COASTAL ZONE MANAGEMENT
&
COASTAL REGULATION ZONE

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Diversity of coastal hazards
DIVERSITY OF COASTAL ECOSYSTEMS

Extensive tidal flats of Gujarat

Lagoons of Lakshadweep

Narrow sandy beaches of Kerala
- Mangroves
- Sand dunes
- Turtle breeding grounds
- Coral reefs
- Uninhabited small islands
- Areas of outstanding natural beauty
- Heritage/archeological sites
- Areas likely to be inundated by sea level rise
Coastal Uses
Coastal Uses
Damages to coastal systems
Integrated Coastal Zone Management Plan
## Coastal Zone boundaries for different countries

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>INLAND BOUNDARY</th>
<th>OCEAN BOUNDARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>2 km from MHW</td>
<td>12 km from MHW</td>
</tr>
<tr>
<td>China</td>
<td>10 km from MHW</td>
<td>15 m isobath (depth)</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>200 m from MHW</td>
<td>MLW</td>
</tr>
<tr>
<td>India</td>
<td>500 m from HTL</td>
<td>LTL</td>
</tr>
<tr>
<td>Israel</td>
<td>1 – 2 km variable</td>
<td>500 MLW</td>
</tr>
<tr>
<td>Philippines</td>
<td>Flexible</td>
<td>Continental Shelf</td>
</tr>
<tr>
<td>Queensland</td>
<td>400 m from MHW</td>
<td>3 NM from the CB</td>
</tr>
<tr>
<td>South Australia</td>
<td>100 m from MHW</td>
<td>3 NM from the CB</td>
</tr>
<tr>
<td>Spain</td>
<td>500 m from highest storm or tide line</td>
<td>12 NM (limit of territorial sea)</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>300 m from MHW</td>
<td>2 km from MLW</td>
</tr>
<tr>
<td>Sweden</td>
<td>100 – 300 m</td>
<td>2 NM</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Flexible</td>
<td>12 NM</td>
</tr>
<tr>
<td>U.S.A</td>
<td>Flexible</td>
<td>12 NM</td>
</tr>
</tbody>
</table>
Areas included by different countries in the Coastal Management Zone

- All coastal lands that are subject to storms and flooding by the sea
- All intertidal areas of mangrove, marsh, deltas, salt flats, tidal flats and beaches
- All permanent shallow coastal water areas such as bays, lagoons, estuaries, deltaic waterways, and nearshore than include seagrass meadows, coral reefs, shellfish beds or submerged bars
- All small coastal islands and other important nearshore features
Sustainable Coastal Resource Utilisation

Equitable Benefit Sharing

Conflict Resolution

ICZM

Coastal Resources

Economic/Development Pressure

Societal/Environmental Pressure

Legislative intervention - CRZ

Spatial planning

Incorporation into Local body Plans

Environmental Conservation

Equitable Benefit Sharing

EQUITABLE SOCEITAL & ECONOMIC DEVELOPMENT
NATIONAL COASTAL ZONE MANAGEMENT POLICY

- Issues due to resource overuse,
- Degradation of ecosystems,
- Conflicts among stakeholders
- Coastal hazards
- Livelihood security
- Sustainable development
Why regulated development of the coast?

- Protection of fishery
- Protection of coastal ecosystems
- Protection of life and property
- Maintain the scenic beauty of coast
- Encourage sustainable tourism
- Ensure public access to beach
Coastal Regulation Zone

- Intertidal zone- area between HTL & LTL
- Defined regulation zone landward of the HTL on sea coast and on the banks of estuaries, creeks, and backwaters
- 500 m along sea & estuary coast
- 100 or 150 m on banks of backwater, river
CRZ Notification - Genesis

1981 – Prime Minister Indira Gandhi’s letter: Keep 500 m from the HTL free from development activities

1982 – Working Group on beach development guidelines

1983 – Guidelines for the development of beaches
   (Tourism, Industrial development, Urban and rural development
   Special areas – mangroves, scenic areas, corals, oceanic islands)

1986 – Environmental Protection Act

1989 – Draft CRZ Notification

1991 – CRZ Notification

1994 – Supreme Court direction asking for strict implementation of CRZ

1996 – Approval to State CZMPs

1997 – Constitution of Aquaculture Authority

1998 – National and State Coastal Zone Management Authorities
How it progressed......

