

# **Nexus between Economic, Social, and Environmental Sustainability**

## **The Case of Bangladesh's Water Sector**

Presented by  
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# Acknowledgement

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# Outline

Introduction

Relevance of water in economic, social and environmental transition of Bangladesh

Policy and regulatory framework of water sector

Way Forward



# 1. Introduction

# Introduction

- Increased economic activities have created pressure on the limited natural resources through overexploitation of the resources, leading to environmental degradation such as water pollution, unbalanced ecosystem, and desertification. As a result, environmental sustainability is often compromised for economic growth.
- Economic decision and policy making is often influenced by the interest groups such as some members of the private sector, and politically connected powerful stakeholders.
- In many cases, the social inclusion and environmental sustainability are compromised while focusing on the growth and economic development.
- This unidirectional objectives toward higher growth by the policymakers overlook the need for socially inclusive and environmentally sustainable economic transformation.
- This study examines the existing policies, plans and regulatory framework to understand how Bangladesh's development journey has taken place
- Water sector is selected as a case study

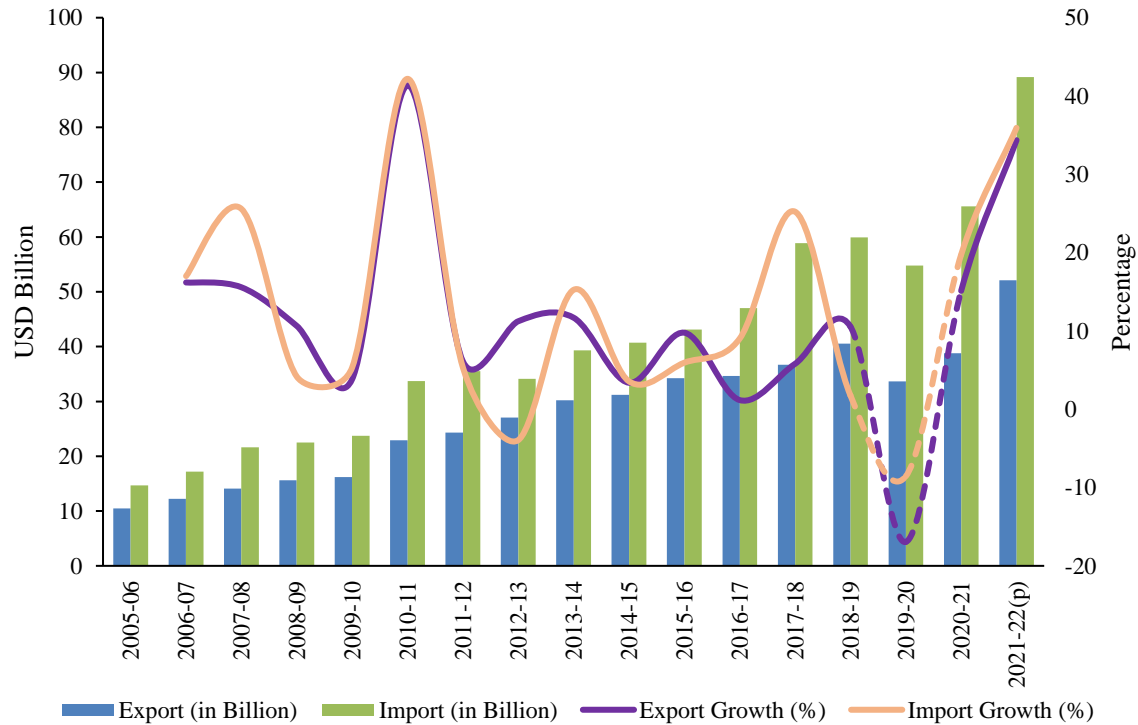


## 2. Relevance of water in economic, social and environmental transition of Bangladesh

# Water and Economic Transformation

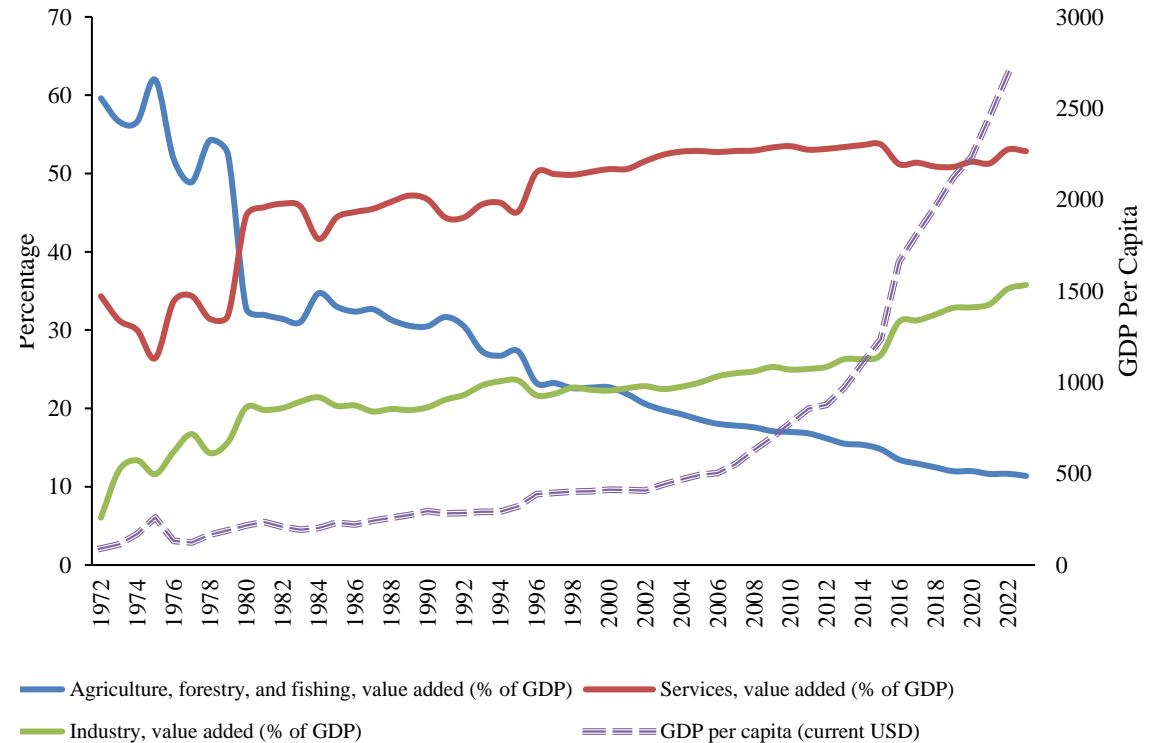
**Water contributes to Bangladesh's economic transformation; e.g., agriculture, textile, and tannery sectors rely heavily on water sector**

**Export and Import of Bangladesh (From FY2005-06 to FY 2021-22P)**



Source: Authors' calculation based on Ministry of Finance (2022).

**Sectoral Contribution to GDP in Bangladesh (From 1972 to 2021)**



Source: World Development Indicator (2022).

# Water and Environmental Sustainability

Surface water in various parts of **Dhaka city does not meet the environmental standard**

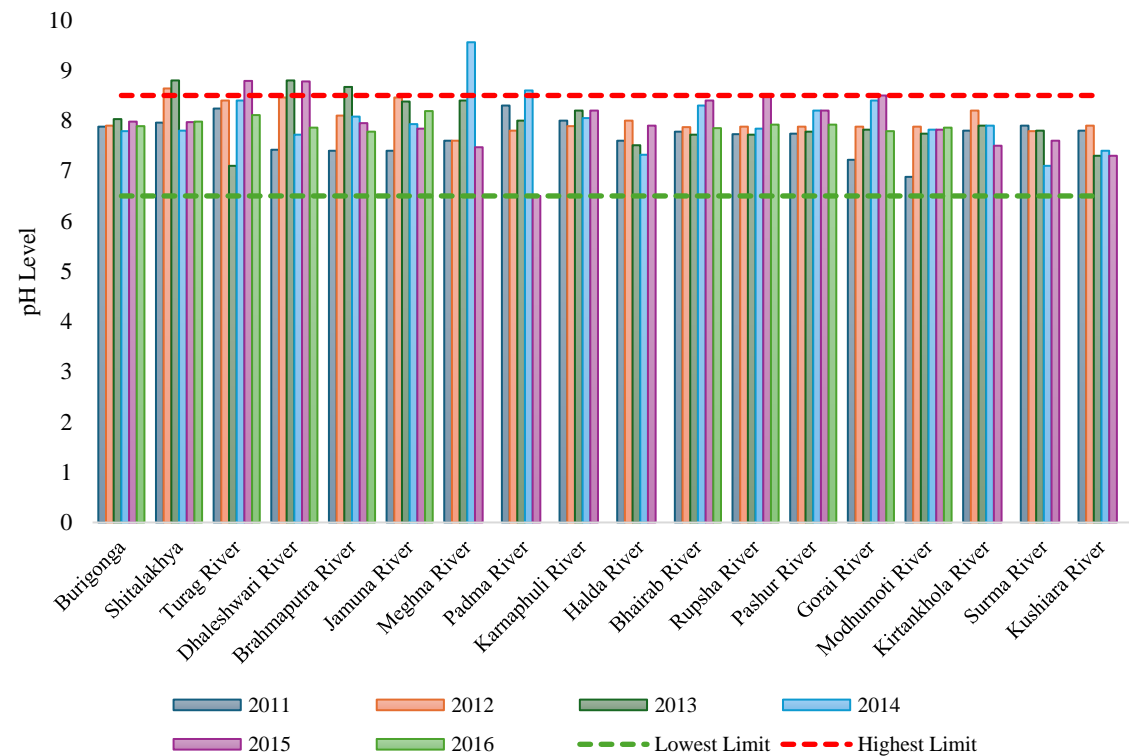
pH are high in **Shitalakshya, Turag, Dhaleshwari, Brahmaputra, and Meghna river**

