications of the policy.

17. Second, the tsunami had other adverse social impacts on the fishing communities. Most of the boat owners have obtained bank loans to purchase the destroyed capital assets. About 90

percent of them still have to repay substantial amounts of the loans. The tsunami has not them financially disabled to repay the loans and mobilize own resources to acquire the capital assets required to reestablish the business.

18. Third, rural communities rarely use banking facilities to deposit savings and instead keep their cash savings in their house. Most of them lost their savings together with jewelry and land and property deeds when the tsunami hit their houses. Most of the affected people do not have the ability to mobilize formal bank loans because co-laterals such as property deeds and jewelry etc are lost. In addition informal money sharing practices such as “*Sittu* system” which is prevalent in rural communities have got disrupted. However, the owners of the MDBs are less affected and they seem to be on a better financial footing and have better access to formal credit and insurance facilities.

19. Fourth, the tsunami has destroyed most of the local boat repair shops together with repair toolkits in the affected villages. Although there is a heavy demand for minor repairs to the damaged boats, the service is now not available. At the same time, the large commercial scale local exporters, manufacturers and boat repair yards will not be able to meet with the demand for new boats, fishing gears and implements, construction and repair material such as fiber glass and resins etc in the forthcoming recovery period.

20. Fifth, it is also noted that in the short-term there is a drastic reduction of demand for locally caught fish due to the mistaken belief that the fish is contaminated. Consequently, less affected fishermen and many other people who depend on various inputs and output market related services have lost employment. While those fishermen families whose boats are in tact and houses not destroyed may be able to restart beach landings and limited use of damaged fishery ports, most of the fishermen and their families will require several months of support to recover the livelihoods.

21. Sixth, if the disrupted fishing industry is not recovered soon, there is risk that migrant fishermen from other areas as well as from the neighboring countries may encroach on the traditional fishing areas. This problem is relevant to some affected districts where open water shrimp fishing at its peak during this period. Fishermen in these districts usually get a very high income in these three months which helps them to cushion the low income periods during the monsoon period of the year when the sea is rough and the fish catch is low.