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Impact of post - tsunami rehabilitation activities on selective fishing in the Northern coast of Jaffna peninsula

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A questionnaire based survey was conducted in May 2006, among the Tsunami affected fishermen of Northern Jaffna peninsula, in order to assess the fishing effort after Tsunami rehabilitation activities. 4337 families along the coast from Valvettithurai to Kaddaikadu were included in to the survey and they were divided in to 72 sites according to their respective donor agencies. 16 Non governmental organizations were identified as donor agencies for permanent housing schemes, out of which 6 agencies directly donated fishing gears and boats. The types and numbers of fishing gears and boats used before and after tsunami were recorded.

Results indicate that all the traditional canoes have been replaced by fiber reinforced boats and the number of boats showed 12% increase after tsunami. Before tsunami, there were diverse types of fishing gears with wide range of mesh size. But post tsunami rehabilitation aids provided only the gill nets of 2 different mesh sizes, one for fish and the other for skates. Although large numbers of boats have been given, most of them are not in use because of the prevailing unrest situation in this region. Therefore fishing effort due to the increased number of boats is immaterial. But reduced diversity of fishing gear will have major impact on stock. Since fishing is restricted in to a narrow belt along the coast repeated use of skate gill net by most of the fishermen will lead to an over exploitation of skate species. Similarly, selective fishing by gill net will deplete coastal fish species. Therefore donor agencies should focus on remedial actions in order to diversify the fishing gears in type and in mesh size.

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Identification of resilient species for maritime vegetation affected by tsunami in Hambantota district of Sri Lanka

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Among the many coastal districts struck by the Tsunami disaster, Hambantota District in the Southern region, suffered heavy losses to the coastal vegetation, biodiversity, increase salinity level of crop lands and water pollution, thus transforming the coastal area unsuitable for agriculture. A field survey was conducted to identify the damaged/ tolerant/ recovered species of maritime vegetation at three stages (1 week, 1 month and 6 months after Tsunami).

Within one week of Tsunami, all Banana (*Musa* Spps) plants, Mango (*Mangifera indica*), *Citrus* Spps, and Fish tail palms (*Cariyota urenus*) were found to be dead. At the same time Coconut (*Cocos nucifera*), Tamarind (*Tamarindus indica*), Ipil ipil (*Leucaena leucocephala*), Sooriya (*Drespesia populrea*) Maliththa (*Salvadora persica*), Kottamba (*Terminalia catappa*), Wal beli (*Hibiscus tiliaceus*) and Diya mudilla (*Barringtonia asiatica*) were not damaged by Tsunami. Some Cinnamom (*Cinnamomum verum*) plants, Jak (*Artocarpus heterophylus*), Bread fruit (*Artocarpus altilis*), Teak (*Techtonia grandis*), Kohomba (*Azadirechta indica*), *Terminalia catappa* and Wood apple (*Feronia limonia*) were defoliated. *Pandanus tectorius* plants, which were established in near the sea, were almost unaffected.

It was observed that one month after Tsunami, *Mangifera indica*, Beli (*Eagle marmelos*), Billing (*Averrhoea bilimbi*), Areconut (*Areca catechu*) and *Cariyota urenus* have not recovered. In contrast, some plant species such as *Azadirachta indica*, *Tamarindus indica*, *Cocos nucifera*, *Leucaena leucocephala*, *Pandanus*, *Terminalia catappa*, *Acacia* spps, *Callophylum inophylum* and Katu andara (*Prosopis juliflora*) have survived.

Six months after tsunami, some defoliated tree species have started to produce new flushes, showing complete recovery (> 90 %) (*Azadirachta indica*, *Tamarindus indica*, *Feronia limonia*, *Zisipus jujuba*, *Salvadora persica* and *Manilkara hexandra*). About 30 % recovery rate was observed in

Artocarpus nobilis and *Terminallia catappa*. *Artocarpus nobilis* plants were rejuvenated; young shoots were seen in mature stems of the plant. Some herbs were found in coastal belt, Nagadarana, *Tridax procumbanse*, Attana (*Datura* spps) and Maturutala. *Antigonan* spps and Muhudu bimthambaru (*Ipomoea pescapre*) were seen as creeping type plants. Crowfoot grass and Bala thana grass were also recorded near the coast. Although practically no damage was recorded for Katu andara, in some certain areas of Hambantota District, it has started to germinate, where it was not present may be due to high tolerance to salinity.

Tree species of *Pandanus*, *Cocos nucifera*, *Terminalia catappa*, *Manilkara hexandra* *.Berringtonia asiatica*, *Prospis juliflora*, *Azadirachta indica*, *Hibiscus tiliaceus*, Sooriya, *Tamarindus indica*, *Salvadora persica* and *Feronia limonia* and shrubs species of Maduruthala, *Tridax*, `Nagdarana, Attana and Wara (*Calotropis gigantean*), and creeping type plants species of Balathana grass, Crowfoot grass, Neranchi, *Ipomoea pescapre* can be recommended for rehabilitation of maritime vegetation of affected areas in Hambantota District.

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The effects of tsunami on small and medium enterprises (SME's): Case in Hambantota district

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South Asia and a part of Africa was struck by a Tsunami, a long high sea wave caused by underwater earthquake, on the 26 December 2004. In Sri Lanka costal areas around country were badly affected and entire social, economic system in those areas were disintegrated and had to depend on outside support. Those areas were less developed and income sources were intertwined with sea. In the absence of large industries economic activities were focused on Small and Medium scale businesses (SMEs) in most of these areas. This research made an effort to identify the rebuilding achievements of SME's in post Tsunami period in both social and economic contexts.

Hambanthota was selected for the study and 25 SMEs[1] were selected randomly in Rathupasgodalle town and Mirijjavila. Cluster of SME's randomly selected included traders, manufactures, fishing, representing services. It was a quantitative study and empirical statistics were studied to identify and interpret objective of the study. Structured questionnaire was used and comprised before and after Tsunami positions. In all most all cases partner or proprietor was interviewed, researches made interpretative approach in analyzing the responses and arriving conclusions.

The study has found that SME's had started in small way but do not have a strength to recommence on their own to the capacity they were hence look for financial assistance. Lack of accepted collateral had been a major issue as the banks financial services maintained averse approach and only 8% had received financial assistance. Self-employment and SME's had offered income source second to Government employment. Non-operations of SME's created a vacuum for employment opportunities/ income sources. 99% of employed were from surrounding areas thus made economic instability to families. Authorities had considered SME's as mere business entities and ignored the fact they play in social and economic aspect. SME's nor the society was ever prepared for a disaster in a such magnitude. They did not have any plan for risk evasion or business continuity. Only marginal number had insurance although one third had liability for loans/leases.