



UNDERSTANDING RISK
GLOBAL FORUM 2024

TRADITION • INNOVATION • RESILIENCE

Mitigating River Erosion and Enhancing Coastal Resilience through Nature-Based Solutions and Community Mobilization

Speakers:

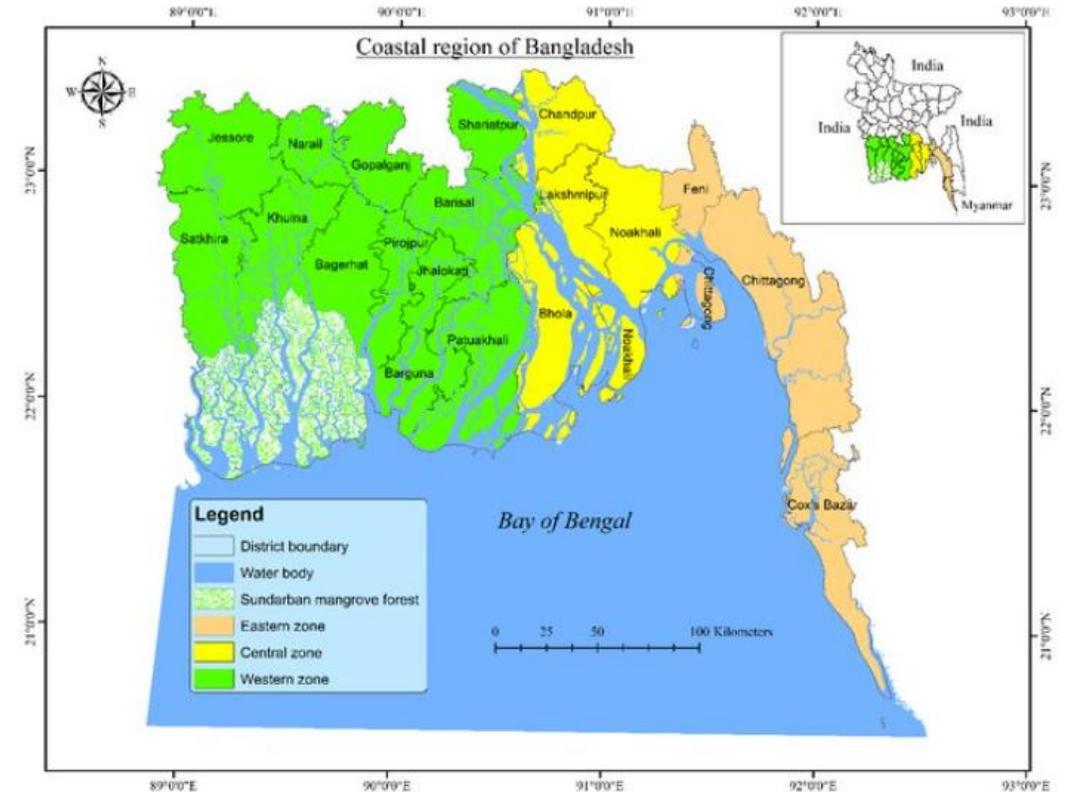
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Coastal Bangladesh

The coastal zone of Bangladesh covers an area of 47,201 sq.km, or 32% of the country, being the landmass of 19 districts.

- Out of these 19 districts, 12 districts meet the sea or lower estuary directly and the most vulnerable zones under the climate changing process.
- About 35 million people live in the coastal regions of Bangladesh.
- More than half of this population (52%) is poor and more than one third (41%) are children.
- Agriculture and Fishing are the most dominant livelihood activities.



Lives and livelihood

More than half of the people of coastal areas are poor. Further, the number of female headed households (3.4 million in total coastal areas) is higher in coastal areas than the national average 2.37 million.



Agriculture is the main livelihood activities. Rice is the major crop.



