

Coastal fisheries of Bangladesh: how to adapt with sea level rise?

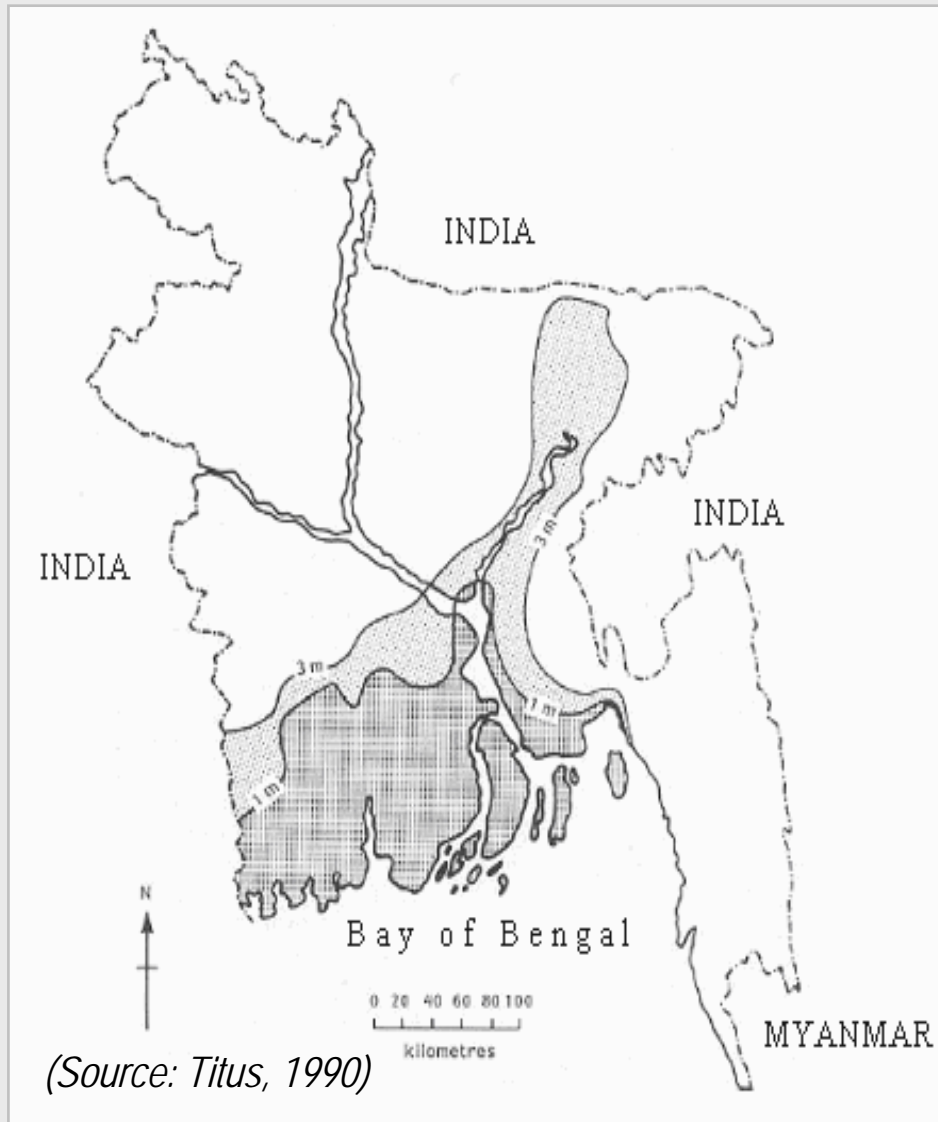
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SLR in Bangladesh

- 1 M SLR by 2100
- 17.5% landmass will be inundated by 1 m SLR

(Ref: UNDP, 2000)



Coastal Fisheries of Bangladesh

- Shrimp (*P. monodon*) dominated
- Khulna, Shatkhira and Bagerhat district produce 80% shrimp
- Chittagong and Cox's Bazar district produce 20% shrimp
- 30,209 MT exported in 2001-02 FY
- Forex earned in 2001-02 is \$ 241.3 million (BDT.1447.8 Crore).

Adaptation

How.....?

- Introduction of salinity tolerate species
- Mangrove aforestation
- Cage culture and pen culture
- Polyculture
- Pearl culture
- Fishermens' capacity building

Introduction of salinity tolerate species

- Indian White Shrimp (*Penaeus indicus*)
 - can tolerate salinity upto **42 PPT**
- Western White Shrimp (*Penaeus vannamei*)
 - can tolerate wide range of salinity
0.5 PPT to 45 PPT

Mangrove aforestation

- 3 species (*Sonnerata apetala*, *Avicennia officinalis* *Heritiera fomes*) are suitable species for mangrove rehabilitation in Bangladesh coast.
- 1200 square km. artificial mangrove aforestation succeed
- Important habitat for shrimp fry
- Effective for coastal protection

Cage and Pen culture

- Open water could be used for capture fisheries
- Easy to observe, treatment and feed supply
- Easy to harvest
- Easy to relocate

However-

- Relatively expensive
- Bacterial disease of the fishes of cage may be easily transmitted to other parts of the water body

Polyculture

- **Fish-shrimp** or **shrimp-crab** cultivation is suitable for Bangladesh
- Higher production
- Low pollution
- Can tolerate high fluctuation of salinity
- Polyculture of **Tiger shrimp** (*Penaeus monodon*), **Milkfish** (*Chanos chanos*) and **Mullet** (*Mugil cephalus*) showed higher harvest than shrimp monoculture.
- Mud crab (*Scylla serrata*) and Tiger shrimp are good combination of polyculture

Pearl culture

- Potential sector
- Natural pearl found in Chittagong, Cox's bazar, Moheshkhali and St. Martin's island.
- Pearl producing shells found in Khulna region too.
- Neglected by government

Fishermens' capacity building

- Disaster preparedness activities
- Special weather forecasting for fishermen
- Participatory community fund
- Insurance

CLD of SLR adaptation for the coastal fisheries of Bangladesh

