

Partnerships with Coastal Communities in Building Climate Resilient Infrastructures in Bangladesh

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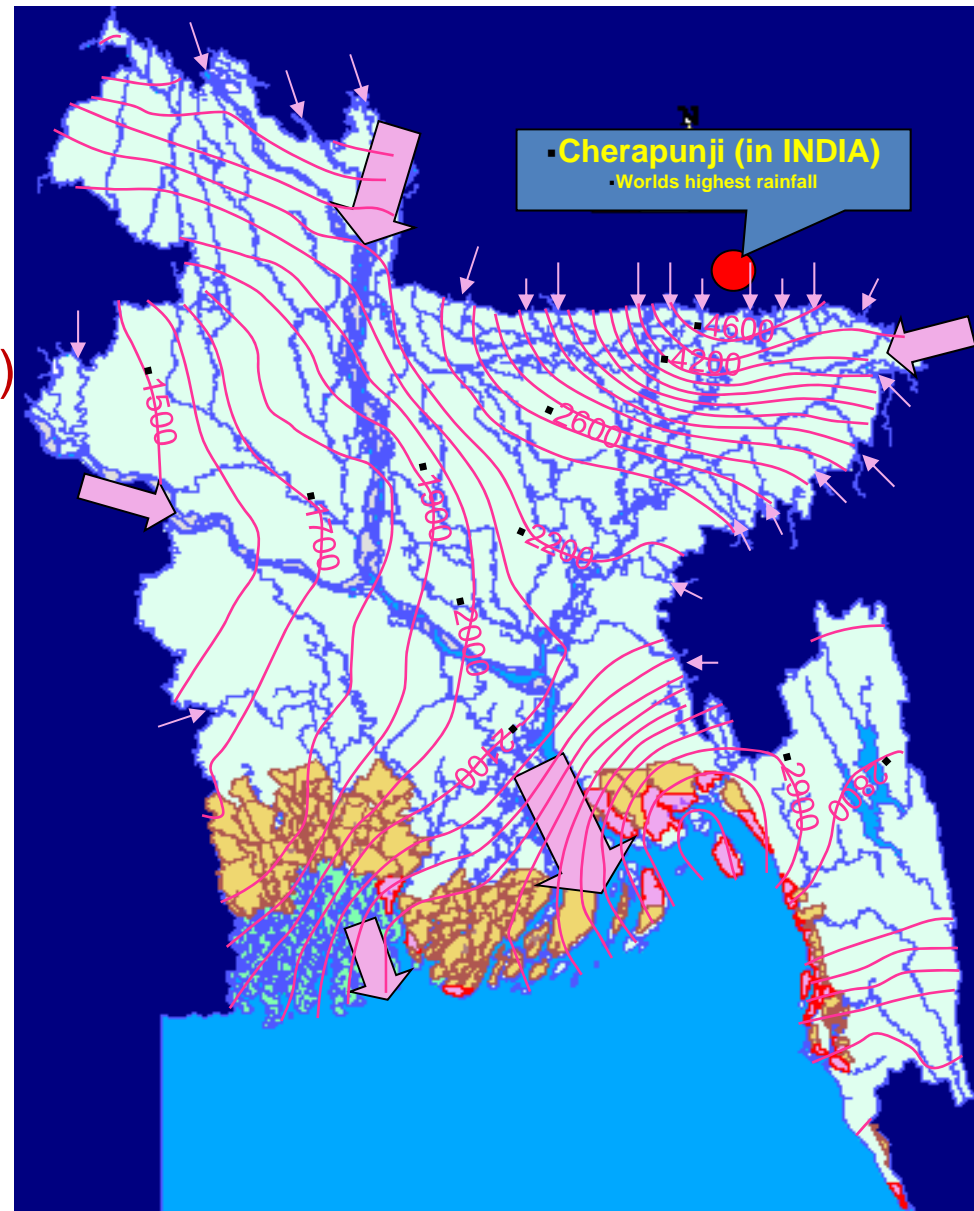
Bangladesh Water Development Board

