



### A. HOW IS COASTAL ZONE DEFINED IN THE COUNTRY?

■ The coastal zone in Bangladesh is defined on the basis of natural processes and events that determine vulnerabilities of the coastal areas. As identified by the Water Resources and Planning Organization (WARPO), the three factors used for assessing the landward boundaries of the coastal zone are tidal water movement, salinity ingress and risk/incidents of cyclone.

■ **Tidal water movements:** Determining factor for erosion and accretion, salinity intrusion, drainage congestion and inundation in the coastal area. The annual average of daily water level fluctuations, i.e., differences between high and low water levels during a day have been considered to characterize the coastal zone from the perspective of tidal water movements. Average water level fluctuation of 0.3 metre (m) has been taken as the threshold value. Water fluctuation between 1-2m is considered as strong tidal movement and that above 2m as very strong. Fluctuations above the threshold limit are noted in 128 sub-Districts (upazilas) of 18 districts. The data is based on records from the Bangladesh Water Development Board's 114 tidal water level stations.

■ **Salinity Intrusion:** Determining factor for the availability of fresh water and suitability of land for human use and also the habitat of special ecosystems. Threshold level of salinity intrusion is determined for soil, surface water and groundwater. For soil salinity 4 deciSiemen per metre (dS/m) has been considered as threshold. For surface water and ground water salinity threshold has been determined to be 5 dS/m and 2 dS/m respectively. Salinity levels above the threshold values were noted in 97 upazilas of 17 districts. Soil salinities above threshold levels were found in 93 upazilas of 17 districts; surface water salinities in a total of 65 upazilas of 10 districts and groundwater salinities in a total of 45 upazilas of 8 districts. Soil salinity values are determined using map prepared by Soil Resources Development Institute (SRDI) using 1997 data. Surface water salinities have been determined based on two sources, viz., the 2001 coastal area and water salinity map of the SRDI and salinity contour line maps prepared for the Meghna Estuary in 2001 by Program Development Office. Groundwater salinities have been estimated from the groundwater salinity map prepared by the Master Plan Organisation.

■ **Cyclone Risk:** Determining factor for vulnerability of the coastal population. To assess the risk of cyclones in various zones, a cyclone risk map prepared by the Management Information and Monitoring Division of the Disaster Management Bureau in 2001 is used. According to the map there are primarily four zones: no risk, low risk, risk and high risk. The "risk" and the "high risk" zones are considered to be coastal zone.

■ Subdistricts/upazilas are considered to be coastal when the value for at least one of the parameters is above the corresponding threshold values. Districts are considered to be coastal when they have at least one coastal subdistrict. The Exclusive Economic Zone (EEZ) is regarded as the seaward coastal zone. One-third of Bangladesh is considered coastal.

### B. HOW IS THE COASTAL ZONE CATEGORIZED?

Depending on the number of indicators that affect the coastal districts and sub-districts, they are divided into three tiers:

■ **First Tier/Tier 1:** The areas where all three indicators have values above the threshold levels are categorized as Tier 1. Forty-eight sub-districts in 12 districts have been identified to be above threshold levels for all three indicators.

■ **Second Tier/ Tier 2:** The sub-districts where any two indicators have values above threshold levels. Forty-four sub-districts in 11 districts fall under this category.

- **Third Tier/ Tier 3:** The sub-districts where any one indicator has value above threshold level. Forty-one sub-districts in 10 districts fall under this category.

- All the 48 sub-districts in 12 districts that fall under the first tier are broadly termed as the “exposed coast”, as these face the sea and/or the lower estuaries, where interaction with the marine environment is most intensive. The second and third tier constitutes the “interior coast” - located behind the exposed coast on the landward side.

### C. HOW IS THE COASTAL ZONE REGULATED IN THE COUNTRY?

There is no umbrella regulation for coastal zone management in Bangladesh. The issue of coastal governance in the country is addressed through some policies and programmes developed around the chief threats identified for coastal areas.

- **Integrated Coastal Zone Management:** The Integrated Coastal Zone Management (ICZM) policy, initiated by the Bangladesh Government in 2002 in collaboration with the United Kingdom and Netherlands, aims to reduce poverty in the coastal area by creating sustainable livelihood opportunities for coastal communities, reduce vulnerabilities and enhance coping capacities, empower coastal communities, etc. The ICZM approach comprises three main components:

- **Coastal Zone Policy, 2005:** The Ministry of Water Resources (MoWR) formulated the Coastal Zone Policy (CZPo) in 2005. The policy aims to set certain guidelines to be followed to ensure that the livelihoods of the coastal communities are not hampered and environment of the region is also sustainably managed. The main measures introduced under the policy look to reduce poverty in the coastal region, use these zones for economic growth, reduce vulnerabilities, conserve critical ecosystems and sustainable management of the resources.
- **Coastal Development Strategy:** The Coastal Development Strategy (CDS) formulated in 2006 is aimed at aiding implementation of the CZPo. The strategy claims to take into account increasing urbanization, changing land use pattern, decreasing resources and visible climate change impacts. CDS has identified certain key areas of work - safe water availability, disaster management programme, optimising coastal land use, promoting economic growth by emphasizing coastal aquaculture, industry and tourism development; poverty reduction, empowering communities, etc.
- **Priority Investment Program:** The Priority Investment Program (PIP) attempts to identify issues that constrain development and economic opportunities in coastal areas and attempts to address these through targeted investments. The rationale includes reduction of people’s vulnerability to natural disaster and mitigating deterioration of the environment. The main components of the program are coastal embankment rehabilitation, flood control, drainage and building multipurpose cyclone shelter centre.

