



BANGLADESH

January 13, 2023

REQUESTS FOR AN EXTENDED ARRANGEMENT UNDER THE EXTENDED FUND FACILITY, AN ARRANGEMENT UNDER THE EXTENDED CREDIT FACILITY, AND AN ARRANGEMENT UNDER THE RESILIENCE AND SUSTAINABILITY FACILITY—WORLD BANK ASSESSMENT LETTER FOR THE RESILIENCE AND SUSTAINABILITY FACILITY

RESILIENCE AND SUSTAINABILITY TRUST ASSESSMENT LETTER FOR THE IMF

This note provides the World Bank's current assessment of Bangladesh's vulnerability to climate change as well as government policies and commitments for adaptation and mitigation. The assessment has been requested in relation to a proposed Resilience and Sustainability Facility arrangement for Bangladesh.

A. Country Vulnerability to Climate Change, Including Human, Social and Economic Costs

1. Climate change poses a severe risk to the substantial development progress achieved in Bangladesh. Bangladesh has been among the fastest growing economies in the world, with annual per capita income growth of 4.0 percent over the past three decades and a decline in poverty from 48.9 percent in 2000 to 24.3 percent in 2016. However, climate change puts this rapid development progress at risk, even under optimistic global climate scenarios. Bangladesh is the world's seventh most climate risk-affected country, with 185 extreme events recorded and 0.38 fatalities per 100,000 inhabitants over the past two decades.¹ Average annual losses from tropical cyclones alone are already US\$1 billion per annum (0.7 percent of GDP). These impacts are likely to increase, including due to more frequent cyclone events that could result in significantly larger losses. Under severe flooding, GDP falls by as much as 9 percent relative to baseline projections through 2050. Climate vulnerability is particularly acute on Bangladesh's coast. Under a 1.5°C increase in temperature and 4 percent increase in precipitation, sea levels in the Bay of Bengal could rise by

¹ Germanwatch. "2021. Global Climate Risk Index 2021." Bonn: Germanwatch.

27 centimeters or more by 2050. Such sea level rise would nearly double asset risk, currently at approximately US\$300 million per annum, and threaten agricultural production, water supply, and the diversity of coastal ecosystems. Without action, by 2040 cropland could shrink by more than 6.5 percent nationally and 18 percent in Southern Bangladesh. One-third of total agricultural GDP may be lost due to climate variability and extreme events by 2050. By this time, Bangladesh could see over 13 million internal climate migrants.

2. Environmental degradation is expected to compound the impacts of climate change, with a disproportionate impact on the poor. The annual cost of air pollution has been estimated at 9 percent of GDP while 32 percent of all deaths in Bangladesh are linked to environmental degradation, particularly outdoor and household air pollution; inadequate water, sanitation, and hygiene standards; and lead exposure. Vulnerable populations are most impacted by climate change due to reliance on agriculture and other climate-sensitive natural resources for income and livelihoods. With a higher frequency of climate related shocks and natural disasters, vulnerable populations and the chronically poor will face long lasting and multigenerational effects, resulting in costly coping strategies such as divesting productive assets and curtailing investments in human capital (e.g., nutrition and education). Communities exposed to multiple natural hazards show a substantially lower decrease in poverty or even poverty increases over time. Climate-related hazards could pose a barrier to the lowering of poverty rates, undoing development progress and lowering the resilience of communities.

3. Bangladesh is a modest contributor to global greenhouse gas (GHG) emissions, but a high reliance on fossil fuels for energy production underscores the urgency of transition measures. Bangladesh accounted for an estimated 0.4 percent of global emissions in 2018. Rapid economic growth has resulted in higher GHG emissions, which rose from 115 million metric tons of carbon dioxide equivalent (MtCO₂e) in 1990 to an estimated 247 MtCO₂e in 2022, including changes from land use. The growth of GHG over the past three decades was led by the energy sector, consistent with the expansion of the industrial sector and increased electricity access. Approximately 70 percent of primary energy consumption is currently derived from natural gas. Energy accounted for an estimated 42.5 percent of GHG emissions in 2022, followed by agriculture (36.5 percent), waste (8.8 percent), land use change and forestry (8.8 percent), industrial processes (2.7 percent) and fugitive energy (0.7 percent).

B. Government Policies and Commitments – Adaptation and Priority Areas to Strengthen Resilience

4. Bangladesh has a robust domestic climate policy framework that focuses on resilience, but implementation challenges persist. In 2005, the GoB launched its National Adaptation Programme of Action and tasked a new Climate Change Unit under the Ministry of Environment and Forests with mainstreaming climate change into national development planning, along with Climate Change Focal Points in various ministries. The Bangladesh Climate Change Strategy and Action Plan (BCCSAP), formulated in 2009, presents a vision of pro-poor climate management that centers on reducing disaster risk. The BCCSAP addresses mainstreaming climate change into national

