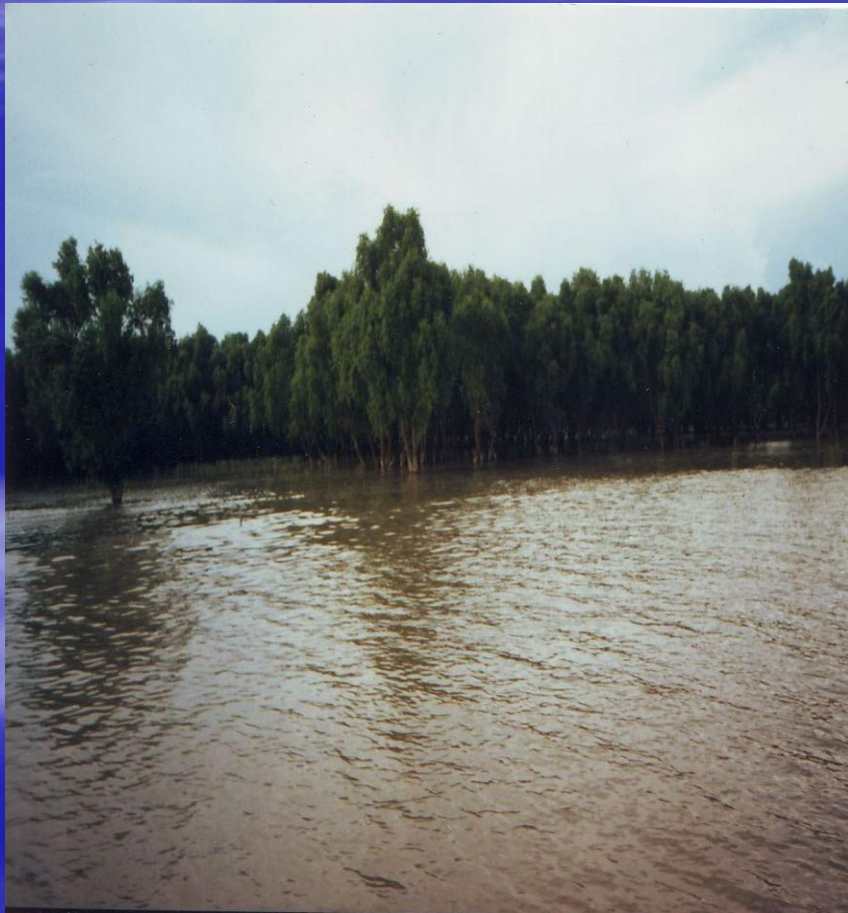


Coastal Erosion Impacts and Adoption Aspects for Bangladesh



Dr. Mohammad Zafar

Professor

Institute of Marine Sciences and
Fisheries,

University of Chittagong

Chittagong 4331, Bangladesh.

Email: zafarims@yahoo.com

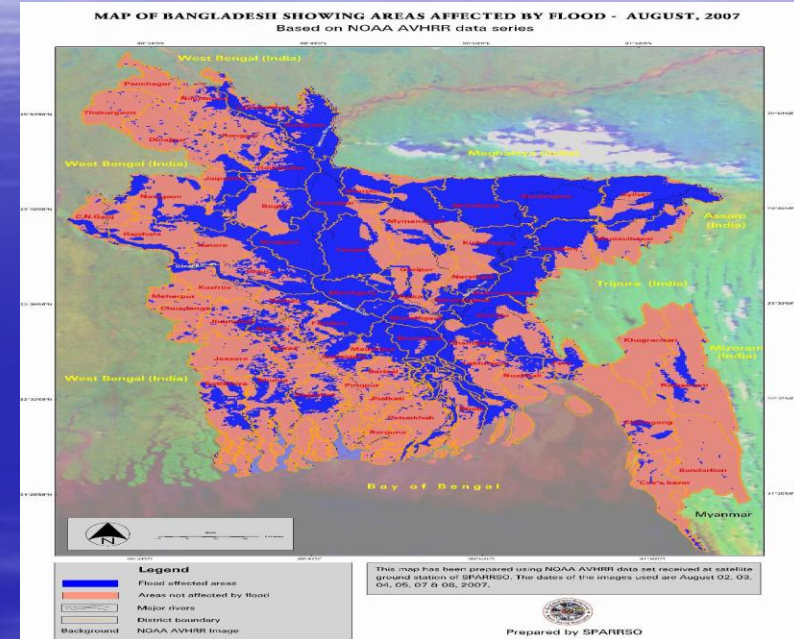
Website: www.imscu.ac.bd

River flow and Erosion of Bangladesh Coast

- Bangladesh is a riverine country (total rivers including tributaries and distributaries about 700)
- The country is drained by a large network of rivers centering one of the largest in the world- the Ganga-Brahmaputra and Meghna (GBM) River system.
- The GBM System carries about 2.4 billion tons of sediments per year into the Bay of Bengal (BOB) (Holeman, 1968) that interact with dynamic processes in the Bay leading to erosion-accretion process in the coastal region.
- The bottom topography of the BOB near Bangladesh is shallow which helps amplification of waves like storm surges and tides.

Driving Forces of Erosion

- ❑ Heavy discharge through the GBM river system
- ❑ Wave action due to strong southwest monsoon
- ❑ High astronomical tides
- ❑ Storm surges in the BOB
- ❑ Deforestation
- ❑ Hill cutting activities
- ❑ Municipal/ urban wastes



Flood in Bangladesh 2007



Soil erosion in the mangrove area



SW monsoon effect



Hill cutting and soil erosion

Erosion Scenario of coastal area

Name of Island in Bangladesh	Accretion	Erosion	Net Result
Bhola	80.06	360.76	280.70 (Erosion)
Hatiya	30.86	108.44	77.58 (Erosion)
Sandwip	0.0	110.46	110.75 (Erosion)
Manpura	21.29	99.30	78.45 (Erosion)
Sundarbans area	78.02	375.65	297.63 (Erosion)

Source : SPARRSO Report, 1987

Comparative statement of erosion and accretion

Location	Period	Erosion (sq. km)	Accretion (sq. km)
Entire coast	1976-1990	858	808
The Meghna Estuary	1976-1990	764	744
Srizonee and surroundings	1984-1990	24	058
Char Montaz and surroundings	1984-1990	05	039

Effect of Erosion in Coast

- ❑ Low Phytoplankton Production and loss of food relationship in the coastal area of Bangladesh.
- ❑ Loss of Biodiversity for increasing turbidity
- ❑ Degrade water quality
- ❑ Displacement of coastal population
- ❑ Top dying diseases and natural regeneration reduced of mangrove swamps
- ❑ Habitat lose ,Migration and changes of fishery species
- ❑ Siltation in the rivers and their vicinity

Mitigation Measures

- Afforestation in the coastal area
- Stone and boulders embankment
- Control /proper plan & management of human activities (Hill cutting, Deforestation, Ship breaking etc)
- Urban soil deposition and treatment
- River water flow monitoring.



Afforestation in the sea beach



Boulders embankment



Ship breaking in Bangladesh



THANK YOU