Geographical Location of Bangladesh

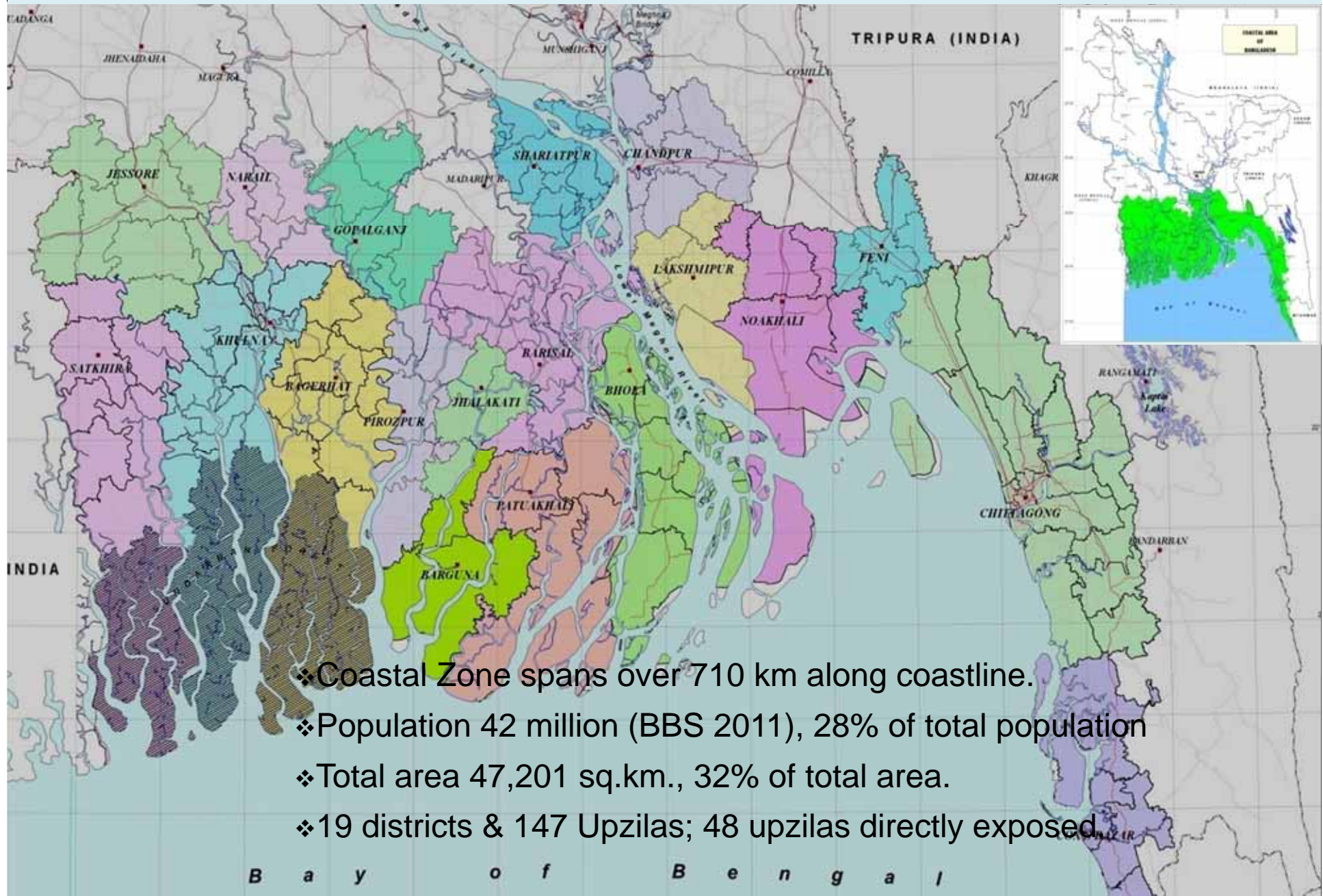


Bangladesh – Largest Delta

- ❖ Area: 147,570 sq. km
- ❖ Land : 133,910 sq. km.
- ❖ Population: 150 million (BBS 2011)
- ❖ River System : 24,000 km
- ❖ Trans-boundary River: 57 Nos.
- ❖ Annual Avg. Rainfall : 2300 mm
- ❖ Catchment of G-M-B basin:
1.72 million sq. km.
- ❖ 93% catchment area: outside Bangladesh.
- ❖ Bangladesh experiences flooding every year and severe every 10 years



