CLIMATE CHANGE: CITIES AND SETTLEMENTS

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Outline of the Presentation

- Context
- Climate Change Vulnerability in Bangladesh
- Government Response
  - Recent Initiatives
  - Selected Urban Development Projects
- Challenges: Limitation
- Looking Forward: A resilient urban development

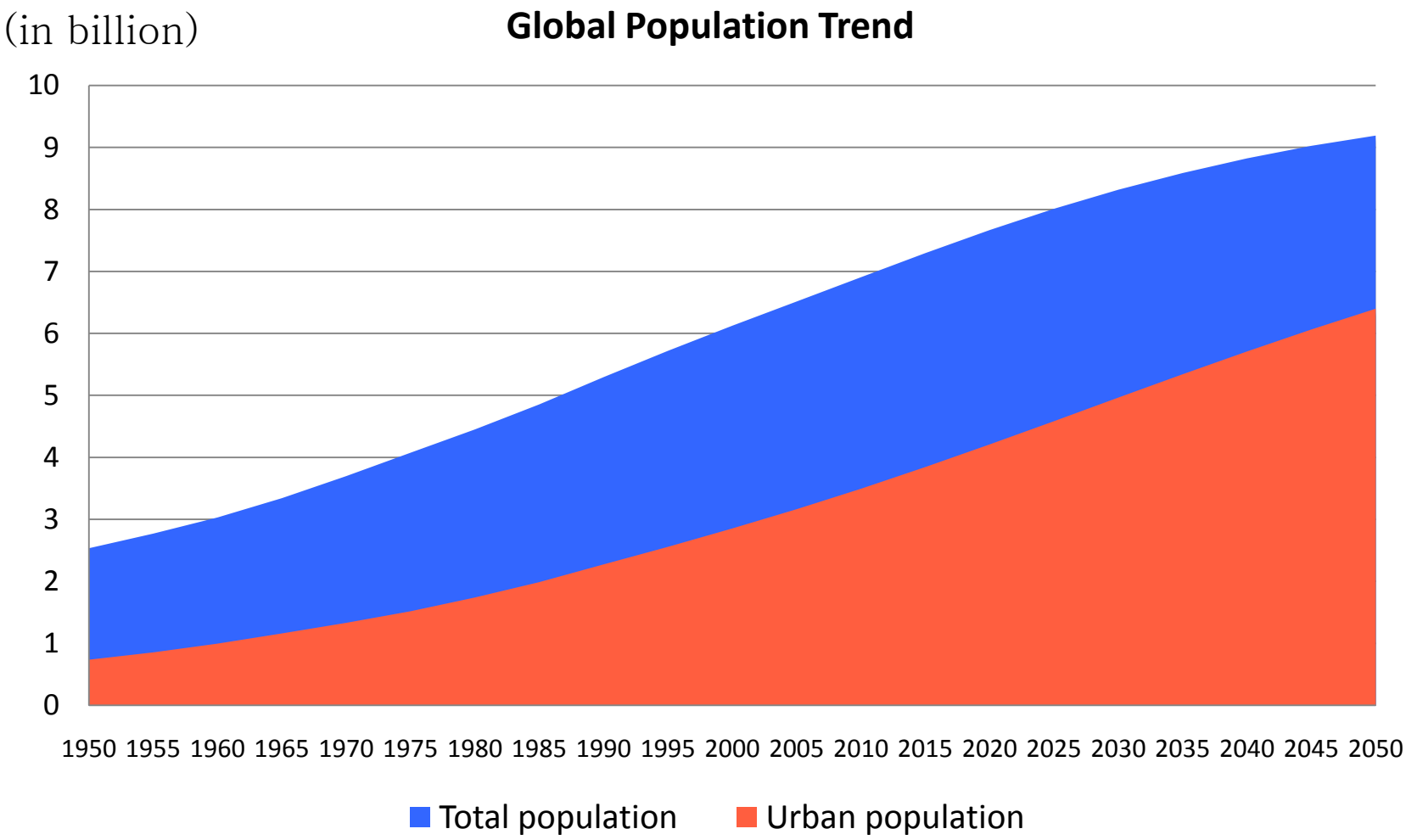
Context

- ✓ Urban areas and settlements are increasing faster in Bangladesh
- ✓ Concept of urban resilience is comparatively new,
- ✓ Climate Change Adaptation's main focus is **community based approaches to adaptation**, which is mainly focused towards rural areas
- ✓ In recent years due to increased population pressure in the urban areas and rising urban vulnerability in developing country - the concept is evolving

