

'Coastal Environment Desk'

A special issue on the Post-Tsunami Environment Initiative.



The massive 9.0 magnitude earthquake that Indonesia woke up to on the 26th December 2004 triggered a tsunami in the Indian Ocean, causing widespread destruction in several parts of South and Southeast Asia with impacts faced by countries far beyond. The mainland Indian coast (states of Tamil Nadu, Union Territory of Pondicherry and parts of Andhra Pradesh and Kerala) and the Andaman and Nicobar Islands were witness to some of the worst impacts on social, economic and ecological systems.

It may perhaps be rhetorical, but what followed, beginning January 1st 2005, was indeed a second 'tsunami' – the tsunami of aid. The welcome global response saw several donor agencies,



national and international NGOs supporting the victims in myriad forms. Housing, infrastructure and livelihood were addressed and the relief phase, it is claimed, has put coastal communities back on track. While rehabilitation will remain the principle activity in the tsunami-affected regions, it is time to throw the spotlight on the potential long-term environmental impacts the tsunami could have caused both from a social and ecological perspective.

Relief & rehabilitation and the environment

Considering the example of fisheries, which has been perceived as the sector to have had maximum impact, the relief phase saw innumerable crafts and gear (mostly boats, nets, motors, etc.) being distributed to affected fisherfolk families. Perhaps the most tangible support, this according to environmentalists could result in over fishing, threatening the natural resource base that is already facing pressures. Further, this has created social anomalies amongst fishing communities whose members are differently skilled.

There were other knee-jerk reactions as well, both 'hard' and 'soft' preventive measures to protect against coastal catastrophes. The plantation of casuarina and mangroves along the coast is one such activity being actively pursued by the Forest department. In a



presentation at a recent workshop it was learnt that the Tamil Nadu Forest Department has planted close to 2000ha of shelterbelts (including casuarina) in 2005-2006 and is proposing another 2000ha in the coming year.

Engineering options such as sea walls have also been discussed in the context of coastal protection. Be it Kalpakkam or Pondicherry coast these sea walls and groynes may offer protection to a certain extent but one tends to question whether these are indeed final solutions for holistic coastal protection.

The question of sustainability

In this backdrop, there are several questions that need comprehensive answers for better coastal protection – what are factors that make coastlines inherently vulnerable or resilient to large-scale natural disturbances? Will bioshields or shelterbelts alone provide significant protection to the coastline? Did the various laws that govern development and use of coastal areas (the CRZ for instance) provide any significant protection to the coastline? How have ecosystems and human communities responded to the tsunami? What factors of community or governance bolster resilience and sustainability in socio-ecological systems, and is it possible to promote/replicate these factors in other parts of the coast?



Answers to these questions will not only help understand and promote socio-ecological resilience along the coast, but would also ensure that approaches to coastal protection would actually be environmentally sustainable.

UNDP Post-Tsunami Environment Initiative

To take these first steps to make the coast environmentally sustainable and coastal communities resilient, the United Nations Development Programme has operationalised the Post-Tsunami Environment Initiative as part of the Recovery Framework put in place by the UN system after the tsunami of 2004. The project aims to understand coastal vulnerability and resilience in the face of such natural disasters within

the Indian context, to establish participatory ecological and community monitoring systems, to critically analyse environment and developmental coastal policies and, to develop planning and management models for key sites along the coast.

Citizen consumer and civic Action Group (CAG), along with Nature Conservation Foundation (NCF), Mysore and Ashoka Trust for Ecology & Environment (ATREE), Bangalore is executing this project in two phases spread over three years.

The Partners request readers and members to actively contribute to this project through information and expertise.

'Tens of thousands of tsunami victims still need homes'

Former U.S. President Bill Clinton, the top U.N. envoy for the Indian Ocean tsunami recovery effort, told a final meeting of key players helping to rebuild devastated communities there has been significant progress-but tens of thousands of people still have no homes and finishing the job will take many years. At the fifth and final meeting of the Global Consortium for Tsunami Recovery on Wednesday, Clinton said "nearly two years after the tsunami disaster, the signs of progress are unmistakable." "More than 200,000 homes have been rebuilt, repaired, or are under construction, as well as some 1,400 educational and health facilities. Tourism arrivals, growth rates and labor force participation have rebounded throughout the region," he said. "At the same time, tens of thousands of homes must still be built, and other major challenges remain, from re-establishing basic infrastructure to promoting private sector development," he said. The consortium includes international organizations, the Red Cross movement, donor countries and the governments of the five countries most affected by the tsunami-Indonesia, Sri Lanka, Thailand, India and the Maldives.

