

# Addressing the Challenges of Climate Change

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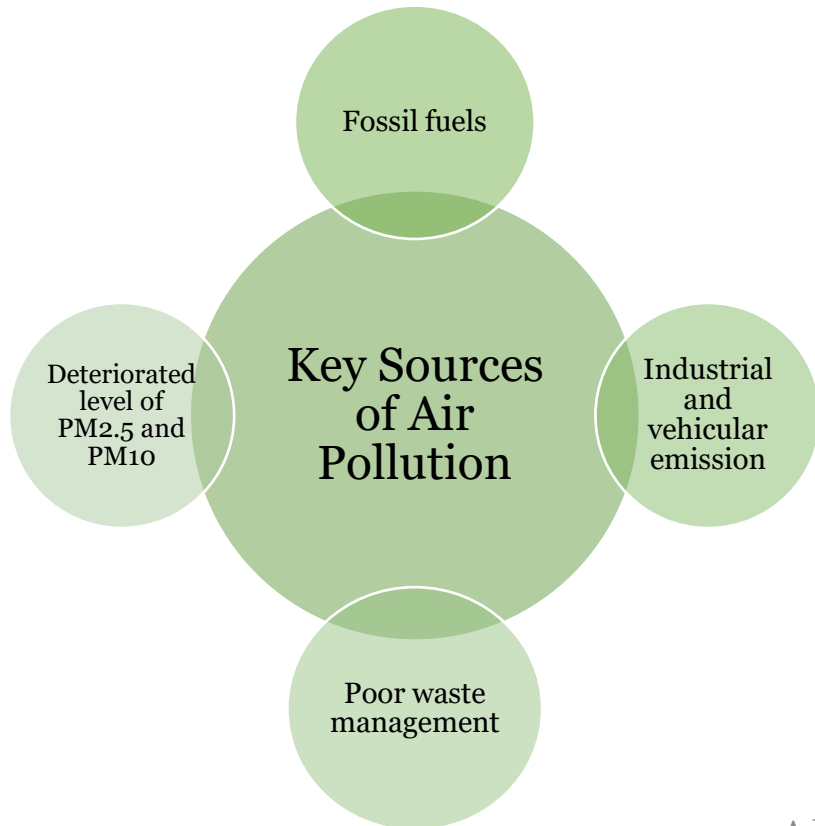
# Introduction

- ❑ Bangladesh frequently experiences natural disasters almost every year including tropical cyclones and storm surges, monsoon floods, flash floods, droughts, sea-level rise, salinity intrusion, and ocean acidification.
- ❑ Environmental degradation presents significant challenges, especially in the context of a growing population, widespread poverty, rapid urbanisation, and industrial development.
- ❑ Research has shown that from 1990 to 2015, the richest 1% of the global population caused twice as much carbon emissions as the poorest 50% of the global population.
- ❑ This underscores the need for urgent and concerted national and global efforts to address the challenges of environmental degradation and climate change.