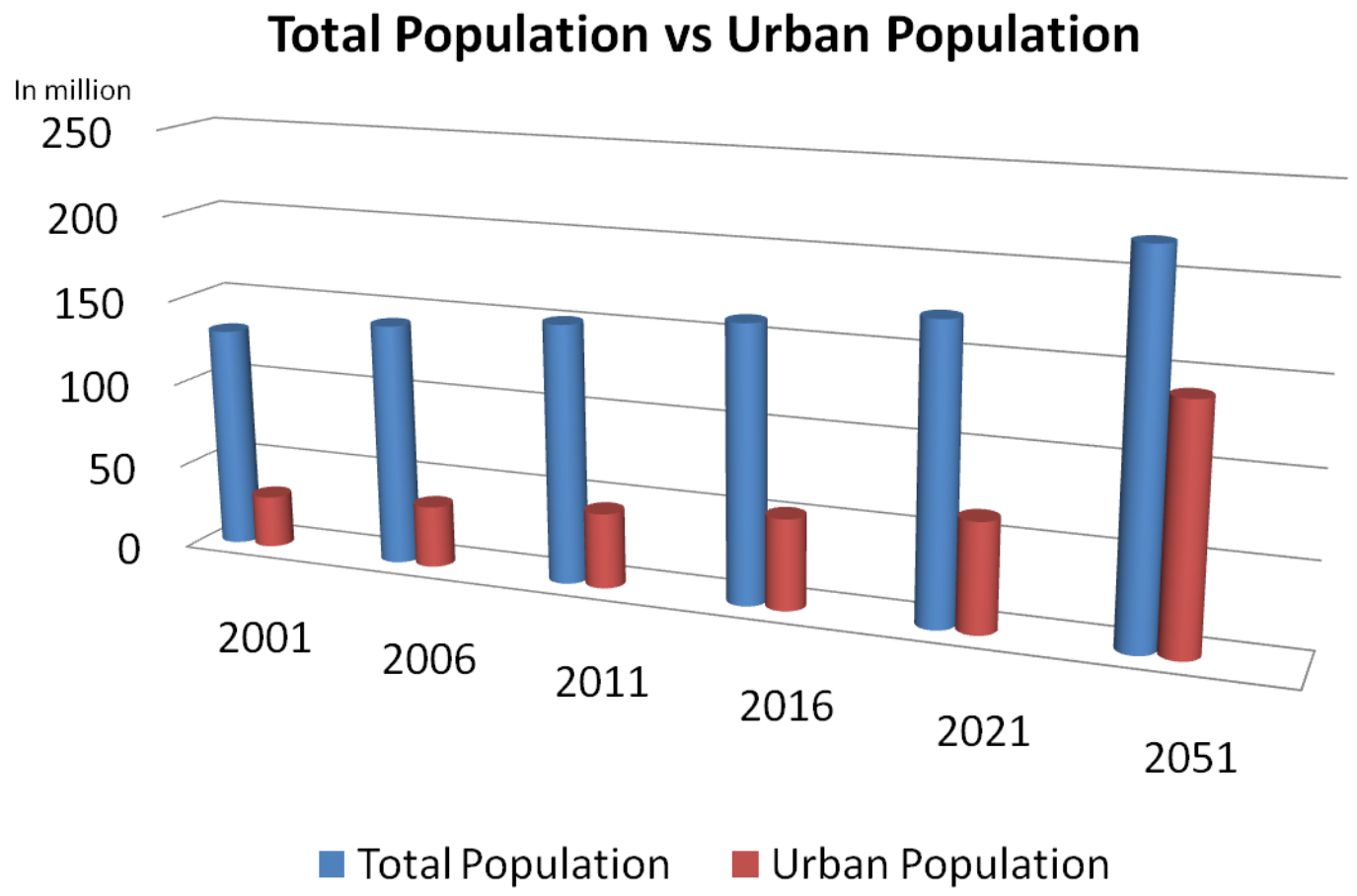
Climate Change, Population Growth and Urbanization

- Megacities, secondary, small growing towns and coastal urban centers of Bangladesh are subject to climate change impacts, environmental hazards and disaster risks.
- Effects of climate change, environmental degradation and disaster further threaten the lives, livelihoods, assets, environmental quality and economic gains of city dwellers particularly the urban poor.

