

SUBJECT: INTEGRATED COASTAL ZONE MANAGEMENT

NEED, SCOPE, INTEGRATION and CONSTRIANTS OF ICZM

Prepared By

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NEEDS OF ICZM

1. Maintain high quality coastal environment

- Coast is the major resource, provide commerce, food, recreation, spiritual refreshment, 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
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**

ICZM PROGRAMS – DESIGNING

Basic stages in the development of ICZM programs.

Policy Formulation: Creation of policy framework; establish goals; authorize and guide ICZM programmes

Strategy Planning: It's a preliminary planning; evaluation of benefits; create the general strategy

Program development: After the strategy plan accepted by policy makers, development of ICZM program commence the detailed master plan

Implementation: Once master plan is approved and a budget and staff are authorized, implementation stage can commence.

MAIN TOOLS FOR ICZM PLANNING

- **Permits for building, land clearing etc.**
- **Environmental assessment**
- **Marine reserve protect**
- **Zoning, use allocation**
- **Buffer areas**
- **Environmental standards and guidelines**
- **Infrastructure control**
- **Land use regulations**
- **Land use planning**
- **Watershed management**
- **Pollution regulations**
- **Community participation**
- **Conflict resolution**
- **Rural assessment**
- **Remote sensing and GIS**

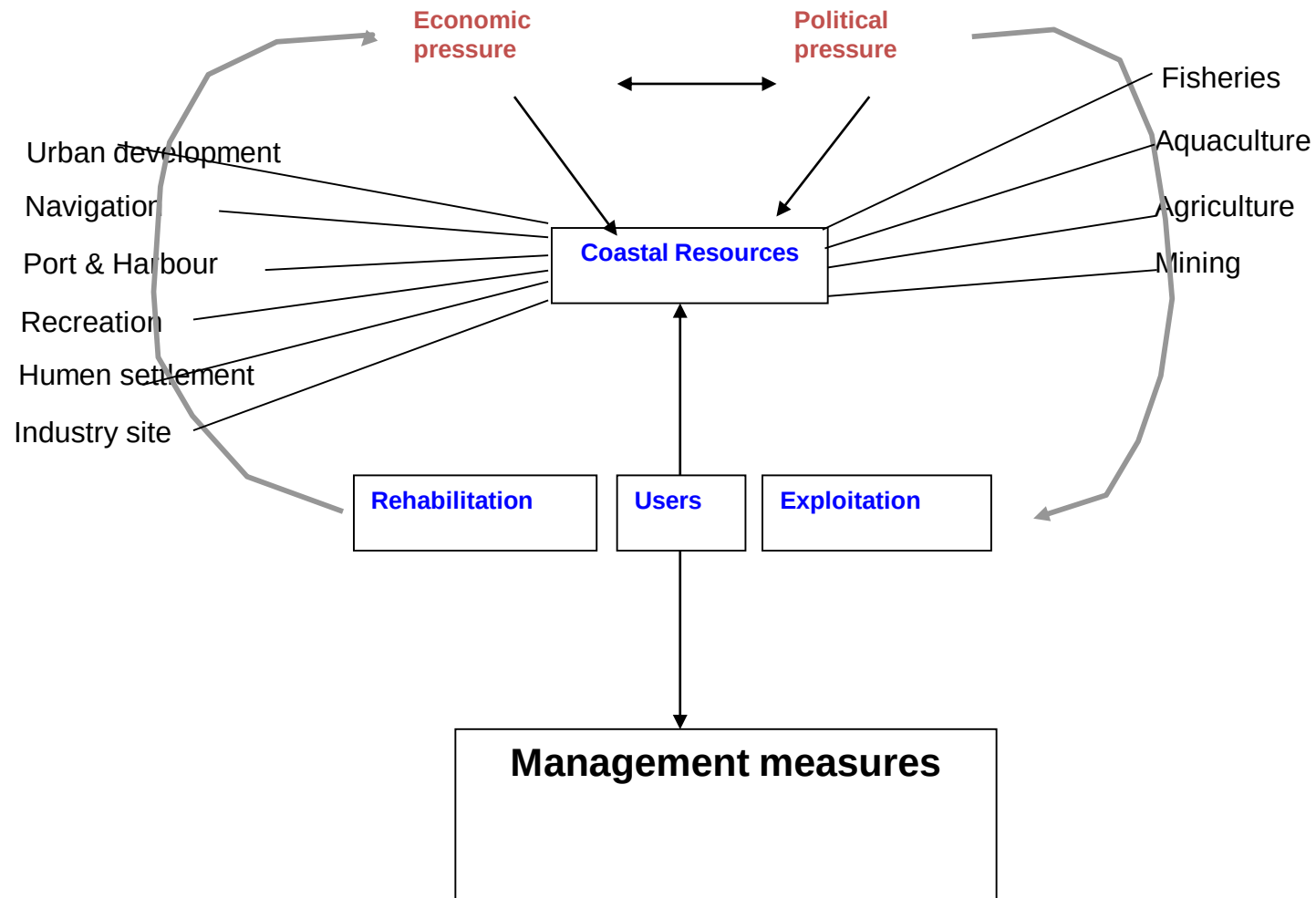
MULTIPLE USE OF COASTAL ZONE

1. Fisheries
2. Water supply
3. Port development
4. Recreation development
5. Agriculture / forestry development
6. Aquaculture development
7. Tourism development
8. Energy development
9. Biodiversity
10. Industry

INTEGRATION

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.**

INTEGRATION



OBJECTIVES OF INTEGRATED COASTAL ZONE MANAGEMENT

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.**

COORDINATION

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 and in relation to the various authorizations for activities that may be achieved through joint consultative bodies or joint decision-making procedures.**

