

Environmental Problems of Marine and Coastal Areas of Pakistan

By

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Introduction

- Pakistan is located at the gateway of Persian Gulf. It is close to Iran, Oman, India and the land-locked Central Asian Countries.
- Pakistan has a coast line of about 990 km along with adjacent coastal zone of 240,000 Sq.km in Northern Arabian Sea.
- There are rich living and non-living resources in the coastal zone of Pakistan.
- The living resources include Mangrove Forests harboring 6th Largest Mangrove Forest of the World.
- The commercially important marine fisheries resources of Pakistan are composed of about 350 different species.

Economics and uses of coastal areas

The following sectors of economy make use of the coastal and marine environment in Pakistan:

- Ports and shipping
- Fisheries and forestry
- Communication and roads
- Coastal agriculture
- Boat building
- Ship building
- Oil and Gas mineral exploration
- Salt industries and mineral industries
- Coastal tourism
- Pollution control management

Environmental Issues

- There are number of environmental issues in the coastal zone of Pakistan, which have direct bearing on public health in coastal areas. The poor sanitation, poor drinking water supply and disposal of untreated sewage and domestic wastes, and untreated disposal of industrial effluents causing contamination, pollution and public health risks.

Marine Pollution

- The coastal development activities involving man-made alterations of the coastal environment have also accelerated the impacts of pollution leading to deterioration of coastal environmental quality, depletion of coastal resources, public health risks and loss of bio-diversity.
- Pakistan is examining the feasibility of developing an “Energy Corridor” for transporting oil products to China and Central Asia via Pakistan.
- All these developmental activities will exert negative impacts on the fragile marine ecosystem

Industrial Pollution

- The pollution problems have arisen mainly due to indiscriminate discharge of effluent from industrial and agriculture sources and disposal of untreated liquid and solid wastes generated from domestic sources into the coastal environment.
- Karachi has about 8000 small and large industrial units.
- A significant percentage of coastal pollution is contributed when the export industries ship their goods through Karachi port. The port induces polluting industries to set up shops nearby in order to expedite exportation.
- Much of the effluents from factories is untreated and released directly into port area. The significant factories in this regard include steel mills, power plants and refineries.
- The heavy metals are being accumulated in the sediments and marine organisms. The important heavy metals include Arsenic, Cadmium, Cobalt, Chromium, Mercury, Nickel, Lead and Zinc.

Shipping of Oil

- Major sources of oil pollution along coasts of Pakistan are oil refineries and shipping traffic, mechanized fishing fleet and oil terminals at Karach harbor, Port Qasim and occasional oil spills.
- An estimated 90,000 tons per year of oily discharges are pumped out within port limits and there exists no oily ship waste reception or treatment facility within the port.

Mangroves

- Mangroves along the Pakistan's 990 km coastline occur mostly along Indus deltaic region both in Sindh and Balochistan provinces.
- The mangroves provide diverse habitat for a complex and interdependent community of invertebrates, fish, birds, and reptiles
- The primary productivity of these mangrove-covered deltaic areas are four to seven times those of coastal areas without mangroves
- Of a global concern is that the South Asian waterfowl seek food and shelter in these estuaries and mangroves.
- In addition, most of the tropical marine--such as the commercially important shrimp species seek shelter in the mangroves for one stage of their life cycles

Ship Breaking Industry

- It provides scrap steel and other scrap metals for foundries and scrap wooden products etc
- The ship breaking industry at Gadani has been a prominent source of pollution because of the booming business of ship-breaking along the coast of Gadani particularly during 1970s.
- This industry has been the biggest source of heavy metal pollution in the area. In addition, waste oils, bilge oils, and other waste products are also discharged directly into the inter-tidal area on the beach at the sea front.

Economic Losses

- The economic losses to future generation from degradation of coastal environment and natural systems will be immeasurable.
- This will be reflected in loss of agriculture land close to the coast, loss of biodiversity, dislocation of coastal communities, loss of livelihood, loss of fisheries, pollution of beaches and recreational facilities, decline in tourism.
- Pakistan is a signatory to a number of conventions, protocols and international treaties that include: Convention on biological Diversity, (CBD), Convention on trade of endangered Species (CITES), The Pakistan Fisheries Ordinance, International Seabed Authority (ISBA), RAMSER Convention, Kyoto Protocol etc.

Setting Management Objectives for Priority problems

- To protect and maintain critical stocks of coastal resources from harmful affects of industrial and urban contaminants and the oil.
- Ensure treatment of industrial wastes by enforcement of existing and appropriate new environment legislation.
- Provide incentive to help treatment of industrial wastes and their environmentally safe disposal.
- Ensure use of low lead oils product, furnace oil, petrol, and diesel.
- Enforce strict environment controls at oil refineries and oil terminals and bunkering points to check oil spillage.

Setting Management Objectives for Priority problems (Contd.)

- Protect coastal resources, coastal structures (i.e. ports, harbors, seawater, intake of coastal power plants and industries etc.), beaches and amenities from accidental oil spills.
- Adopt environmentally safe and efficient solid waste management in the coastal towns and cities with special emphasis on Karachi city.
- To improve existing environmental legislation to cover all aspects of pollution control management.
- Foster development and conservation of biological diversity under wetlands, mangroves forests and deltaic environment.
- Promote research to conserve mangrove forest and associated ecosystems.
- Develop sea farming in region where agriculture is not possible.