Freshwater Quality in Dhaka City (2019)

Lake	Station	Organic Matter		Physical and Chemical Characteristics	
		Biochemical Oxygen Demand (BOD)	Chemical Oxygen Demand (COD)	pH/Acidity/Alkalinity	Dissolved Oxygen (DO)
Gulshan Lake	Near United Hospital, Kalachadpur	35.55	93.33	7.45	3.12
	Near Housing, South Bridge	34.17	98.77	7.48	5.91
	Near Lake View Clinic	30.4	98	7.41	5.64
	North Side Gulshan Baridhara Lake	23.93	80.44	7.46	4.48
	Taltola Shooting Complex, South Side	26.44	80.66	7.51	6.16
	North Side of Gulshan-1, Gudara Ghat	34.5	104.75	7.25	6.55
	South Side of Gulshan-1, Gudara Ghat	26.16	88.5	7.46	6.03
	Gulshan-Banani Connection Bridge	29.87	81.87	7.39	4.96
	Banani Bridge	29.23	91.33	7.38	3.43
	Baridhara DOHS, Kalachadpur Bridge	-	-	-	-
	Chairman Bari	-	-	7.44	-
	Near Banani Graveyard, Road No. 18	-	-	-	-
	Banani DOHS	-	-	-	-
	Mohakhali DOHS	-	-	-	-
Dhanmondi Lake	8 No. Road Bridge	3.84	24	7.57	6.18
	Near Jhigatola Pilkhana	3.8	23.25	7.6	5.38
	Near Dhanmondi-32, Bangabandhu Museum	4.4	30	7.66	6.4
Hatirjheel Lake	Near Dhanmondi-32 Bridge	4.2	25.25	7.55	5.82
	Badda-Gulshan Link Road Bridge	27.6	107.4	7.32	3.44
	Raampura Bridge	27.76	94.6	7.26	3.14
	FDC Bridge	33.04	88	7.3	1.78

**Note:** Environmental Quality Standard for pH range 6.5 to 8.5, Environmental Quality Standard for COD (4 mg/L), Dissolved Oxygen (DO) Standard (6 mg/L) as per Department of Public Health Engineering, Biochemical Oxygen Demand (BOD) Standard ( $\leq 6$  mg/L) as per Department of Public Health Engineering.  
**Source:** Bangladesh Bureau of Statistics (2020).

pH Level in the Selected Rivers (Maximum Values)