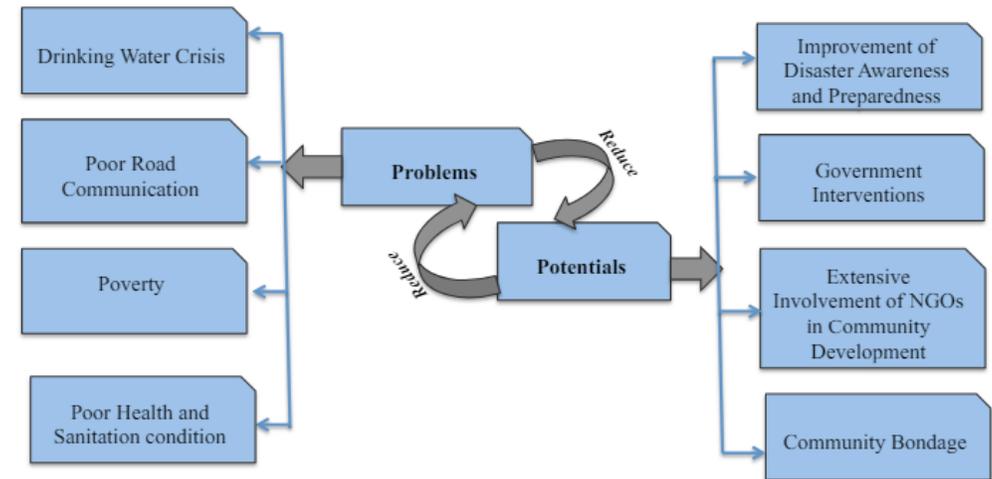
Fishing is the second largest occupation .



Shrimp Farming is getting popular and abundant.



The condition of Human asset, Health, Education, Social safety is lagged behind the people from the other part of the country. Climate Change and induced disasters exacerbate the condition significantly



Climate Change and Coastal Disasters

Coastal districts of Bangladesh are increasingly suffering from climatic hazards (e.g., cyclone, flood, saltwater intrusion). Tropical cyclones and floods particularly affect millions of people almost every year. Massive property damages and life losses are a common scenario when these disasters hit the coastal belt.

Long-term Impacts



At least 70 per cent of agricultural land on the south coast is affected by different degrees of soil and water salinity. | ©Shuvroneel Sagar



A study shows that the livelihood of 62.7% of people has been changed due to salinity. | ©Shuvroneel Sagar



Many people have changed livelihoods two to three times in the last 10 years. | ©Shuvroneel Sagar



Climate migration due to river erosion and multiple cyclones.



Climate change is responsible for sea-level rise, contributing to salinity intrusion.



Frequent Cyclones and flooding is causing great economic loss to the coastal people

Bangladesh Polder System

A polder is a low-lying tract of land that forms an artificial hydrological entity, enclosed by embankments known as dikes.

Bangladesh has 139 polders, of which 49 are sea-facing, while the rest are along the numerous distributaries of the Ganges-Brahmaputra-Meghna River delta. These were constructed in the 1960s to protect the coast from tidal flooding and reduce salinity incursion.



Major Components



Embankment



Sluice



Canal



Shelter

Challenges in Operation and Maintenance of Coastal Polders

Challenges

- Lack of adequate budget for O&M of infrastructures built and rehabilitated by the government.
- Complex procurement process in Carrying out O&M activities on time.
- Inadequate manpower in supervising O&M activities in remote Polder system.
- Uncertainties in future climate changes affecting Polders' structural integrity.



Importance of O&M and Community Mobilization

- ➔ Solid O&M of embankments, hydraulic structures, drainage systems, and afforestation is the foundation of coastal resilience.
- ➔ Empowering Water Management Organizations (WMOs) for operation and routine minor maintenance of the polders.
- ➔ Small works undertaken by WMOs under a memorandum of understanding with BWDB.
- ➔ Strengthening O&M of afforestation activities through social forestry approach involving local community.