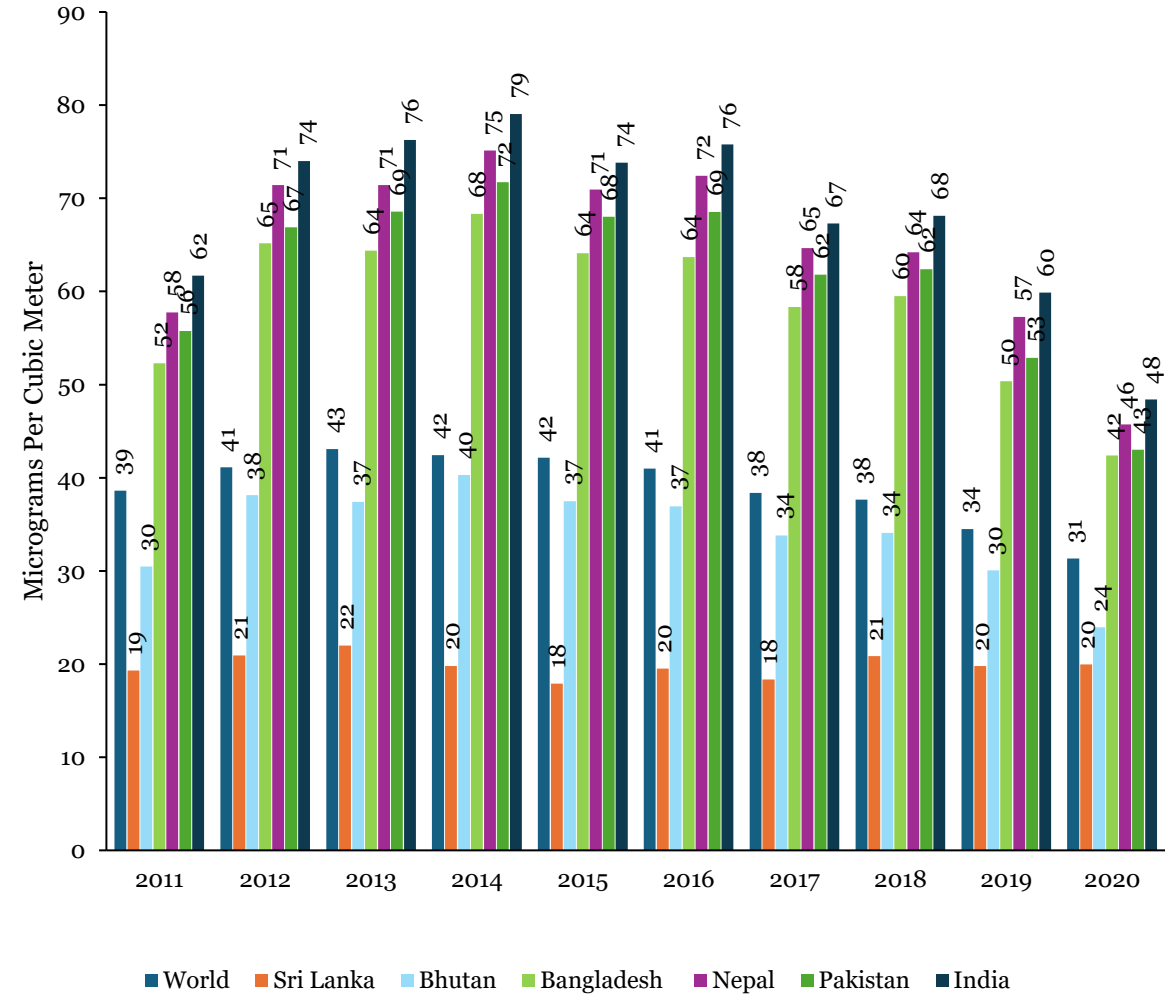


# Air Pollution

- ❑ Air pollution in Bangladeshi cities, especially Dhaka, is among the worst globally, with severe health risks.
- ❑ A 2023 CPD survey found that 70% of Dhaka residents suffer air pollution-related symptoms, missed work and school days, and spend an average of BDT 4,000 annually on treatment.

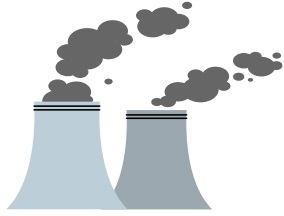


**Figure: PM<sub>2.5</sub> Air Pollution, Mean Annual Exposure (Micrograms Per Cubic Meter)**



Source: World Development Indicator (2024).

# Recommendations to Tackle Air Pollution



- Phase out fixed chimney brick kilns and coal-based power plants by 2030



- Exempt VAT for renewable power plant equipment and offer incentive tariffs for renewable energy



- Phase out fossil fuel subsidies and encourage hybrid, electric and hydrogen vehicles



- Introduce computerised emission testing, establish air quality monitoring stations, and publish real-time data publicly



- Create and protect green spaces. Promote non-motorised transportation through dedicated cycling lanes and pedestrian-friendly infrastructure



- Increase public understanding of air pollution through nationwide campaign

# Water Pollution

- ❑ Climate Change is accelerating sea-level rise and salinity intrusion, threatening freshwater availability and agriculture.
- ❑ Water pollution in Bangladesh stems from industrial discharge, municipal waste, agrochemical runoff, and salinity intrusion which severely degrade rivers, particularly around Dhaka city.

**Table: Level of water quality parameters in some selected rivers**

River	Parameters Value (standard level *)					
	DO (7.3 – 10.9)		pH (6.5 - 9)		BOD (< 10)	
	Min	Max	Min	Max	Min	Max
Buriganga	0	6.20	6.78	7.89	2.60	50.20
Shitalakkhya	0	12	6.60	7.98	0.80	38
Turag	0	6.10	6.68	8.11	1.80	70.30
Meghna**	4.7	8.1	6.50	7.47	1.00	7.00
Jamuna	4.60	8.50	6.76	8.19	1.2	4.2
Padma	5.25	8.50	6.89	7.69	1.70	2.65
Rupsha	5.30	6.80	7.66	7.92	0.70	0.90
Surma**	5.20	6.70	6.40	7.60	1.60	32

\*Note: Standard level retrieved from ‘UNEP Standard of Inland Water Quality Parameters’.

\*\*Note: Updated data of 2015 as per the availability of data.

Source: Author’s compilation based on BBS (2020).