Coastal Zone of Bangladesh



Coastal Resources & Opportunities



Agriculture



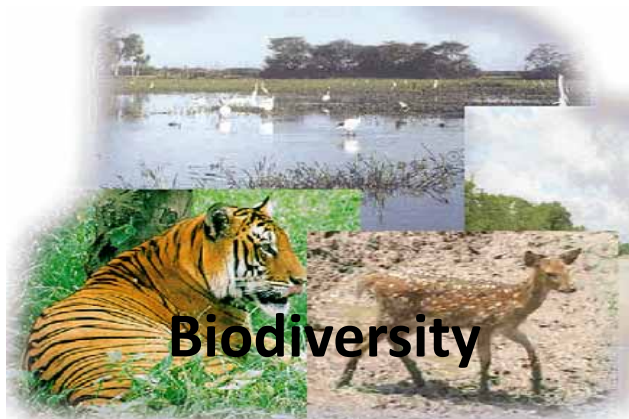
Fisheries



Shrimp



Mangrove Forest



Biodiversity



Port & Harbor, Ship Building



Tourism



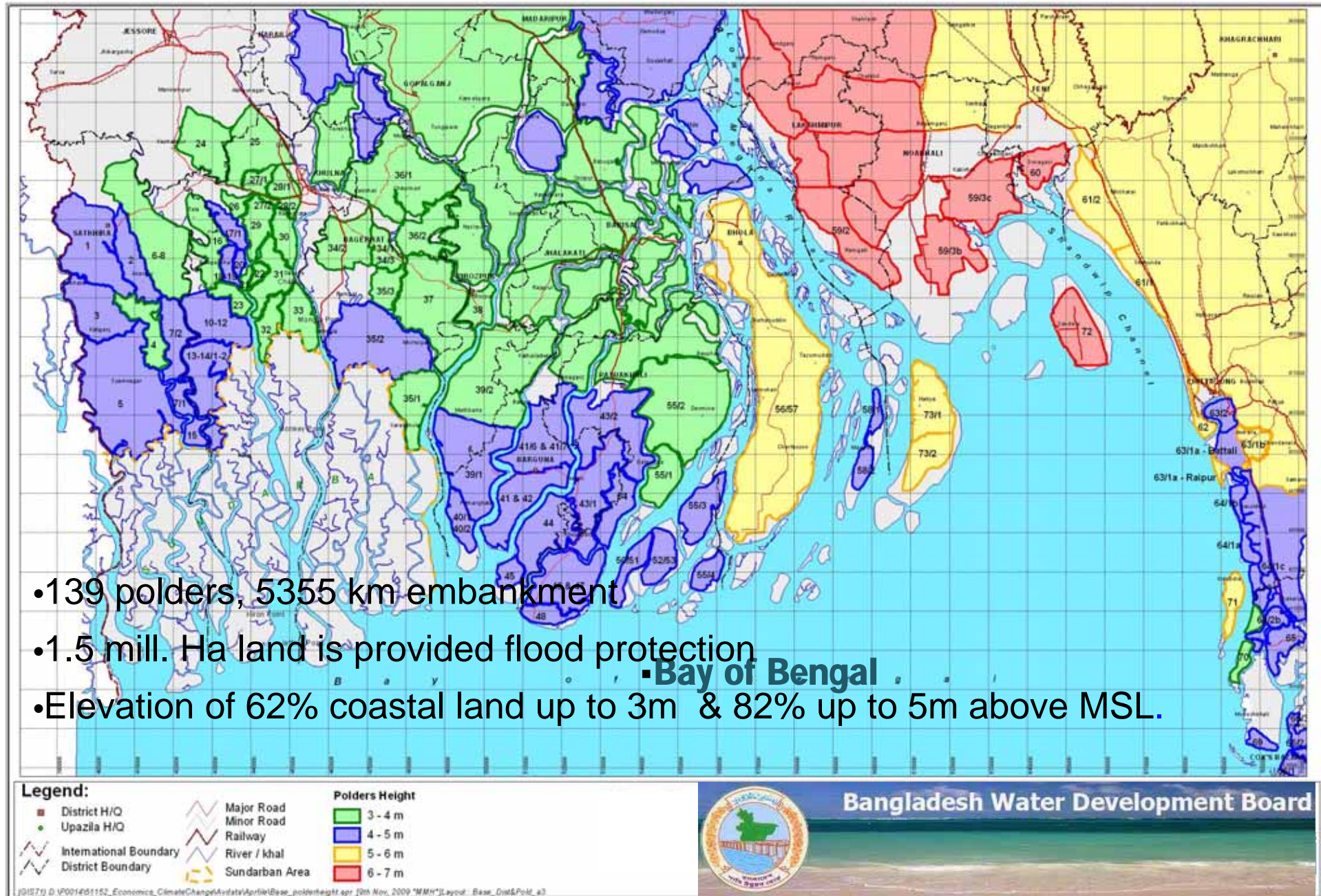
Land Reclamation



Gas & Oil Exploration

Getty Images

Coastal Polders



Coastal Infrastructures



Gabtoli 7-vents Regulator



Coastal Embankment



Multi-purpose Cyclone Shelter



Foreshore Protection Work



Drainage Canal



Public Toilet



River Closure



Housing for Landless

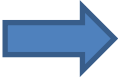


Tubewell

Coastal Polders: Present Scenario

- ❖ Coastal embankment system brought immense benefits to the people living within the polders.
- ❖ Polders were designed originally to protect against the highest tides, without much attention to storm surges.
