

# Urbanization: Threat to Coastal Towns from Sea Level Rise

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## Outline

- Urbanization Defined and Re-Defined
- Global and Bangladesh scenarios
- What are the changes?
- Why urbanization is a concern?
- Coastal urbanization of Bangladesh
- Environmental risks and threats
- How Sea-Level Rise could affect coastal towns?
- What should be the way forward, then?

## Defining urbanization

- Most commonly described as the concentration of population in major population centers a.k.a. Urban areas
- DOES tell us about demography
- About economics to some extent
- DOES NOT tell anything about the natural environment

## Re-Defining urbanization

- Hence we define urbanization as the growth and migration of population resulting in increased concentration of human population in major population centers displacing /replacing other animal and plant populations, at the same time leading to drastic changes in natural habitats/ecosystems, loss of arable lands, water bodies, wetland; conversion of permeable surface into impermeable surface by creating built environment.
- Socio-economic and socio-cultural dimensions

## What Stats tell us?

### GLOBAL AND REGIONAL

- Global urban population was 37% in 1970, 47% in 2000, 50% in 2008 (UN-HABITAT) and increasing steadily to reach 60% by 2030
- 5 million new residents per month
- 93% urbanization happening in developing World
- 63% of the Urban population will be in Asia
- 70-80% of global population will live in cities by 2050

## What Stats tell us?

### BANGLADESH

- Bangladesh is currently less urban than Global standard, but more urbanized in South Asia
- 27% urban dwellers (as of 2009)
- Urban population increasing by 3.5% annually
- = 100% urban by 2047?

## Why urbanization is a concern?

- Health, health cost & epidemics
- Dependence on import (from rural areas)
- Pollution and increased emission
- Destruction of natural habitats & wildlife
- Altered hydrology, runoff, drainage & flooding
- Economic and cultural practices in contradiction with natural physical rules

## Coastal Urbanization in Bangladesh

- Coastal Zone of Bangladesh
- Coastal Municipalities since 1991
- Population growth in the Coastal Zone and Coastal Municipalities

## Global Sea-Level Rise (SLR)

- IPCC AR5
- Post-AR5 scientific discoveries
- Inundation due to Sea-Level Rise
- Indirect impacts of SLR

## Indirect impacts

- Delayed drainage and frequent flooding
- Salt intrusion in surface and ground water sources
- Loss of urban service area and peri-urban agriculture
- Import, fuel cost, cost of commodities
- Vulnerability to enhanced storm surge

## Way forward ...

- Planning for smaller towns
- More livable small towns mean less migration to bigger cities, shorter supply chains
- Master plans, urban zoning, spatial planning and land management
- Open space, permeable surface, detention/retention ponds, community gardens, local food systems, wildlife corridors, ecosystem/wetland restoration

## What is to be done, NOW

- Study and research
  - Demographic dynamics
  - Socio-economic dimensions
  - Land use dynamics
  - Finer scale inundation/flood modeling
  - Comprehensive SLR Impact assessment
- Plan ahead of time
  - Sustainable urban design
  - Mitigation and adaptation

## Take home: planning is the key!

- There is nothing that cannot be planned.
- There is no alternative to planning.
- The bigger the threats, the greater the plans should be.
- There will always be a Plan-B, if Plan-A doesn't work.
- Not sticking to plans is not the fault of the plan.
- If we don't plan, no one will get it done for us.

Thank you for patience!