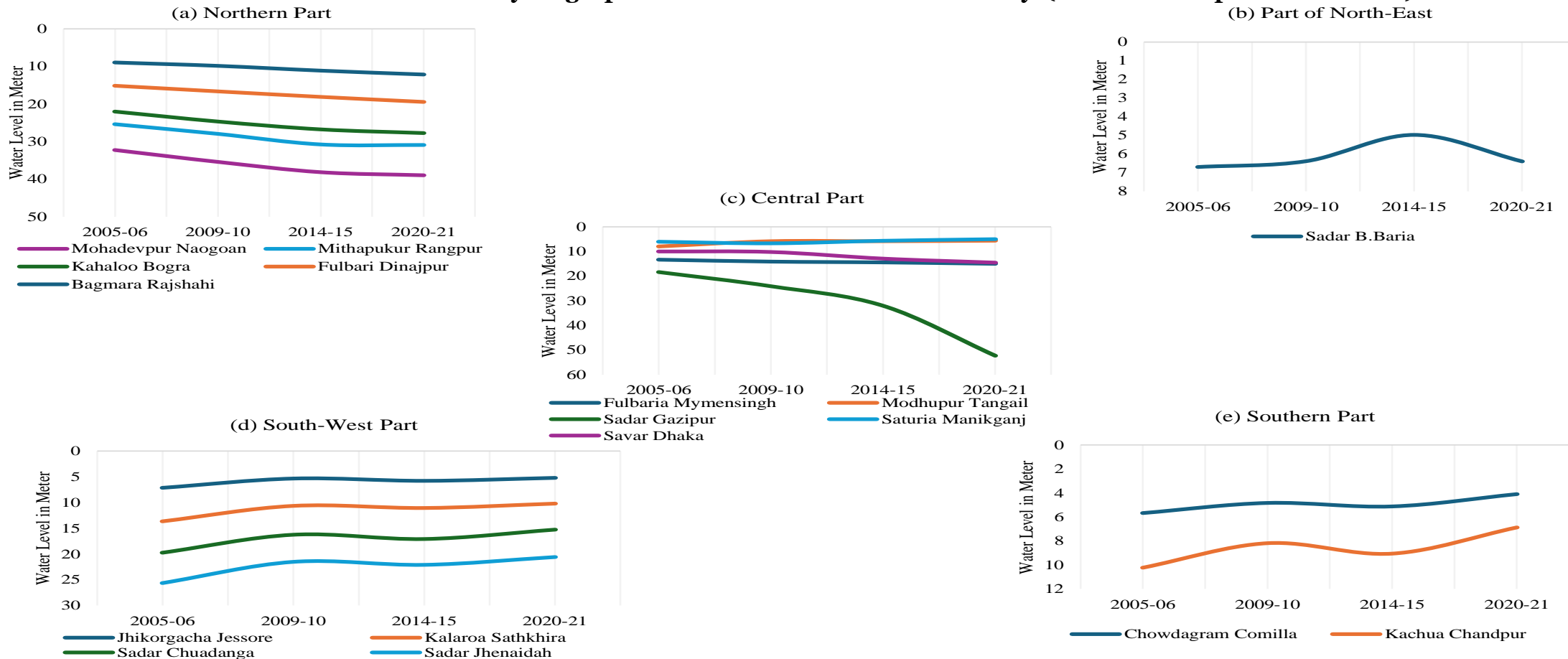
**Note:** Environmental Quality Standard for pH range 6.5 to 8.5.  
**Source:** Bangladesh Bureau of Statistics (2020).



# Water and Environmental Sustainability (Contd.)

The **central area, northern area, and part of the South-East** of Bangladesh face the challenges of lower-level ground water

Ground Water Table Hydrographs of Different Parts of the Country (Maximum Depletion in Meter)