- ❖ Recent cyclones brought substantial damage to the embankments and threatened the integrity of the coastal polders. ➡
- ❖ Embankment breaches due to cyclones, siltation of peripheral rivers surrounding the embankment caused the coastal polders to suffer from **water logging**, leading to important environmental, social and economic degradation. ➡

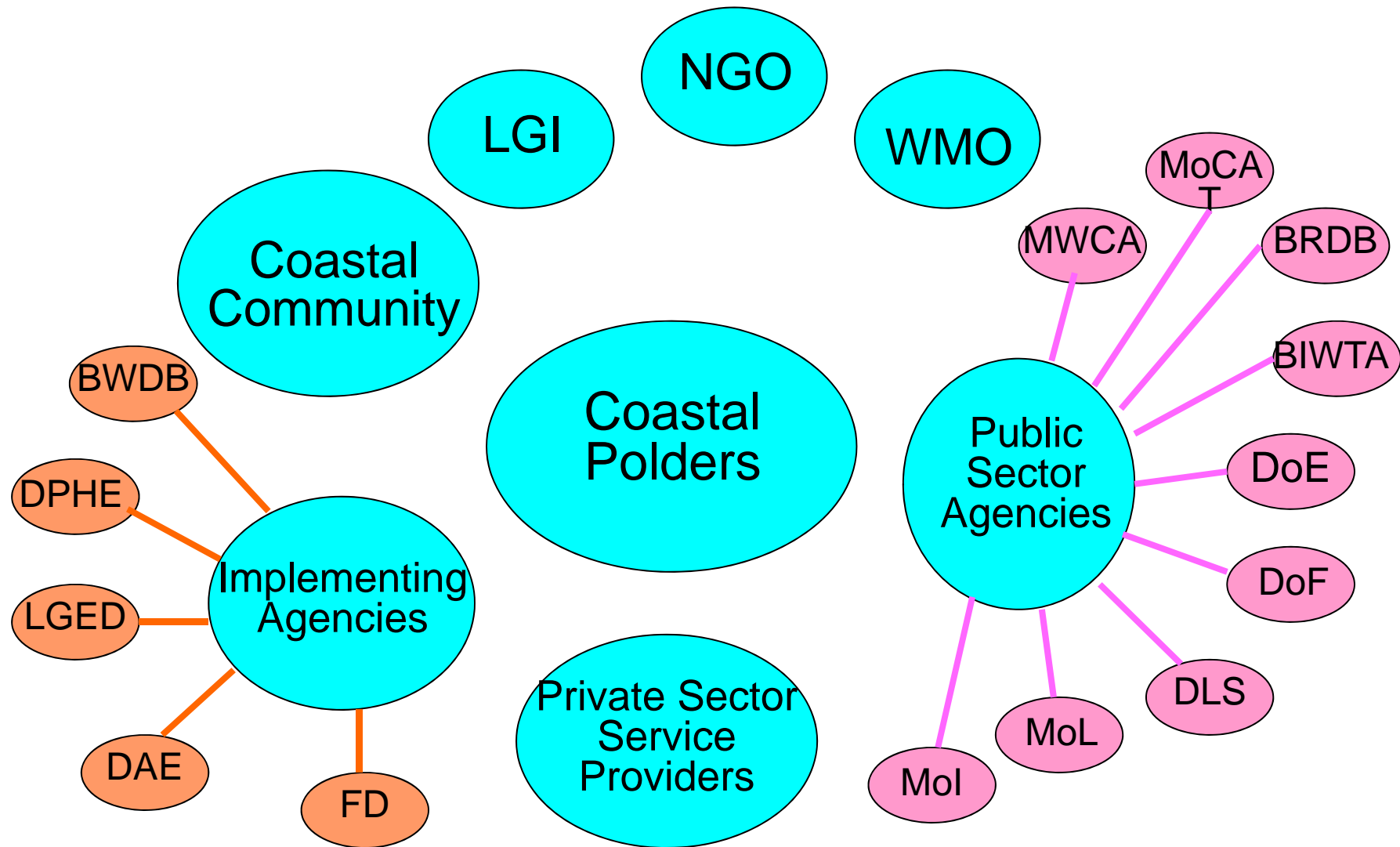
Coastal Polders: Present Scenario

- **Poor maintenance** and inadequate management of the polders contributed to internal drainage congestion and heavy external siltation. 
- Soil fertility and good agriculture production declining due to water logging and salinity increases inside the polders.
- **systematic approach** to upgrade embankment against high tides as well as frequent storm surge with appropriate return period.

