

Environmental Changes along the Orissa Coast, Bay of Bengal: Its Monitoring and Management

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Orissa, the maritime state along east coast of India, has a coastline of 480 km. The continental shelf up to 200m depths encompasses an area of 24,000 km² in Bay of Bengal. Southern part of the coast has a narrow shelf whereas the north Orissa coast has an extended continental shelf. The coastline is bestowed with six major estuaries, India's second largest mangrove forest (Bhitarkanika Sanctuary), Asia's largest brackish water coastal lagoon (Chilka) and extensive sandy beaches rich in heavy minerals. Gahirmatha sandy beaches within Bhitarkanika Sanctuary are the world's largest rookeries for the olive ridley sea turtle. Two species of horseshoe crabs occur in abundance along north Orissa coast. In the last two decades there has been tremendous pressure on the coastal zone for the development of fisheries, aquacultures, ports and harbors and urban settlements. These developments have led to environmental changes, some of which are irreversible, and thus have become issues of concern for the public as well as the state government. Some of the important environmental changes taking place, and which seriously affect the economy of the region are tropical cyclones and associated storm surges, floods, decline in mangrove forests, accelerated shoreline changes, transformation of the coastal lagoon eco-system and pollution due to the release of toxic chemicals from the coastal industries and aquaculture farms. This paper documents the environmental changes during the last two decades and suggests the framework to develop a coastal zone and disaster management authority in the state. The present study also emphasizes the need of a coastal environmental database to generate public awareness and to undertake scientific educational programs for proper coastal zone management.