



Cost to Coastal & Marine Life!



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Editorial

Coastal regions are unique, dynamic and ecologically sensitive regions where land and water meet. They are rich in biodiversity. Coastal and estuarine ecosystems around the world cover only 6% of the global surface, yet they contribute almost 38% of the total estimated global value of ecosystem services. Currently, coastal and marine ecology is facing various human induced ecological challenges such as extreme changes in temperature, increase in sea level, erratic rainfall, shifting climatic zone, habitat degradation, mangrove and coral reefs degradation and destruction, over-fishing, sewage disposal, oil spills and solid waste disposal with most destructive being plastic waste; leaving a detrimental and irreversible change to the natural resource.

Coastal and marine resources are “common property resources” with open or free access to users. These resources are of high economic value. The fisheries and mangrove resources provide food and livelihood security to fishermen living in these areas. They also attract tourists and provide various recreational activities. As coasts become more urbanized, the vulnerability to natural and man-made hazards increases. The marine ecology is facing danger like never before. Out of the various threats, plastic waste is most life threatening. Plastic takes a long time to degrade; it disintegrates into small particles and marine animals like turtles and fish mistake them for food. Plastic fishing nets which are discarded by fishermen entangles various species ultimately leading to death. Oceans are covered with thin layer of plastic making it look like islands of plastic. Tax on use of plastic should be practiced; more specifically tax on “one time use plastic items”. We should reduce the usage of plastic and promote biodegradable alternatives such as bamboo, jute, wood and cotton; for example, bamboo carry-out utensils, bamboo or jute yoga mats, wooden tooth brush, cotton or jute rugs. Recycling of plastic should be promoted. Solid waste and sewage treatment regulations should be strengthened.

Mangrove and coral reefs degradation and destruction has resulted in loss of some of the world’s most diverse ecosystems. This has further greatly increased shoreline hazards and beach erosion rates. Mangroves are lost because of clearing for development, logging, and shrimp farming. Coral reefs are lost by mining, sedimentation from agriculture on the upland, bad fishing techniques that kill corals, sedimentation from nourished beaches

and a host of other natural and global warming-related causes. Mangroves and coral reefs often provide protection for nearby beaches. In addition, mangroves protect land from salinity ingress, strong waves and cyclones, and thereby provide protection to life and property of people living in coastal belts. They also check salinity ingress on the coastal region from effecting the agriculture belt in the coastal areas. Mangrove conservation and restoration helps in mitigating climate change. Coastal communities are most vulnerable to climate change as their livelihoods are dependent on available natural resources. For conservation and restoration of mangroves sediment deposit should be encouraged to reduce erosion. Use of improved cooking technology will reduce mangrove wood exploitation. Climate smart species (resilient) should be planted. Stakeholders should be educated and involved in conservation and restoration practices. For local communities, resource base and livelihood securities should be enhanced. In order to protect coral reefs we should keep are beaches clean and practice sustainable fishing practices.

Furthermore, under conditions of open access, there is lack of property rights which can lead to overfishing, low returns to fishing industries, and even extinction of species. New technologies of natural resource extraction are more productive but it works against sustainability. As an example, modern technology such as global positioning units that track fish with the help of satellites, and oceangoing processing plants. The efficiency of these new technologies has made it easier for fishing fleets to “vacuum” up stocks and drive many close to extinction. Hence, optimal harvesting practices require careful monitoring of the stock before each fishing season. The mean global sea levels are expected to rise by 2100, with estimates ranging from 18 cm to 140 cm. In response to sea level rise, focus should be on rehabilitation of high-tide habitats to enhance capacity for inland retreat of mangroves. Formulation of Coastal Zone Management Strategy is imperative to control commercial, residential, industrial, and agricultural development. Coastal and Marine Spatial Planning should be used as a tool to analyze and allocate the spatial and temporal distribution of human activities in marine and coastal areas to achieve ecological, economic, and social objectives. Education and Capacity Building of vulnerable community including women, local NGO’s, government representatives and media will help in Disaster Management.

Every natural resource has unique characteristics. Natural resources make important contributions to long-term economic performance and should be considered economic assets. A sustainable economy and environment can be achieved if there is sufficiently large stock of the renewable resource (such as fish or forests) to generate a flow that can be sustained over time. Adapting

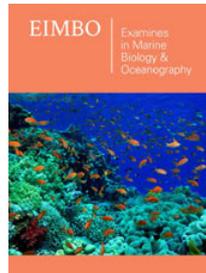
to changing climate has become utmost important considering the current occurrence of frequent and intense extreme weather events all around the world. Regulations by government can control environmental pollution and degradation but more than regulations its common man's initiatives and will to make our coasts and marine life safe and pollution free!



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