GUIDELINES OF INTEGRATED MANAGEMENT PLAN FOR CMZ II AREAS

- 1. The entire notified Corporation, Municipality, Panchayat, revenue area, shall be the outer boundary of the APC (Area of Particular Concern).**
- 2. ICZMPs shall be prepared for these areas indicating all present and future developments, conservation and preservation schemes.**
- 3. The ICZMP shall address vulnerability to human life and property based on setback lines prepared by Ministry of Environment and Forests.**
- 4. No constructions shall be permitted on the seaward side of any existing (as on 2008) approved building or surface road in the area.**
- 5. All the existing roads including the internal roads shall be strengthened, as these roads shall serve for the purpose of livelihood, communication, relief and evacuation measures particularly for fisher communities.**

- 6. Adequate cyclone shelters shall be constructed taking into account the population of the area.**
- 7. The new schools, market areas and other public facilities where large number of public congregate shall be located beyond the vulnerable area.**
- 8. Along the seaward side sufficient bioshield with local vegetation, trees including mangroves shall be planted**
- 9. The beaches shall be left free of any development.**
- 10. Appropriate coastal protection structures be constructed where ever required on a scientific basis**
- 11. New houses and settlements shall be planned on landward of the setback line.**

- 12. Sand dunes, being natural speed breakers in the event of hazards, shall be maintained or regenerated by planting shrubs or through appropriate measures.**
- 13. There shall be no regulation with regard to fishing and fishery related activities.**
- 14. The enforcement and monitoring will be the responsibility of the concerned State or Union territory Coastal Zone Management Authorities.**

CMZ III: PERMISSIBLE DEVELOPMENTAL ACTIVITIES ON THE SEAWARD SIDE OF THE SETBACK LINE

- 1. Activities, which are permitted by the local or concerned authorities without CMZ clearance**
 - Boating, shipping and navigation.
 - Fisheries including traditional fish processing, ice plants and ice crushing facilities
 - Mariculture including hatcheries and traditional aquaculture.
 - Agriculture and horticulture.
 - Public toilets and rain or cyclone shelters.
 - Repair of existing buildings or infrastructure including reconstruction activities.

II Activities to be permitted with the approval of State or Union territory Coastal Zone Management Authority

- 1. Construction of boat jetties and fishing harbours to be approved with Environmental Impact Assessment.**
- 2. Saltpans-making salt by solar evaporation of seawater.**
- 3. Temporary construction for tourism facilities.**
- 4. Water sports and recreation facilities.**
- 5. Discharge facilities of treated effluents compiling with the norms.**
- 6. Forest related activities.**
- 7. Boat building including repair and re-fuelling facilities.**

(iii) Activities that can be permitted with Environmental Impact Assessment and Environmental Management Plan to be approved by Ministry of Environment and Forests.

- 1. Integrated port, harbour, jetties and moored facilities.**
- 2. Dredging and disposal of dredged materials.**
- 3. Renovation within port limits and for coastal protection.**
- 4. Coastal Protection measures including mangroves and other bioshields.**
- 5. Bridges and sea links and approaches and reclamation therefor.**

6. **Hydrocarbon exploration and extraction.**
7. **Mining of placer minerals and offshore mining.**
8. **Constructions of communication, power supply, lighthouses and water supply.**
9. **Pipelines for transfer of petroleum or chemicals, storage facilities for storage of petroleum or chemical products and regasification facilities.**
10. **Defence related projects.**
11. **Shipbuilding yards.**

Benefits of ICZM

ICZM programmes can:

- 1) minimize costly delays in project implementation;
- 2) minimize damage to the marine environment and its resources;
- 3) minimize losses to the various users (from resource depletion, access limitations, etc.); and
- 4) make the most efficient use of infrastructure, information and technology available to marine development sectors.

As examples, 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

OBJECTIVES AND GOALS OF ICZM PROGRAMMES

Maintain A High Quality Coastal Environment: The coast is a major national resource, providing commerce, food, recreation, spiritual refreshment, and security. These values will not last forever without conservation. ICZM would provide the means for maintaining the quality of the coastal environment.

Protect Valuable Species: Many coastal species need special protection. ICZM would preserve their breeding and feeding areas through protected reserves and the use of regulations.

Conserve Critical Coastal Habitats: Habitats of special importance to species and the functioning of coastal ecosystems - mangroves, seagrass meadows, coral reefs, beaches, lagoons, and certain tideflats - would be protected in ICZM programmes.

Conserve Critical Ecological Process: Certain ecological processes are critical - supply of nutrients, penetration of light through the water (avoid excessive silt and turbidity) and water circulation - and need protection through regulations.

Control Pollution: Pollution from point sources and from land runoff as well as accidental spills of pollutants which foul coastal waters (human health problems and ecological disruption) would be addressed by ICZM programme.

Provide Development Guidance: Much of the ecological and scenic disruption of the coast is from unplanned side effects of coastal development. An ICZM programme would provide advisory services to development entities to help them reduce impacts.

Provide Planning Guidance: To avoid development initiatives which would be damaging to the coast, advice would be provided to various planning entities - physical planners, economic planners, development planners - through ICZM. Of particular importance is infrastructure; highways should be properly routed and water and power not provided to sensitive places.

Identify Critical Lands: Certain areas of the coast have a special potential for recreation, housing, nature protection, economic development, and so forth, The ICZM programme would identify lands optimum for development and for nature.

Restore Damaged Ecosystems: Many otherwise productive coastal habitats have been damaged but are restorable. The ICZM programme would offer opportunities to identify and restore such habitats.

Public Awareness: ICZM can play an important role in creating public awareness of coastal values and needs for conservation.

THANK YOU