- Vohra Committee
- Saldhana Committee
- Balakrishnan Nair Committee
- Saldhana Committee
- Babu Paul Committee
- Swaminathan Committee
Benefits of CRZ

- Awareness on coast
- Traditional rights
- Industries controlled
- Natural hazard protection
- Livelihood security
- Fragile systems
- Aesthetics
Failures of CRZ

- Arbitrary zone
- Mainly violated
- No participation
- Too restrictive
- Goals undefined
- No incentives
- No enforcement
Terms of Reference of Swaminathan Committee

1. Review reports of various Committees & international practices
2. Suggest scientific principles for an ICZM best suited for the country
3. Define and enlist various coastal and marine resources
4. Recommend the methodology for their identification
5. Recommend the extent of safeguards required for conservation and protection
7. Recommend necessary amendments to make the regulatory framework consistent with recommendations
COASTAL ISSUES

• Social and economic development of the country
• Bring together a unique collection of natural resources
• Coast an economic base and physical location
• Fast developing area in the country
• Environmental degradation, resource reduction and user conflicts
• Large scale destruction of life, property and natural resources due to natural hazards
MSS Committee
GUIDING PRINCIPLES OF CZM

• Ecological and cultural security, livelihood security and national security
• Territorial sea and the landward administrative biological limits
• Regulation, education and social mobilization
• Conformity with international laws
• Regulation based on sound, scientific and ecological principles
• Precautionary approach where there are potential threats or irreversible damage to ecologically fragile systems
• Significant biological, cultural and natural assets should be considered incomparable
MSS Committee
GUIDING PRINCIPLES OF CZM

• Coastal policy and regulations should be guided by the principles of gender and social equity as well as intra-generational and inter-generational equity

• ‘Polluter-pays’ principle(s) and ‘public trust’ doctrine

• Concurrent attention to conservation, sustainable use and equitable sharing of benefits

• National coastal bio-shield movement

• Short term commercial interests not be allowed to undermine the ecological security of our coastal areas

• Cohesive, multi-disciplinary approaches
Objectives

• To protect with peoples participation the livelihood security of the coastal fishers and others

• To protect life and property

• To protect the ecosystems which sustain productivity of the coastal areas

• Promote sustainable development that contribute to nation’s economy and prosperity.
The coastal zone is defined as an area from the territorial waters limit (12 nautical miles) including its sea bed up to the landward boundary of the local self-government abutting the sea coast.

Coastal zone also includes inland water bodies influenced by tidal action including its bed and the adjacent land area up to the landward boundary of the local self-government abutting such water bodies.

In case of ecologically sensitive areas, the entire notified area/biological boundary of the area will be included.
ECOLOGICALLY SENSITIVE AREAS (ESA)

- Mangroves
- Coral reefs
- Sand beaches and sand dunes
- Inland tidal water bodies, i.e. estuaries, lakes, lagoons, creeks
- Mudflats
- Marine wildlife protected areas under the Wildlife (Conservation) Act.
- Coastal fresh water lakes
- Salt marshes
- Turtle nesting grounds
- Horse shoe crabs habitats
- Seagrass beds
- Seaweed beds
- Nesting grounds of migratory birds
AREAS OF PARTICULAR CONCERN

- Coastal municipalities / corporations (the entire notified area)
- Coastal panchayats with population density more than 400 persons per sq.km. (the entire notified area)
- Ports and harbours
- Notified tourism areas
- Mining sites
- Notified industrial estates
- Special Economic Zones
- Haritage areas
- Notified archaeological sites under the Protected Monuments Act
- Defence areas / installations
- Power plants
FACILITIES / ACTIVITIES REQUIRING ACCESS TO THE SHORELINES

- Port and harbours, including refueling facilities, and dredging and reclamation
- Fish landing sides
- Public toilets
- Lighthouses and light-towers
- Beach tourism and water sports facilities
- Salt pans
- Mining of minerals other than beach sand, rocks, gravel, and sea-shells
- Ship building and repair facilities
- Coastal protection structures
- Hydrocarbon exploration and production
- Defence installations
- Discharge pipelines for treated effluent and sewage
- Approach roads, railways, pipelines, power transmissions and distribution lines to service the above
A comparison of the CRZ & MSS recommendations

<table>
<thead>
<tr>
<th>Item</th>
<th>CRZ</th>
<th>MSS Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach</td>
<td>Regulatory (top down)</td>
<td>Participatory management (bottom up)</td>
</tr>
<tr>
<td>Area Covered</td>
<td>Only coastal land</td>
<td>Land and water</td>
</tr>
<tr>
<td>Boundaries</td>
<td>Shoreline (LTL) to 500m</td>
<td>Entire panchayat / municipality &amp; territorial sea &amp; coastal waters</td>
</tr>
<tr>
<td>Coastal peculiarities</td>
<td>Not fully accounted</td>
<td>Fully accounted</td>
</tr>
<tr>
<td>Development setbacks</td>
<td>HTL, 200m, 500m</td>
<td>Based on vulnerability to hazards</td>
</tr>
<tr>
<td>Livelihood security</td>
<td>Partial coverage</td>
<td>Wider coverage</td>
</tr>
<tr>
<td>Traditional rights</td>
<td>Partially covered</td>
<td>Fully covered</td>
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<tr>
<td>Responsibility for</td>
<td>Central Govt.</td>
<td>Local Self Government</td>
</tr>
<tr>
<td>implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding</td>
<td>Nil</td>
<td>Central funds available</td>
</tr>
</tbody>
</table>
Thank you