- **District Development Plan:** WARPO is entrusted with the task of developing District Development Plans (DDPs) for the coastal districts. Among 19 coastal districts 12 were prioritized, which are exposed to the sea. The districts of Bhola and Cox’s Bazar were chosen as pilot districts. The objective of the plan is to develop priority intervention strategies for the districts in the coastal areas of Bangladesh and identify areas of investment through stakeholder participation.

The DDP developed for Cox’s Bazar in 2005 is a model, the structure of which is to be replicated for the remaining districts. The five-year plan includes recommendations for different sectors considered to be of economic importance. The scheme involving the development of tourism in Cox’s Bazar aims at attracting both local and international tourists in the region while also conserving biodiversity. The plan proposes activities like improvement in infrastructure, afforestation along the beach, development of exclusive tourist zone, etc. However, the activities proposed envisioning economic upliftment in the coastal areas may contradict the conservation of biodiversity. For example the goal of developing Saint Martin’s island as a major tourist hub can be detrimental for the island, which is not just the only coral island of the country, but has also been identified as an Ecologically Critical Area. The island, which stretches merely across 600 hectares with a population of 7000 people, experiences huge tourist pressure from nearly equal numbers of tourists visiting the island daily during peak travel season.

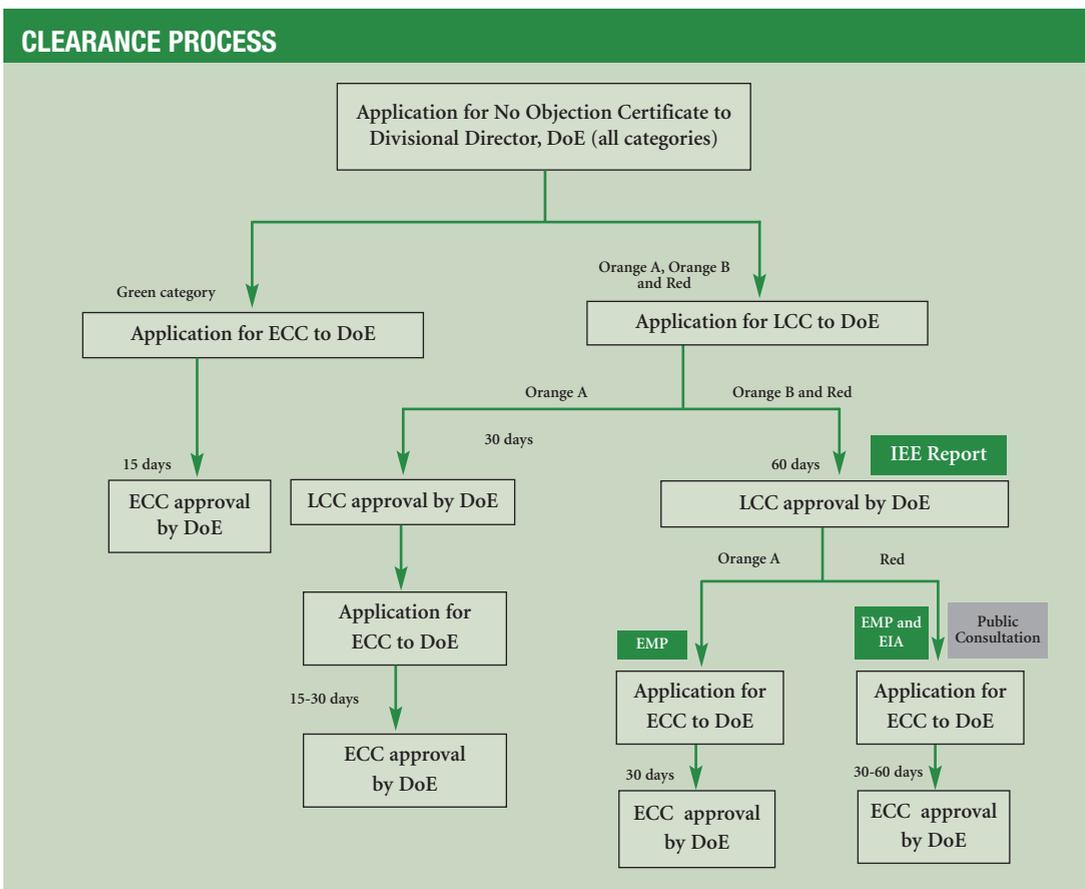
■ The Ministry of Environment and Forests developed the Bangladesh Climate Change Strategy and Action Plan in 2009 to address the imminent threats that the country faces with respect to climate change. The plan attempts to address climate change issues in the country through a combined measure of adaptation, mitigation, technology transfer and making provision for adequate financing. The Action Plan is a 10-year programme to be operational till 2018. The plan proposes to improve and develop infrastructure in the coasts, such as embankments along the sea and rivers, cyclone shelters, etc., to deal with the impacts of climate change. The plan's social security measures such as provision of safe drinking water and sanitation and diversification of livelihoods in flood prone areas aims to benefit the coastal population.

