



DHI CASE STORY

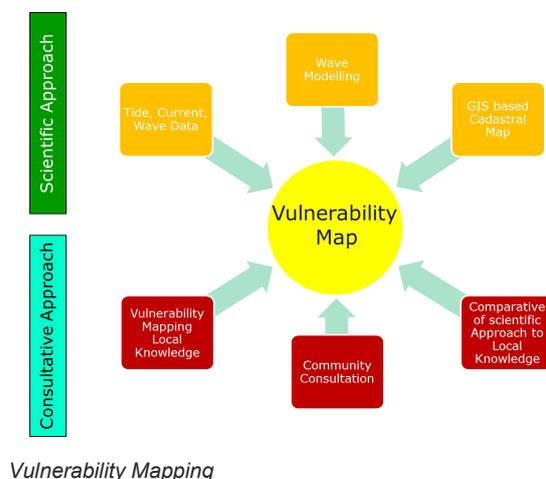
INTEGRATED COASTAL ZONE MANAGEMENT PLAN FOR TAMIL NADU, INDIA

CONTRIBUTING TO THE STATE'S SUSTAINABLE COASTAL DEVELOPMENT

Several factors such as population growth and urbanisation have been putting increasing pressure on the fragile coastal zone of the South Indian state of Tamil Nadu. Frequent tsunamis in the Bay of Bengal and Indian Ocean worsen this problem. In order to help the Tamil Nadu Department of Environment (DOE) overcome this challenge and sustainably develop its coastline, we assisted them in the preparation of an Integrated Coastal Zone Management plan (ICZM). This plan will improve the coordination of developmental activities along the coast of Tamil Nadu. It will also help preserve the balance between development and natural dynamics in the region.

PLANNING FOR THE FUTURE

The South Indian state of Tamil Nadu has a 1,076 km long coastline, which houses a coral reef as well as numerous estuaries, seaweeds, sea grass ecosystems, fishing harbours, ports, and tourist areas. Population growth, urbanisation, industrialisation and growing pollution are putting increasing pressure on this coastal zone. In addition, the state receives an average of 16 cyclonic storms every year – some of them quite severe.



SUMMARY

CLIENT

- Department of Environment (DOE), Government of Tamil Nadu

CHALLENGE

Need to:

- support and maintain the cooperation between various stakeholders working in the coastal region
- develop feasible management solutions to mitigate the impacts of coastal hazards (such as cyclones, coastal flooding, tsunamis and so on)
- develop and maintain a coastal database for Tamil Nadu
- build capacity at various levels and come to agreements on future plans

SOLUTION

- Integrated Coastal Zone Management (ICZM) planning with suggestions for practical implementation
- Land use and land capability mapping to assess the present coastal status and to establish the baseline conditions
- Coastal vulnerability mapping
- Special Area Management Plan (SAMP) development
- Capacity building

VALUE

- Improved coordination of developmental activities along the coast of Tamil Nadu
- Improved ability to balance environmental, economic, social, cultural and recreational objectives with the dynamics of nature

LOCATION / COUNTRY

Tamil Nadu, India

Furthermore, tsunamis in the Bay of Bengal are also of concern. The 2004 Indian Ocean tsunami greatly impacted Tamil Nadu, which was one of the worst affected areas in India. It highlighted the importance of having an Integrated Coastal Zone Management (ICZM) plan in place.

With support from the World Bank under the Emergency Tsunami Rehabilitation Project, we helped the Government of Tamil Nadu's Department of Environment (DOE) develop an ICZM plan. This was the first such plan attempted and completed successfully in India.

DEVELOPING AN ICZM PLAN: WHAT IT ENTAILS

ICZM is a dynamic, multidisciplinary and iterative process that promotes the sustainable management of coastal zones. It covers the complete cycle: information collection, planning, decision-making, management, monitoring, and evaluation of implementation.

Important planning issues include:

- review of existing policy as well as the current institutional and legal framework, in order to identify gaps and overlaps
- developing capacity needs assessment, covering technical, human resources and associated financial aspects, based on the institutional and legal review
- comprehensive identification and development of awareness and communication strategy with stakeholders
- review of the information management framework and establish 'on-line' decision support. A structured information management system should be targeted with well-defined indicators covering ecosystems and environmental concerns, as well as encompassing socioeconomic and other planning dimensions

OUR CONTRIBUTION TO THE TAMIL NADU ICZM PLAN

The Tamil Nadu ICZM plan had to be amendable in terms of financial, administrative, environmental and Coastal Regulation Zone (CRZ) aspects. It also needed to accommodate the views of the local population and their interests.

As part of the ICZM plan, we:

- conducted land use, capability and vulnerability mapping
- developed a Special Area Management Plan (SAMP)
- conducted an inter-sector impact assessment

We prepared land use, capability and vulnerability maps with

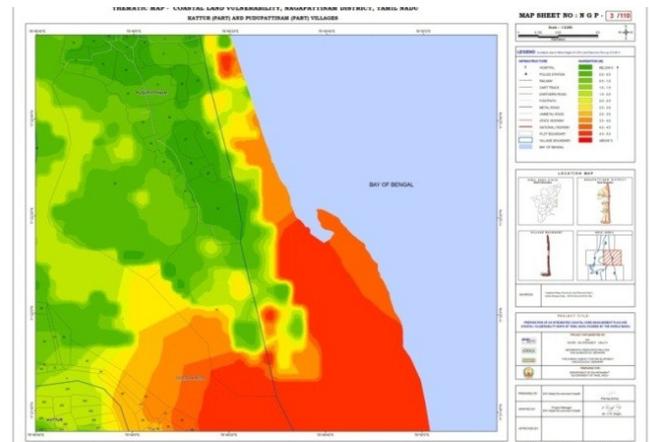
CLIENT TESTIMONIAL

“ DHI prepared an Integrated Coastal Zone Management plan (ICZM) to improve the coordination of developmental activities along the coast of Tamil Nadu. It will also help to preserve the fragile ecosystem and balance between development and natural dynamics in this region.
Senior Official, DoE

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a scale of 1:5000 with land boundaries visible for the entire coastal stretch. All the maps run from the coast to 2.5 km inland. They go up to the village boundary and include full administrative units. This is the first time for an Indian state to



Land Vulnerability Map

develop maps of this sort for the entire length of its coastline. These maps will benefit various governmental departments and other stakeholders and help in future planning.

In addition, a SAMP was prepared for the DOE requested us to work on specific SAMPs, particularly focussing on:

- socioeconomic aspects, in terms of community development along with the prevailing coastal problems in Cuddalore
- engineering solutions to prevent coastal erosion in Tharangambadi
- conservation of rich mangrove biodiversity in Manakkudy

Stakeholder consultation meetings were conducted at appropriate places and the valuable suggestions received were incorporated into the SAMP.

For the inter-sector impact assessment, we identified and described the most significant environmental issues such as pollution in estuaries due to aquaculture and industry, degradation of mangroves due to forestry, overfishing and erosion, among others as well as social issues in the areas.

Since ICZM is a new tool in India, we provided training to the government officials, NGOs and stakeholders as well.