

Integrated Coastal Zone Management (ICZM) plan of Iran

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Iranian coastlines extend along more than 6000 kilometers in northern and southern regions. Despite the rugged and pristine beauty of coast, our coastal and marine ecosystems are suffering from ever-increasing human impacts including: population growth, dangerous coastal hazard areas, habitat damage, non-native species, and pollution. In the longer term, global warming, and the accompanying shifts in ocean currents, marine productivity, storm frequency and coastal erosion will have a significant impact on coastal and marine environments.

In order to achieve an ecologically sustainable development, the Ports and Maritime Organization of Iran is undertaking a number of studies leading to the development of a Coastal Zone Management Plan (CZMP). The general goal of the studies is to develop an integrated planning and management program that will address not only the current environmental and developmental pressures along Iranian coastlines, but also the long term restoration, protection, maintenance and sustainability of the natural, cultural and economic coastal resources.

The coastal zone can be loosely defined as the interface between the land and the sea (water and submerged land) in which the terrestrial ecology and use directly affects marine ecology and vice versa. Consequently, the landward and ocean geographical boundaries of the coastal zone will vary alongshore depending on the local physical, biological and human characteristics, interactions and inter-dependencies present at any specific location. The definition of a coastal zone is an ambiguous one. Coastal zone management is therefore synonymous with the concept of integrated coastal resource management. There are two aspects of coastal zone management:

1. Technical aspects related to beach protection, creation, stabilization and enhancement; water

quality monitoring, assessment and control; marine habitat monitoring and impact assessment; environmental ecosystem assessment; land use development review and approval process assessment; tourism and recreational activities; and 2. Resource extraction;

To direct and organize coastal zone management directives, recommendations, activities and actions requires the formulation of an Integrated Coastal Zone Management (ICZM) Plan. This plan will provide guidance and direction not only to the Government but also to the people as well as other stakeholders, be they private interests, NGO's, or other regional agencies. The coastal zone management plan will be used to establish priorities, recommend courses of action and procedures, and identify the relationships between these actions/procedures and the ultimate vision of coastal zone management.

This includes development of the matrix management model (impact components vs. geographical delineation) as a GIS database, which is necessary to advance this initiative. Tools to assist this program such as: institutional strengthening, environmental assessments, geographical information systems and impact component planning alternatives will also be developed to provide PMO with conceptual mechanisms by which it can implement the initiative.

The impact of oil exploration in coral reefs and the mitigation pre-cushions to prevent it: a case study from Red Sea, Sudan

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Humans are actively destroying the coral reef ecosystems on our earth, Oil exploration activity and the seepage from oil export terminal is the key threats to our coral reefs environment. The small amount of oil can do more damage in some areas than others. Coral reefs and mangroves are more sensitive to oil than sandy beaches or seagrass beds, intertidal zones are the most sensitive.

Authors have made a case study by analyzing role of Petroleum exploration activity, oil seepage and other chemicals dumped near Sudan red sea coastal waters, and how to prevent the ecosystems from the coming threat, which is eventually will find their way to the reefs and poison coral polyps and other marine life.