Coastal Polders: Present Scenario

- ❖ the embankment program needs to be integrated with an **afforestation** program, particularly on the foreshore, in a view to create greenbelts of mangrove and other species. ➡
- ❖ Restoration of the embankment system is a much needed catalyst to provide resilience to vulnerable communities and to revitalize the coastal zone's ailing socio-economic engine. ➡
- ❖ Development of Partnership and Participation with coastal communities for better management and operation of infrastructures.

Stakeholders of Coastal Polders



Community involvement - Coastal Development

- ❖ Sub-Polder Committee (SPC) in a Part of a polder/ scheme;
- ❖ Polder Committee (PC): More than one SPCs form a PC for a Polder/ proposed Polder;
- ❖ Local Area Development Committee (LADC) for unprotected area;
- ❖ SPC/PC transformed into Water Management Organization (WMO) for Polder/Systems area;
- ❖ Consultation/Participation/Partnerships with WMO in all stage of Project Cycle. ➡

Organogram of WMO



Stages of Different Organization

WMA

WMG

WMG

WMG

Depends on project/sub-project/scheme size

Major Responsibilities Of WMOs

- ❖ Operation & Maintenance Of Sluice
- ❖ Preventive/Routine Maintenance of Sluice, Khal, Embankment & Other Structures
- ❖ Removal of Cross Bundh, Fishing Traps, Water Hyacinth/Debris & Silt from canal
- ❖ Establishment WMO Office
- ❖ Raising Fund For O & M, WMO establishment
- ❖ Annual Maintenance Plan With BWDB, LGED & UP
- ❖ Liaison & Coordination With All Concerned
- ❖ Receive Training
- ❖ Solving O & M Problems Through Local Initiatives

Development of Maintenance Plan

Stakeholders involved are:

- ❖ BWDB
- ❖ LGED
- ❖ LGI (Union Parishad)
- ❖ WMO

Types of Maintenance

➤ Preventive/Routine:	WMO/LGI
➤ Periodic:	BWDB, LGED/LGI
➤ Emergency	BWDB, LGED/LGI/WMO
➤ Rehabilitation:	BWDB, LGED

Gender Balance

- ❖ Women are taking part in discussions during all meetings and in activities of WMGs
- ❖ Distribution of membership WMG: 45% female
- ❖ Distribution of membership WMG Management Committees: 35% female, in important positions like secretary or cashier
- ❖ Distribution of FF membership: 38% female
- ❖ NGO credit groups and TUGs mainly female

❖ Issues

- ❖ Male members don't like to see women as chair person, despite their suitability
- ❖ Mobility and household duties

Stakeholder Participation – Income Generation

Group meeting, Nursery, Cattle Rearer and Homestead Garden



Way Forward

- ❖ Coastal community partnership is of utmost priority for sustainable coastal development
- ❖ Reengineering of the coastal polders by phases for Sea level rise and storm surge for the safety of life and livelihood of coastal community.
- ❖ There are need of new cyclone shelters in the high risk coastal areas specially in the Barisal and Khulna division
- ❖ Development of early warning of storm surge inundation forecasting for awareness of coastal community