Growing Urban Population



Growing Population in Bangladesh



Growing Population in Bangladesh

- Between 1974 and 2001, the country's urban population grew from 6 million to 30 million
- Of the total population, 33% lived in cities/ urban areas in 2016 (BBS, 2016)
- Share of urban population will rise to 64% by 2051 (BBS, 2016)
- The rapid growth of Bangladesh's urban population is the result of a high natural population growth combined with climate change induced in-migration from rural to urban areas by poor populations

Climate Change Vulnerabilities in Bangladesh

- According to IPCC's Fifth Assessment Report (AR5), during 1901-2010, global mean Sea Level Rose by 17 to 21 cm.
- It will rise by 26 cm–98 cm by the end of the 21st century.
- A recent study conducted by the DoE (CEGIS/IWM/IWFM) reveals that the overall trend of SLR in the coastal zone of Bangladesh in the last 30 years has been 6-21 mm/year
- This will have serious consequences for Bangladesh's coastal cities and settlements.
- Low lying, coastal areas o the country, will be at increased risk of storm surges, inundation & salinity intrusion
- Approx. 40 million people of 70 Upazilas under 19 coastal districts of Bangladesh are under the direct threat of displacement

Climate Change vulnerability

- Prolonged floods and water logging in the cities/towns
- Four major floods in last 20 years: in 1988, 1998, 2004 and 2007, 2017
- Floods of 1998 and 2004 were worst in terms of inundation and duration of flood water in the city fringe areas
- Over 50% city people, mostly slum dwellers are living in low lying areas were badly affected
- **According to the IOM about 70% of slum dwellers in Dhaka moved there after experiencing some kind of environmental hardship.**
- People were forced to stay on roof tops during prolonged floods

Climate Change vulnerability in Urban Areas

- SMEs (including garments industries), small trading and retailers suffered the most for months
- Communication was badly affected, people had to swim/walk in knee deep water to collect food and water
- In 2007, over 90,000 people in Dhaka city were infected by diarrheal diseases in one week during flood

Other vulnerabilities of Urban Areas

- Localized air pollution and contribution to global warming (SLCPs) (due to Industrial emission, vehicle exhausts, construction work)
- Improper management of Municipal wastes in urban areas contribute to global warming
- Old and in-efficient urban transport contributes to increased GHG emission

Government Responses

Disaster Risk Reduction & Climate Change Adaptation

- Comprehensive Disaster Management Programme (CDMP) of the Government of Bangladesh implemented various disaster risk reduction and CC adaptation activities
- Intervention ranged from rural/small urban areas/settlements
- Integrate DRR & CCA in local development planning
- Mainstreaming DRR & CCA in all development sectors
- Drive and facilitate the concept of “resilience” to encompass both disaster and effects of climate change

Recent Initiatives of the Government on Climate Change Adaptation & Mitigation

- Preparation of NDC Implementation Roadmap including Sectoral Action Plan in: Energy, Transport, Industry;
- Expect to implement both adaptation and mitigation related projects with the support of GCF based on NDC implementation roadmap.
- National Adaptation Plan (NAP) proposal submitted to GCF to get US$3 million to prepare NAP
- Update of BCCSAP and CVA on-going with the support of GIZ
- First GCF project worth US$80 mil (GCF 40, Gov. 25, KfW 15) approved

Recent Initiatives

- Ecosystem based Adaptation project (Haor ecosystem/ drought prone barind tract) US$ 5.2 million
- Country Investment Plan (CIP), 2017 prepared with support from FAO (sectors: CC, Environment & Forestry)
- Declaration of ECAs (Gulshan Baridhara Lake, Dhanmondi Lake, Four Rives around Dhaka City)
- ECA Management Rules, 2016

Recent Initiatives

- 11 Continuous Air Monitoring Station established (Dhaka, Narayanganj, Chittagong & other major cities)
- Developed Air Quality Index (web-site of CASE project)
- 4390 (65.13%) brick kilns converted to modern brick kilns.
- Brick Production and Kiln establishment (Control) Act 2013 enacted
- Draft (1) Solid Waste Management Rules, 2017 prepared
- Draft e-waste Management Rules 2017 prepared

A Road Map for developing NAP for Bangladesh

- A Roadmap for Developing a **National Adaptation Plan** for Bangladesh was prepared in 2015
- Bangladesh NAP Roadmap has considered the UNEP/UNFCCC LDC Guidelines
- Proposed the four steps (similar to LDC guideline):
  1. Lay the Groundwork and Address Gaps
  2. Preparatory Elements
  3. Implementation Strategies
  4. Reporting, Monitoring and Review

Methodological Guidelines to prepare NAP

- Understanding Bangladesh's specific vulnerabilities to climate change
  - Water Resources Sector
  - Agriculture sector (including sub sectors)
  - Communication Sector
  - Physical Infrastructure
  - Food & health security
  - Disaster Risk Reduction
  - Livelihoods
  - Urban Habitation

Contd..

- **Integration of NAP with National Development Paradigm**
  - Scoping of NAP: How Nationally Appropriate Adaptations are Perceived in key documents
  - Recent adaptation strides, investments, gaps and limitations in approach & actions (Scope of retrofitting adaptation in ongoing/rolled out ADP projects)
  - Adaptation Needs for Different Time-slices and Various Scenarios
  - Integration of NAP with ADP investments across sectors
  - Integration of adaptation actions at different (governance) tiers: central level, household/community level, inter-sectoral perspective

Challenges

- **The NAP** formulation process must be as inclusive as possible, in order to address concerns of all stakeholders representing all vulnerable sectors, regions and groups
- An effective Coordination Mechanism to prepare and implement NAP
  - Successful integration of the following Ministries is crucial
    - Ministry of Environment and Forests
    - Ministry of Planning
    - Ministry of Finance
    - Other Sectoral Ministries' (Water, Agriculture, Health.)