# Recommendations to Tackle Water Pollution



- Revise the National Water Policy of 1999 to address emerging challenges, incorporating modern water management practices, integrating economic transformation as well as social inclusion, while aligning with broader development plans



- Push for multilateral negotiations that involved all riparian countries in the Ganges-Brahmaputra-Meghna basin to promote equitable and sustainable management of water resources



- Promote efficient water use across all sectors and implement a structured water pricing system for industrial use and use of individual household water meters to encourage economic water use



- Increase the current coastal embankments to at least 20 feet higher and adopt a ‘life with flooding’ policy rather than building infrastructure to prevent flooding



- Provide adequate water and sanitation in critical facilities. Bridge the gap in water and sanitation access between rural and urban areas, including slums and formal settlements

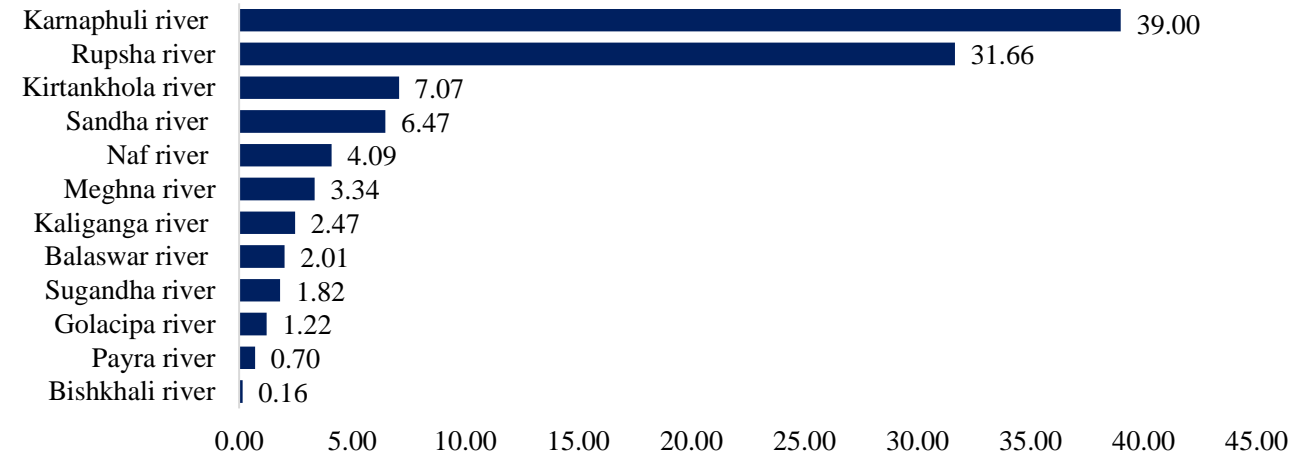


- Strengthen regional cooperation on water and update existing treaties, such as the Ganges Water Treaty 1996

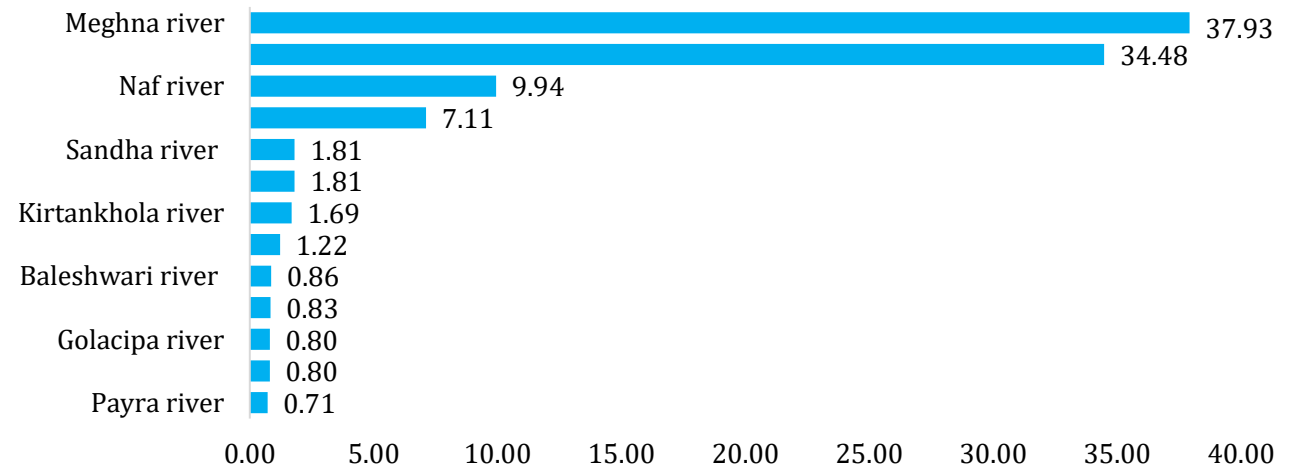
# Plastic Pollution

- ❑ Plastic pollution poses significant challenges in Bangladesh due to the absence of a comprehensive waste management system and a lack of waste segregation at the source.
- ❑ Around the coastal areas of Bangladesh, nearly 25,000 metric tons of plastic waste is dumped each year into the ocean.
- ❑ The Meghna River accounts for about 37.9% of the total plastic waste being discharged from major riverine sources in Bangladesh, while the Karnaphuli River accounts for 34.5%.

