

12. COASTAL MANAGEMENT TO PROTECT THE FISHERIES RESOURCES OF GUJARAT COAST - A CASE STUDY

*Geetanjali Deshmukhe**, *Shyam S. Salim** and *R. Sen Gupta***

*Central Institute of Fisheries Education,
(Deemed University),
Versova, Mumbai - 400 061

** Gujarat Ecological Society, Vadodara, Gujarat

Gujarat, a unique maritime state has the longest coastline of 1,663 km length and characterized by presence of two gulfs namely the Gulf of Kachchh and the Gulf of Khambhat. The four major rivers of Gujarat (Sabarmati, Mahi, Narmada and Tapti) discharged 70387 Mm³/Year to the Gulf of Khambhat as of 1975. Since then several dams have been constructed on these rivers and their tributaries reducing the volumes of the outflow. It can, safely be assumed that the outflow of nutrient-laden silt from these rivers has, also reduced proportionately/ significantly changing the hydrological cycles. These rivers discharge heavy sediment load in the Gulf that enhances the rich fishery in the western continental shelf of Indian coast. Any restriction to the river flow by way of constructions of dams, weirs etc. will reduce the flow of both freshwater and silt restricting the movements of the migratory species. Addition of nutrients to the sea will also be cut down considerably affecting fisheries as a result. This will further change with the upcoming SSP dam on Narmada river.

Gujarat is the second most industrialized state in India. In Gujarat as of 1996, 33 large and medium scale industries (including 6 industrial estates) are discharging 215 Mm³ effluents to the sea and rivers annually, which is about 0.3% of the anticipated river runoff (71,000 Mm³.Y⁻¹). These are treated but the stages of treatment of the effluents before release along with their toxic contents are barely known. Gujarat Infrastructure Development Board (GIDB) has brought out a document "Gujarat Infrastructure Agenda – Vision 2010", in which, stress is put on the development Ports and Industries. As a result of industrialization, the increase in population along the coastal region leads to increase in domestic sewage drained into the estuaries or in the sea.

There are at least five critical habitats along the coastal zone of Gujarat, that need full attention at their sustenance, conservation and management. These areas are: Mangrove vegetation, Coral reefs, Marine National Park and Sanctuary, Narmada and Tapti Estuary. All these areas have direct or indirect link with the rich fisheries resources of Gujarat, management of these areas is important in managing the resources.

Gujarat tops the list of ten littoral states of India in marine fish production accounting for 23.1% of the National total. It has been estimated that in the continental shelf area of the State (165,000 km²) to a depth of 75 meters the maximum sustainable yield (MSY) is

773,000 tonnes per annum. Increase in the fish catch invariably result in decrease in the quality fish and size of several prized varieties. It is very essential that the emphasis should now be given to the development and exploitation of deep sea fisheries. Following approaches are thus suggested to preserve the sustainability of the fisheries:

1. Coastal Zone Management with regular surveying the areas for water quality and natural resources
2. Assessing impact of the critical habitats on the socio-economics of the region – particularly the fishing community.
3. Evaluation of critical habitats to enhance the sustainable utilization of the resources
4. Exploitation of non-traditional fisheries resources
5. Use of Remote Sensing technique
6. Potential of deep sea fishery
 - a) Development of suitable crafts and gears
 - b) Developing separate fishing ports and jetties catering to increasing number of fishing vessels
 - c) Improved onshore-facility.