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Programme : M.Sc., Marine Science

Course Title : INTEGRATED COASTAL ZONE MANAGEMENT (ICZM)

Course Code : 22MSCC07

Unit - I

Introduction to ICZM

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**NEED, INTEGRATION, COORDINATION, OBJECTIVES,
BENEFITS, AND PRINCIPLES OF THE ICZM**

LEARNING OUTCOMES

- **NEEDS OF ICZM**
- **INTEGRATION OF ICZM**
- **ICZM COORDINATION**
- **OBJECTIVES OF ICZM**
- **GENERAL PRINCIPLES OF ICZM**
- **BENEFITS OF ICZM**

NEEDS OF ICZM

1. Maintain high quality coastal environment

- **Coast is the major resource, provide commerce, food, recreation, spiritual refreshment and security**
- **Coast easily become polluted, ugly and unproductive**

2. Identify and protect valuable species

- **Maintain a natural environment**
- **Create natural reserve and national parks**

3. Identify and conserve critical coastal habitats

- **Estuaries, mangroves, beaches, sand dunes, reefs, backwaters, islands etc.**

4. Identify the lands that are particularly suitable for development

- **Recreation, housing, economic development and for nature conservation**

5. **Resolve the conflicts (coastal and ocean resources and use of space)**
6. **Identify and control the activities that have an adverse effect upon the coastal and marine environment**
6. **Control pollution**
 - **From point sources and from the land runoff, accidental spill etc.**
7. **Restore damaged ecosystem**
 - **Wet lands, pollution damaged reversed and species habitats rebuilt**
8. **Sustainable development of coastal and ocean resources through co-ordination with govt.**
9. **Provide guidance for coastal development planning**
10. **Raise public awareness**
11. **Protect against natural hazards**
12. **Create and offer safer options for coastal development**

INTEGRATION of ICZM

- 1. Coordinate the various coastal economic sectors towards the long-term optimal socio-economic outcomes.**
- 2. It is the multi-sector approach designed to coordinate & joined guide the two or more economic sector**
- 3. The main goal of the integration is to optimize resource conservation, public use and economic development**
- 4. Integration needed among the fisheries, tourism, oil and gas development and public works**
- 5. Some of the more common economic sectors are agriculture, forestry, fishery, energy, transportation (port, shipping, surface transport), manufacturing, tourism, housing, military and public health.**

CO-ORDINATION OF ICZM

For the purposes of integrated coastal zone management,

Ensure institutional coordination, where necessary through appropriate bodies or in order to avoid sectoral approaches and facilitate comprehensive approaches;

Organize appropriate coordination between the various authorities competent for both the marine and the land parts of coastal zones in the different administrative services, at the national, regional and local levels;

Organize close coordination between national authorities and regional and local bodies in the field of coastal strategies, plans and programmes the activities that may be achieved through joint consultative bodies or joint decision-making procedures.

The objectives of integrated coastal zone management are to:

- 1. Facilitate, through the rational planning of activities, the sustainable development of coastal zones by ensuring the environment and landscapes are considered with economic, social and cultural development.**
- 2. Preserve coastal zones for the benefit of current and future generations.**
- 3. Ensure the sustainable use of natural resources, particularly with regard to water use.**
- 4. Ensure the preservation of integrity of coastal ecosystems, landscapes and geomorphology.**
- 5. Prevent and/or reduce the effects of natural hazards and in particular of climate change, which can be induced by natural or human activities.**

GENERAL PRINCIPLES OF INTEGRATED COASTAL ZONE MANAGEMENT

- (a) The biological wealth and the natural dynamics and functioning of the intertidal area and the dependent and interdependent nature of the marine part and the land part forming a single unit shall be taken particularly into account.**
- (b) All elements relating to hydrological, geomorphological, climatic, ecological, socio-economic and cultural systems shall be taken into account in an integrated manner, so as not to exceed the carrying capacity of the coastal zone and to prevent the negative effects of natural disasters.**
- (c) The ecosystems approach to coastal planning and management shall be applied so as to ensure the sustainable development of coastal zones.**
- (d) Appropriate governance allowing adequate and timely participation in a transparent decision-making process by local populations and stakeholders in civil society concerned with coastal zones shall be ensured.**

- (f) The formulation of land use strategies, plans and programmes covering urban development and socio-economic activities, shall be required.**
- (g) The multiplicity and diversity of activities in coastal zones shall be taken into account.**
- (h) The allocation of uses throughout the entire coastal zone should be balanced, and unnecessary concentration and urban slump should be avoided.**
- (i) Preliminary assessments shall be made of the risks associated with the various human activities and infrastructure so as to prevent and reduce their negative impact on coastal zones.**
- (j) Damage to the coastal environment shall be prevented and, where it occurs, appropriate restoration shall be effected.**

BENEFITS OF ICZM

ICZM can benefit a country or region through any or all of the following:

- **Facilitating sustainable economic growth based on natural resources**
- **Conserving natural habitats and species**
- **Controlling pollution and the alteration of shorelands and beachfronts**
- **Controlling watershed activities that adversely effect coastal zones**
- **Controlling excavation, mining and other alteration of coral reefs, water basins, and sea floors**
- **Rehabilitating degraded resources**
- **Providing a mechanism and tools for rational resource allocation**

PRINCIPLES AND PREMISES OF ICZM PROGRAMME

- 1. Coastal area is a unique resource system require special management and planning**
- 2. Water is the major integrating force in coastal resource system**
- 3. It is essential that land and water uses be planned and managed in combination**
- 4. The edge of the sea is the focal point of coastal management programmes**
- 5. A major emphasis of coastal resource management is to conserve common property resources**
- 6. Prevention of damage from natural hazards and conservation of natural resources should be combined in ICZM programmes**
- 7. Coastal management boundaries should be issue based and adaptive**
- 8. All levels of government within a country must be involved in coastal management and planning**

- 9. Special forms of economic and social benefit evaluation and public participation are required for coastal management programmes**
- 10. Conservation for sustainable use is a major goal of coastal resource management**
- 11. Multiple-use management is appropriate for most coastal resource system**
- 12. Multiple-sector involvement is essential to sustainable use of coastal resources**
- 13. Traditional resource management approaches should be encouraged where their results are positive**
- 14. The environmental impact assessment approach is essential to effective coastal management.**

THANK YOU