Recent Initiatives: Formulation & Advancement of the National Adaptation Plan (NAP) Process

- Funding Agency: Green Climate Fund (MIE-UNDP)
- Project cost: 3 million
- Project Duration: 36 months
- Project Summary:
  - Reduce vulnerability to the impacts of climate change, by building adaptive capacity and resilience;
  - Facilitate the integration of climate change adaptation, in a coherent manner, into relevant new and existing policies, programmes and activities, in particular development planning processes and strategies, within all relevant sectors and at different levels

Selected Urban Development Projects

Greater Dhaka Sustainable Urban Transport Corridor Project

- Funding Source: GEF Trust Fund
- Implementing Agencies: Asian Development Bank
- Executing Agencies: Roads Division, Ministry of Communications, Government of Bangladesh
- Implementing Period: 2012-17
- Project summary: Promote energy efficient, low-carbon transport and urban systems in the Gazipur, north Greater Dhaka, by establishing a 20 kilometer Bus Rapid Transit (BRT) corridor and associated infrastructure
- The project is a “first of its kind” in Bangladesh with important demonstration effect and replication potential

Development of Sustainable Renewable Energy Power Generation (SREPGen)

- Funding Source: GEF Trust Fund (GEF Period: GEF – 5)
- Implementing Agencies: UNDP
- Executing Agencies: SREDA, Ministry of Power, Energy and Mineral Resources
- Implementing Period: 2012-19
- Project Summary: Reduction in the annual growth rate of GHG emissions from fossil fuel-fired power generation through the exploitation of Bangladesh's renewable energy resources for electricity generation.

Coastal Towns Infrastructure Improvement Project

- Funding source: ADB, WB(PPCR/SCF), Bill and Melinda Gates Foundation, and GoB
- Executing Agency: LGED
- Implementing Period: 2012-18
- Project Summary: Coastal Towns Improvement Project will strengthen climate resilience and disaster preparedness in 08 vulnerable coastal towns.
- The project will (i) provide improved climate-resilient municipal infrastructure, and (ii) strengthen institutional capacity, local governance, and public awareness, for improved urban planning and service delivery considering climate change and disaster risks.

Coastal Climate-Resilient Infrastructure Project

- Funding source: ADB, IFAD, KfW
- Project implementation: LGED
- Implementing Period: 2013-19
- Project Summary: Enhanced climate resilience of coastal infrastructure in 12 rural coastal districts benefiting poor and women through;
  - Improved road connectivity
  - Improved market services
  - Enhanced climate change adaptation capacity

Bangladesh Urban Resilience Project

- Funding source: WB
- Project implementation: LOCAL GOVERNMENT DIVISION
- Implementing Period: 2015-20
- Project Summary: The Urban Resilience Project of Bangladesh has an objective to strengthen the capacity of Government of Bangladesh agencies to respond to emergency events and to strengthen systems to reduce the vulnerability of future building construction to disasters in Dhaka and Sylhet
  - Component A - Reinforcing the Country's Emergency Management Response Capacity.
  - Component B - Vulnerability Assessment of Critical and Essential Facilities.
  - Component C - Improved Construction, Urban Planning and Development.

Challenges: Limitation

- Managing multiple hazards with the current institutional and local level government structure and their limited technical capacity
- Absence of suitable and tested alternatives to tackle the urban influx from the rural areas
- Lack of comprehensive urban climate change vulnerability assessment
- Limited evidence based information and data to provide to the communities for adaptation planning

Assessment of a comprehensive vulnerability of Urban Areas is urgently needed

Looking Forward
A Resilient Urban Development

- National Urban Policy development on decentralized urban growth and management incorporating climate change and disaster risk
- Create adequate employments and related facilities for the potential **Internally Displaced People (IDPs**): in and around rural regions (i.e. migrant's home of origin)
- Develop small and medium size (satellite) towns with adequate economic opportunities
- Strengthen local government institutes with devolution of power
- Adequate habitat and utility services for the IDPs and emergency Management

A Resilient Urban Development

- Low carbon urban economy/Clean development Mechanism (CDM)/Joint Crediting Mechanism/promote Energy Efficiency in industries/promote Solar & Wind Energy
- Prepare and implement climate resilient action plan at the local level urban planning with adequate resources to retard rural-urban migration
- Campaign for establishing a Green City by reducing carbon footprint

Thank You.