Thank You

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Cyclone SADR 2007

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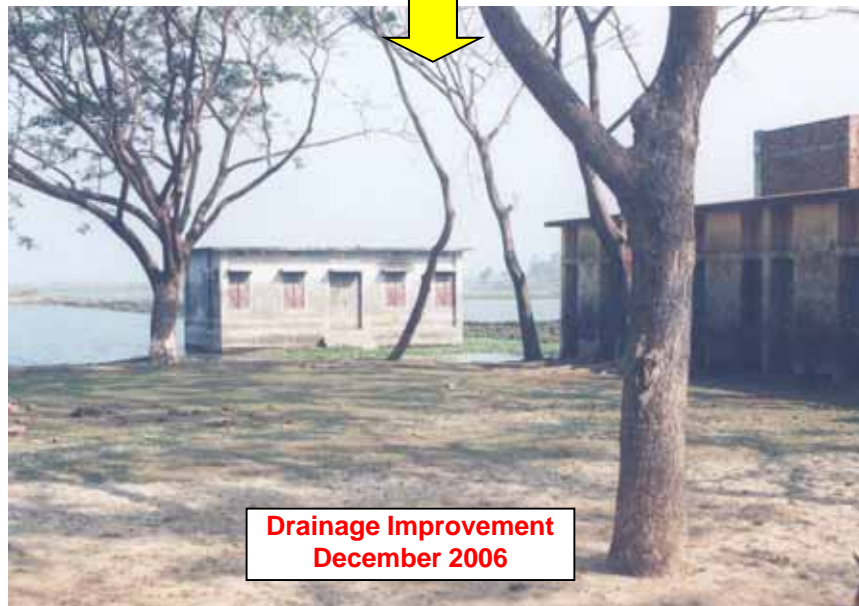


Cyclone Aila - 2009





Drainage Problem



Problems due to lack of participation

Sluice Gate not in operation

Deteriorated Embankment

Poor O&M

Siltation

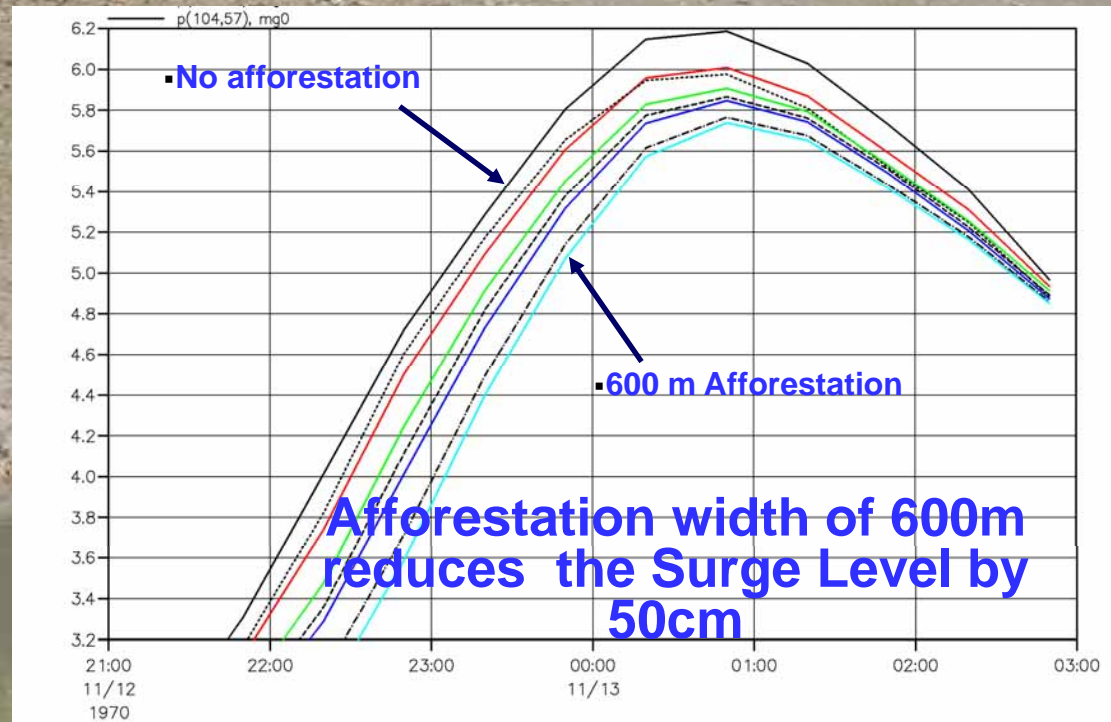




Afforestation



Reduction of Storm Surge
height by
Coastal
Afforestation





Community Participation



Project Mission visit



Project Mission visit



Introduction Workshop



Dutch Ambassador's visit



Mrs. Ambassador



Project Mgt. Committee



Deed of Agreement



WMO Meeting

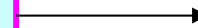


Dutch Embassy official visit



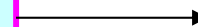
Composition of WMO

WMF (Representatives
from the General
Members of the WMA)



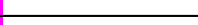
WMF (apex level of
scheme)

WMA (Representatives
from the General
Members of the WMG)



WMA (mid level:
tertiary/secondary)

WMG (Women & Men
belonging of all kinds
of people of the
project.)



WMG (lowest
level: village/para)

Climate Resilient Coastal Polders

Polder No: 32