#### D. WHAT IS THE CLEARANCE PROCESS FOR A COASTAL DEVELOPMENT PROJECT?

■ There is no specific guideline or regulation that has been developed for permitting activities in the coastal areas in Bangladesh. According to Department of Environment (DoE) the permit process is the same as any other activity in land area.

■ MoEF categorizes all projects in Bangladesh into four categories based on their site and impact on environment – Green, Orange A, Orange B and Red. All major industrial activities fall under the Red category. The Environment Conservation Act, 1995, necessitates all industrial units/development projects to obtain Environmental Clearance Certificates (ECC) as laid down under the Environment Conservation Rules, 1997. The final ECC is granted by the Director General (DG), Department of Environment (DoE), Ministry of Environment and Forests. The process for getting an ECC is:

- For all projects, a No Objection Certificate (NOC) is required from the Divisional Director of DoE.
- Green category projects only require an NOC for the ECC application. The application for an ECC is made to the Deputy Director, DoE. The approval decision of ECC for Green category is given within 15 days.
- For projects falling in the Orange A, Orange B and Red categories, a Location Clearance Certificate (LCC) is required from the DoE before applying for ECC. For Orange B and Red





categories, the application for LCC requires an Initial Environmental Examination (IEE) of the project. The LCC is given within 30 days for Orange A category and within 60 days for Orange B and Red category. Upon obtaining an LCC, the project proponent needs to apply for an ECC.

- For Orange A, Orange B categories, the project proponent can undertake activities for land and infrastructure development, may install machinery including ETP upon receiving a LCC but cannot start any operations until ECC is obtained. For Red category, no activity can commence before an ECC is obtained.
- For units under Orange B and Red categories, the application for ECC to the DoE requires submission of an Environmental Management Plan (EMP). Undertaking public consultation and submission of an Environmental Impact Assessment (EIA) report is additionally required for red category projects. The Terms of Reference (ToR) for the EIA needs to be approved by the DoE before an EIA is done. Upon review of the relevant documents and EIA report, ECC is granted by the DoE. For Orange A category the time period for ECC approval is 15-30 days, for Orange B 30 days and for Red category is 30-60 days, depending on the project.

■ The coastal zone of Bangladesh includes a number of ecologically critical areas (ECAs). The government has declared the list of ECAs under the provision of the Environment Conservation Act 1995, the sea front of Cox's Bazar and Teknaf peninsula, St. Martins Island, Sonadia Island and a 10 km strip outside the Sundarbans Reserve Forest in Khulna, Bagerhat, Satkhira districts, are included in the list of coastal ECAs. According to DoE, given their fragile nature, no development activity is typically allowed in the ECAs. If the IEE shows that the project area involves an ECA, the proposed activity is not permitted.

## **E. ISSUES/PROBLEMS WITH COASTAL ZONE MANAGEMENT IN BANGLADESH AND WHAT NEEDS TO BE DONE**

The challenges of coastal management in Bangladesh involve regulatory inadequacy and lax in implementation. The following needs to be done for ensuring sustainable coastal management:

- Developing a guideline for activities that can be permitted especially in the coastal zone and a detailed evaluation process for permitting such activities.
- Improving post-project monitoring system for compliance of conditions given in the ECC.
- As of now public consultation is primarily required in the approval process for Red category projects. Increase the scope of public consultation for other categories as well, especially Orange A and B in coastal areas.
- Working on implementation of policies and plans, like DDPs, without further delay. The DDPs identify specific problems of coastal districts and propose targeted development measures, but the proposed economic strategies are sometimes in conflict with the ecological vulnerability of the region as in the case of Saint Martin's Island. This needs to be rectified. There is a need to target implementation of the same in a time bound manner. Also the pending work of developing DDPs for the other districts needs to be completed.
- Though the Coastal Zone Policy and the Climate Action Plan indicate plans for development and improvement of infrastructure along the coasts to address problems such as erosion and flooding, measures remain inadequate compared to the urgency of the situation. Such infrastructure needs to be developed on a priority basis where required and maintained properly.
- Developing a decentralized governance process instead of a centralized approach to address coastal issues in a more targeted and timely manner.