<http://www.thejakartapost.com/detailgen.asp?fileid=20061116134950&irec=4>

The Coastal Environment: Post-Tsunami relief and rehabilitation in Tamil Nadu

The earthquake and Tsunami in December 2004 had unprecedented consequences on human populations and natural systems along the coasts and islands of the Indian Ocean region. Coastal areas in India, worst affected by this natural disaster include Andaman & Nicobar Islands, Pondicherry, Tamil Nadu and to some extent in coastal areas of Kerala and Andhra Pradesh. Following the large scale destruction caused by the earthquake and tsunami, national and international agencies have been placing more focus on restoration of livelihoods, relief and rebuilding of shelters, where as limited efforts have been taken to understand the impact of this event to the natural marine and near shore ecosystems and ecosystem services they offer. Understanding concerns about the environmental impacts and the need to formulate plans that address long-term interests of coastal communities and coastal environment (Integrated Coastal Zone Management Plan-ICZMP) through a participatory approach with strong research and scientific principles, this status report has been prepared to discuss the environmental and developmental initiatives undertaken post-tsunami. The need to focus more closely on the mid-to-long term consequences of rehabilitation efforts on the natural resilience of social and ecological systems along the coast is also being addressed.



The Status report addresses four important issues namely (i) Research and planning, (ii) Eco-restoration (iii) Policy and (iv) Coastal pollution in which challenges and difficulties are presented complimented with a set of recommendations that will help plan better initiatives. Given below is a summation of the challenges faced, lessons learnt from the initiative and recommendations for betterment.

Challenges

- While doing research and planning it was found that environmental and socio-economic information was not readily available and the available data was not exhaustive and comprehensive restricting detailed analysis, especially pre-tsunami data.
- In taking efforts on eco-restoration it was found that natural regeneration processes were relatively much to the disadvantage of the people in vicinity of the affected areas. There was a general lack of land, technological inefficacy, information and community for these restoration initiatives. Also, private parties were not interested in raising bio-shields.
- About policies, there was limited awareness on CRZ (Coastal Regulation Zone) and its implications amongst general public, the private sector and the government line departments. The enforcement of several regulatory policies on coastal developments was weak.
- Despite coastal sanitation measures that have been undertaken ground water continues to be polluted resulting in coastal pollution, ground water management in coastal areas is also not regulated.



Lessons Learnt

- Effectiveness of coastal protection measures need to be further investigated and a comprehensive planning exercise should be undertaken.
- An immediate requirement such as more involvement of local communities and information on the distribution of eco-systems was felt necessary.



- The tsunami has led to an increase in the need to involve coastal communities and others in evaluating and revising coastal policies.
- Technological solutions need to be identified to check water pollution through soak-pits and others. Local communities need to be educated on water quality, environmental health and sanitation issues.

Recommendations

- The need for better and more comprehensive ecological and socio-economic databases, vulnerability maps and geo-reference maps with high resolutions has been stressed. The requirement to demarcate sensitive

ecosystem areas and regular evaluation and revision of coastal management and planning has been identified. Activities which have negative impacts on the functioning and resilience of coastal ecosystems need to be stopped. Problems of erosion and accretion need to be addressed.

- There is a need for a review of eco-restoration, a comprehensive baseline assessment and inter-departmental coordination in implementing these eco-restoration activities has been emphasized. These activities need to be better planned. Standards and guidelines need to be evolved with respect to coastal plantations and bio-shields. There should be the replacement of non-native species with the use of native ones. Natural sand dunes should be protected and barren lands should be developed into beaches. There must also be an increased involvement of private/industrial participation in restoration activities.
- Continuous monitoring of all coastal issues and rigorous programmes to increase CRZ awareness should be implemented. The stakeholders should be more involved in the preparation of the Integrated Coastal Zone Management Plans. Also, existing fishery regulations should be enforced more effectively.
- Mechanical extraction and certain type of wells in the CRZ should be discouraged. Sand dunes have to be protected to ensure protection of ground water aquifers. These aquifers should be protected from salinity ingress. There is the need to develop guidelines and standards to regulate the extraction of ground water, disposal of wastes and coastal sanitation. Village level water resource maps need to be developed and coastal communities should be trained on sanitation and health issues. Solid waste management should be addressed in an unambiguous and streamlined manner.

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