Integrating Nature-Based Solutions with Infrastructure Interventions

1 Complementing infrastructure interventions in Polders with nature-based solutions



2 Rehabilitating polders with strengthened embankments and afforestation programs on slopes and foreshore areas



3 Enhancing physical infrastructure and leveraging benefits of ecological systems for sustainable, long-term resilience



4 Addressing human dimensions of squatters by garnering public support for afforestation program

Case Study: CEIP-I Project



NBS

Nature-Based Solutions (NbS) concept embedded into project design for climate resilience



Afforestation

Afforestation of 700 ha area, exceeding targets



Participation

Inclusive community participation and livelihoods adaptation for sustainable resilience



O & M

Formation and registration of WMGs and WMAs responsible for polders' operation and maintenance



Capacity Building

Capacity building of WMOs through training activities



Social Forestry Group

Formation of social forestry groups ensuring structured benefit-sharing scheme from sale proceeds



Women's Participation in Water Management and Afforestation

- ➔ Women's participation in WMGs and WMAs meeting required threshold set by Participatory Water Management Rules 2014
- ➔ Women constituting 36% of total WMG members and 33% of executive committee positions in WMAs
- ➔ Women's participation guaranteed in social forestry groups as members and employed as watchers in afforestation program



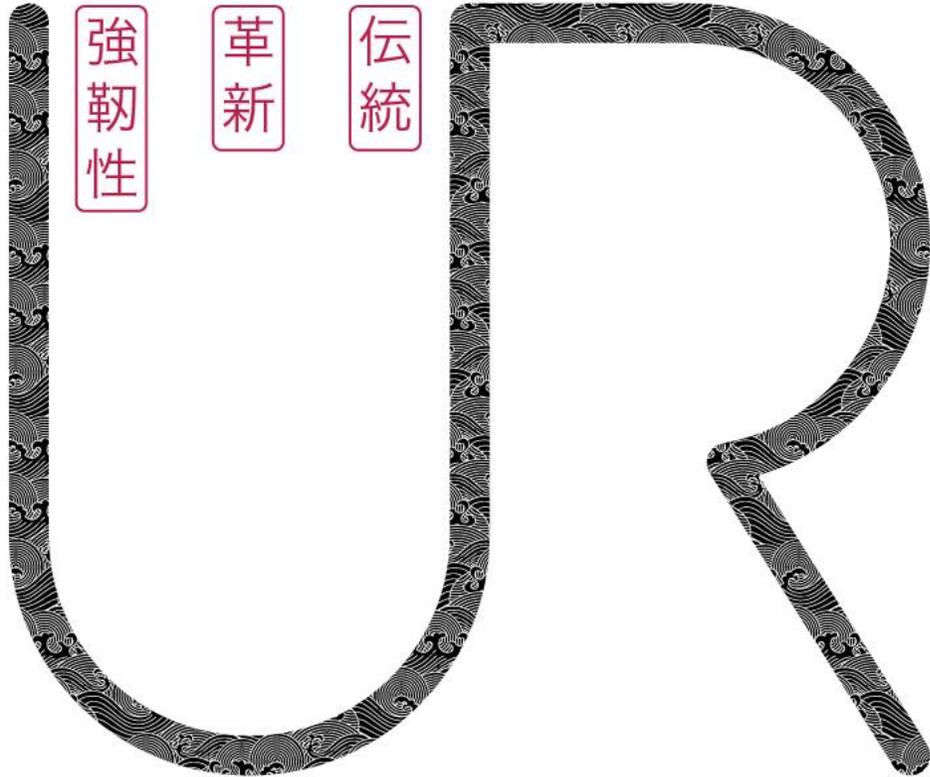
The polder will create a green belt through social forestation activities.



Conclusion

- ➔ Importance of integrating nature-based solutions with infrastructure interventions for coastal resilience
- ➔ Community mobilization and empowerment of WMOs crucial for sustainable O&M of coastal Polders
- ➔ Women's participation in water management and afforestation programs essential for inclusive and effective interventions





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Thank you !