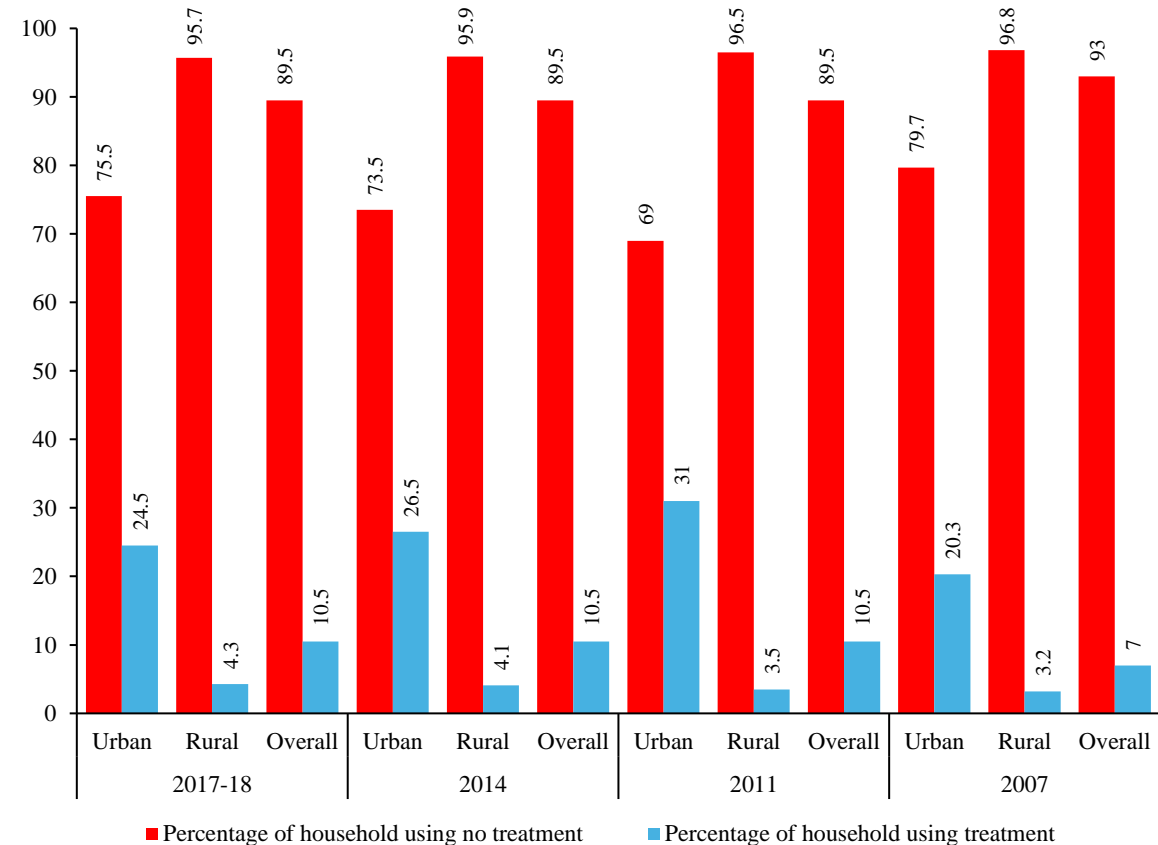
# Water and Social Inclusion

## Limited number of households have access to treated water and sanitation facility

Households Having Sanitation Facility

Income Bracket	Percentage of household having improved sanitation facility	Percentage of household having unimproved sanitation facility	Percentage of household having open defecation
Lowest	32.7	62.9	4.4
Middle	72.7	26.9	0.4
Highest	88.3	11.7	0

Treatment of Household Drinking Water



Source: National Institute of Population Research and Training (NIPORT), and ICF, (2020).

Source: National Institute of Population Research and Training (NIPORT), and International Classification of Functioning, Disability and Health (ICF), (2020).

The background features a vertical strip of turbulent, white-capped waves in the center, flanked by smoother, rippling water. A semi-transparent blue gradient is applied over the entire scene, with a solid blue vertical bar on the far left.

### 3. Policy and regulatory framework of the water sector

# Policy and regulatory framework of the water sector



## National Water Policy, 1999

Focus on ensuring efficiency in the usage of water for the irrigation purposes with updated technology



## Nationally Determined Contribution (NDC)

Indirect conservation of water resources through agriculture & renewable energy



## National Biodiversity Strategy and Action Plan

Strengthened aquaculture, fisheries, and water resources management



## 8th Five-Year-Plan

Water safety and improved water management through BDP 2100 and improving irrigation systems through surface water and preventing groundwater pressure



## Bangladesh Delta Plan (BDP) 2100

Water security, integrated use of water resources, public & private capital mobilisation.  
Private sector investment in water treatment, supply, sewage, irrigation, dredging, etc.



## Bangladesh National Adaption Plan

Strengthened water resource management  
Regular management water, land, & sediment  
Community-based rainwater harvesting and flood resilience

# Policy and regulatory framework of the water sector (Contd.)

## Fragmented governance of the water sector exists across multiple ministries and authorities

### Key Ministries & Regulatory Bodies for Water Management





# 4. Way Forward

# Way Forward

- Focus on sustainable and inclusive water management
- Update National Water Policy 1999 to address the emerging issues
- Ensure effectiveness of policies through better coordination
- Implement laws for protecting water resources
- Engage with all stakeholders including local communities, poor and vulnerable people, private sector, CSOs, and the media

The image is a vertical collage of three distinct scenes. The left panel shows a sunset over water, with horizontal bands of orange, yellow, and blue. The middle panel shows a close-up, top-down view of a boat's wake, with white foam and churning blue water. The right panel shows a calm sea with a single wave cresting under a pale, overcast sky. The text 'Thank You' is centered across the middle panel in a white serif font.

Thank You