

CHALLENGES TOWARDS MULTISECTORAL APPROCHES FOR COASTAL ZONE MANAGEMENT – STUDIES IN SELECTED PARTS OF TAMIL NADU STATE, INDIA

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The Tamil Nadu State located in the Southeast India is having a coastline of about 1000 km length, which is characterized by the occurrence of various coastal ecosystems such as mangroves, coral reefs, backwaters, estuaries, etc. In this study, the coastal areas of Pulicat lagoon located in the north of Chennai (Madras) and the Gulf of Mannar in southern Tamil Nadu has been chosen for ICZM study. The Pulicat lagoon, which runs parallel to the Bay of Bengal, is the second largest brackishwater lagoon in India. This lagoon is an excellent nursery ground for many aquatic animals and this wetland has been identified as a Ramsar site of international importance by the IUCN. This lagoon is about 60 km in length and 0.2 to 17.5 km in width with a high water spread areas of about 460 sq.km. The Gulf of Mannar encompasses 21 small islands located from 0.5 to 4.0 km from the coastline. These islands are located in the enclosed coastal seas between Indian mainland and Sri Lanka endowed with a combination of ecosystems including mangroves, seagrass, seaweeds and extensive area of coral reefs, supporting over 3,600 species of plants and animals and the Gulf of Mannar was established as India's first Marine Biosphere Reserve in 1980. During the last ten years of this study, attempts were made to estimate the relative influences of anthropogenic and natural factors in causing changes/damages to coastal resources and systems in these two environmentally important "hot spots". Detection of the scale of habitat destruction has been carried out by using the technology tools, such as remote sensing data and GIS and also established the linkages between physical, biological components and human dimensions. The rate of resource degradation/depletion and environmental changes has been carried out using multivariate remote sensing data in consultation with other field data and ground truth. Based on these results, prioritization of coastal issues and problems were carried out and these results also formed a very good decision-making tool for coastal zone management particularly for formulating approaches to mitigate or reverse environmental degradation. The coastal pollution followed by resource depletion/degradation is the core issue in coastal zone management. Also the human impact mainly due to land use change and coastal developments are posing greatest threat to the biodiversity including sustainable water and environmental management. Resource conflicts are still exists in these coastal areas during the last several years. Considerable attempts were made during the last decade to sensitize the local people by conducting user awareness programs and stakeholders meetings and also to train the key decision-makers and coastal managers to assess the social and economic benefits which stem from various options for the use of coastal resources. However, there are some constraints to implement the outcome of the multisectoral approach mainly due to the followings.

1. Population pressure and poverty already leads to resource conflict and providing alternate livelihood found to be a greatest challenge.
2. Lacking in enforcement of environmental law particularly the coastal regulation zone (CRZ) mainly due to violations and non adherence, which ultimately affect the protection of the coastal zone from continuing pollution and environmental degradation.
3. Lacking in public education mainly due to limited funding and non involvement of government and NGOs.

This paper is aimed to highlight the outcome of study results and also to explain the complexity in coastal management issues along with recommendations to meet the above challenges.