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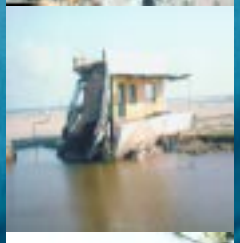

Beyond Tsunami .....

The tsunami of December 26th, 2004 triggered by an earthquake with a Richter magnitude of 9 in Indonesia, created havoc in the Andaman & Nicobar Island system and along the south east & south west coasts of India, shattering the livelihood of tens of thousands of coastal people. The killer waves inflicted immense damage to everything that came on its invasion path by way of flooding, wave impact on structures and coastal erosion. Calamity struck every fisher household in one way or other. Apart from fishers and fish farmers, hundreds of people depending directly or indirectly on the activities at the fishing harbours have been hard hit.

The Central Marine Fisheries Research Institute has made an assessment of the impact of the devastation due to tsunami on the marine fisheries of India. Primary data was gathered from the affected areas on the damages inflicted by the tidal waves to life and property including fishing crafts, gears, landing centres, fishing harbours, vessel maintenance yards, fish drying and processing yards, prawn/lobster hatchery facilities, transportation, communication and water supply systems. The studies revealed that the tsunami severely affected the coastal people in Andaman & Nicobar islands, Tamil Nadu, Pondicherry, south Andhra Pradesh and parts of Kerala. Tamil Nadu was the most affected state wherein 7,910 people lost their lives and 75,000 fishermen huts were destroyed. The total loss in the fisheries sector is estimated to be around Rs. 3,000 crores with 38,000 boats including 7,000 mechanized boats destroyed and 32,000 nets either fully or partially damaged. Fishing boats and nets have been totally wiped out in certain areas in Tamil Nadu such as Cuddalore, Nagapattinam and parts of Tuticorin, Thirunelveli and Kanyakumari districts. Owing to the decline in fishing effort, a 30 % fall in the production of marine fish is anticipated in the state. Live material and infrastructure facilities of Kovalam Field Lab of the Institute at Chennai have also been lost. In Kerala, where the death toll was 167 and as many as 6,280 dwelling units were destroyed, the total loss to the fisheries sector was assessed as Rs. 100 crores; the loss to the mechanized craft and gears amounting to about Rs. 64 crores, motorized sector 16 crores and traditional craft and gears 20 crores. Arattupuzha in Alapuzha District and Alappad in Kollam District are two sites where the tsunami resulted in unprecedented damage to fishing communities.

Fallouts of the tsunami onslaught were manifold. Fishing activities were badly hit and fish production recorded a steep fall. False rumours on seafood safety crippled fish trade. The Director and senior scientific personnel from the Institute attended press conferences and took part in seafood festivals organized by Fisheries Industry Protection Council to alleviate the public fear of consuming fish. These programmes, which had wide media coverage, helped to dispel concern on safety of seafood.

The impact of the killer waves was more evident in coastal areas within 0.5 km from shoreline and to a lesser extent between 0.5 and 2 km. A change in shore topography resulting in submersion of islands and beaches is reported from Tamil Nadu. Abnormal rise in tidal level and severe wave action has resulted in accumulation of sand mass near seashore in Mandapam. The mouth of Vellar estuary has also widened. Fishermen in Kerala have reported that the bottom topography of the trawling grounds has been altered and dislodged boulders and rocks hinder trawling. A change in the bottom topography may affect feeding and breeding grounds of the benthic community. In many parts, fish have been involuntarily transported alongwith tidal waves as has been reported from Arattupuzha where huge quantities of small oil sardine (100-150 mm) were landed by ring seine units subsequent to tsunami. Significant hydrological variations can affect the reproductive cycle and breeding of fish varieties.

The multi-dimensional impact of tsunami on fisheries and fish habitats demands a detailed study. The CMFR Institute has initiated studies on changes in the coastal biodiversity and environment of tsunami affected regions of the mainland and Andaman & Nicobar Island system as well as its impact on fish stocks. Network projects are also in place to examine the post-tsunami microbial and chemical hazards in seafood. Further, socio-economic impact assessment of tsunami alongwith case studies of restoration models is being undertaken along the Indian coasts. Studies on developing sustainable models of fish aggregating devices to reduce the impact of tidal waves are also on the anvil. It is anticipated that the first results of the above studies are available within six months, which would give a clear insight into the impacts of the catastrophe on coastal fisheries and livelihoods. The Institute plans to give support for alternate livelihood activities to fishers and guidance in their rehabilitation programmes along the tsunami-affected coastline of India.