**Figure: Amount of mismanaged plastic as a percentage of total mismanaged plastic from major riverine sources in Bangladesh**



**Figure: Amount of discharged plastic as a percentage of total plastic discharged from major riverine sources in Bangladesh**



**Source:** Author's illustration based on data from The Ocean Clean Up (The Ocean Clean Up, 2022).  
**Note:** The Ocean Clean Up is an interactive database that records the amount of plastic waste entering the ocean from the top 1000 rivers. The figure has been illustrated using the data reported as of 7 August 2022.

# Recommendations to Tackle Plastic Pollution



- Develop a national framework for Extended Producer Responsibility (EPR), requiring producers to manage their plastic products' lifecycle, including recycling



- Reinstate the 5% supplementary duty on plastic bags



- Provide low interest loans to plastic recycling industries.
- Incentivise waste collection through trash-to-cash schemes



- Ensure affordable access to plastic alternatives like paper, cloth, and jute bags, enforce the mandatory Jute Packaging Act, and monitor compliance



- Invest in technology to support the recycling Multi-Layer Plastic (MLP) and pyrolysis technology to convert plastic waste into fuel. Phase out 17 identified single-use plastic products by 2030



- Implement a transparent plastic pollution level monitoring system and share data publicly. Launch public awareness campaigns and engage the informal sector



# Climate Change

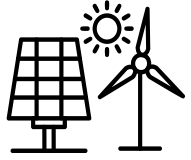
- ❑ Climate related disasters have direct, primarily economic, and indirect, mostly social, impacts on the livelihoods of Bangladesh
- ❑ Direct impacts include tangible economic losses, the disruption of agricultural activities crucial for food security, and the displacement of communities due to climate-induced migration

**Table: Total loss and damage due to climate change-induced natural disasters and floods during 2009-2014 and 2015-2020 (in billion BDT)**

Natural Events	All sectors		Crops		Livestock		Poultry		Fishery		Land		Houses		Homestead and Forestry	
	2009-2014	2015-2020	2009-2014	2015-2020	2009-2014	2015-2020	2009-2014	2015-2020	2009-2014	2015-2020	2009-2014	2015-2020	2009-2014	2015-2020	2009-2014	2015-2020
Damage caused by all natural disasters (Billion BDT)	184	1,792	67	518	9	71	2	27	11	66	49	942	32	132	15	35
Damage caused by floods (Billion BDT)	43	1,011	22	242	2	43	1	13	2	41	9	632	5	33	2	6
Damage due to flood as a percentage of total damage (%)	23.37	56.42	32.84	46.72	22.22	60.56	50.00	48.15	18.18	62.12	18.37	67.09	15.63	25.00	13.33	17.14

**Source:** Bangladesh Bureau of Statistics (BBS, 2016 and 2022).

# Recommendations to Tackle Climate Change Impact



- Prioritise the adoption of renewable energy and renewable energy-based projects
- Integrate national carbon accounting and carbon trading to generate revenue for climate action



- Establish a green public finance mechanism to ensure effective distribution of public finance towards climate adaptation and mitigation



- Develop a unified framework for green standards and certification procedures aligned with the international best practices and market requirements



- End capacity payments to fossil-fuel-based power producers and withdraw fiscal support from the polluters




- Promote climate-smart agriculture to reduce chemical fertiliser and pesticide use and improve productivity




- Strengthen domestic resource mobilisation, increase climate budget allocation, enhance the effective use of climate budget and integrate for loss and damage provision

# Recommendations to Mobilise Climate Finance




## International Finance for Climate Change

- Leverage the Loss and Damage Fund to manage climate-induced economic shocks while prudently utilising borrowings for environmental resilience
- Renegotiate climate loans as grants to lower Bangladesh's debt burden, enhance financial stability, and ensure sufficient funding for climate mitigation and adaptation



## Private Finance for Climate Change

- Promote Green Bond to raise money from the market for financing green projects at a discounted or low interest rate
- Venture capital and equity investment should be introduced for facilitating Small and Medium Enterprises (SMEs)



## Public Finance for Climate Change

- Integrate provisions for loss and damage within the climate budget by establishing a specific allocation to support climate-affected vulnerable people
- Enhance the effectiveness of the climate budget through efficient utilisation of both development and non-development funds. Establishing a green Public Financing Mechanism (PFM) will be crucial in ensuring effective climate budget utilisation
- Increase allocation in ADP to achieve the ambitious clean energy goals and invest in mitigation and low-carbon development activities
- Bangladesh can request donors to cancel or reduce the debt stock by agreeing to use the saved money for climate projects

# THANK YOU



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