development planning through six thematic areas: (i) food security, social protection, and health; (ii) comprehensive disaster management; (iii) infrastructure; (iv) research and knowledge management; (v) mitigation and low-carbon development; and (vi) capacity building and institutional strengthening. A series of national plans have set out climate priority areas that cut across all key sectors, including agriculture, water, and coastal protection. The 2018 Bangladesh Delta Plan 2100 (BDP2100) is a long-term investment plan for climate resilience and economic growth that focuses on multidimensional water investments and water management, linking these issues to other sectors such as agriculture and transport in the context of comprehensive delta management. This is a critical issue as Bangladesh is home to the largest river delta in the world. Implementation of the BDP2100 has been challenging, in project identification and prioritization, budget allocation, and timely execution. The Mujib Climate Prosperity Plan (MCP), currently being finalized, seeks to integrate these plans into an overarching framework for climate resilience and green energy transition. In the near term, all climate policies need to be embedded within the government's 8th Five-Year Plan, followed by significant financing mobilization and budget allocations for priority investments. Translating these large-scale investment programs into action will require increased capacity in public investment management, domestic revenue mobilization, and financial sector intermediation.

5. Bangladesh has a strong track record in disaster risk management. Bangladesh's relatively successful experience with coastal resilience and disaster risk management demonstrates the potential for high returns on public adaptation expenditure, by saving lives, reducing economic losses, and protecting development gains. Proactive policies and sound investments over the last five decades resulted in a drastic decline in cyclone casualties. Bangladesh has taken an integrated approach based on a strategic policy framework, from strengthening grassroots community-level adaptation and early warning systems, to investing in protective infrastructure accompanied by afforestation initiatives and innovations. Despite this progress, resilience will remain a priority as the coastal population and economy grow and the intensity and magnitude of extreme events increases due to climate change. Bangladesh has also emerged as a global leader of the Vulnerable Twenty Group and has demonstrated global best practices on disaster risk management, such as cyclone preparedness.

C. Government Policies and Commitments – Mitigation and Priority Areas to Reduce GHG Emissions

6. Bangladesh has made mitigation commitments under the Paris Agreement. Bangladesh's 2021 Nationally Determined Contributions (NDC) update outlined actions to address rising GHG emissions, and to remain below average per capita emissions for developing countries. The original NDC covered the power, industry, and transport sectors. The 2021 update expanded coverage to energy, industrial processes and product use, agriculture, forestry and other land use, and waste, in line with guidance from the Intergovernmental Panel on Climate Change (IPCC). The updated NDC commits to reducing emissions across these sectors by 89.5 MtCO_{2e}, or 21.9 percent by 2030, relative to business as usual (27.6 MTCO_{2e} unconditional, 61.9 MTCO_{2e} conditional). The energy sector accounts for 96.1 percent of the planned reductions, the water sector accounts for

2.7 percent and agriculture, forestry, and other land use for 1.2 percent. Bangladesh has been confronting a short term power crisis driven by the sharp increase in gas and fuel prices, which highlights the need to diversify the sources of energy, including renewable energy, and to leverage regional energy trade. These reforms will require improved pricing mechanisms and investments in energy efficiency. Decarbonization of the energy sector will require increased efficiency in the near term, and adoption of renewable energy, improved distribution and transmission networks, and greater regional transmission capacity over the longer term.

D. Other Challenges

7. **Implementation of these ambitious commitments depends on concurrent reforms in public investment management, financial sector reforms, and domestic revenue mobilization.**

Translating ambitious national climate investment plans into action will require advancing reforms to enhance public investment management. Efficient public investment management and an appropriate regulatory environment are necessary to develop a pipeline of projects and attract private investments. Cost-benefit analysis will be critical to prioritize limited financing capacity. Scaling up investments in adaptation and mitigation plans will require significant additional sources of public and private investments, including foreign financing, given that the country faces challenges of low levels of tax collection and FDI inflows, an underdeveloped domestic capital market, and constrained institutional capacity for public-private partnerships. National plans point to a range of financing requirements. At a minimum, public and private financing options will need to support an estimated US\$12.5 billion in annual climate investment expenditure over the medium term (approximately 3 percent of FY21 GDP) for unconditional NDC commitments and BDP2100 investments. Operationalizing financing at this scale will require change in tax policy and administration to mobilize public revenues. Scaling up private sector financing is also a priority under national plans. Reaching these objectives will require addressing longstanding financial sector vulnerabilities, including weak corporate and regulatory governance, related party lending, and weak credit underwriting capacity. Close collaboration between the World Bank and IMF will be required to support Bangladesh in addressing these issues.

E. World Bank Engagement in the Area of Climate Change

8. **World Bank Group lending, technical assistance, and knowledge instruments support the implementation of the government's climate change objectives.** The Bangladesh Climate Change and Development Report (CCDR) identifies potential synergies between decarbonization and development and highlights priority interventions in sectors to build climate resilience and meet development goals. The report underscores the urgency of investments in climate adaptation to build resilience and safeguard livelihoods. Key recommendations include scaling up investments in people-centric, climate smart spatial development guided by the BDP2100; decarbonization and adaptation initiatives in the agriculture, transportation, and energy sectors that also deliver development co-benefits such as reduced air pollution; and strengthening the enabling environment and institutional arrangements needed for climate and environmental reform management. The CCDR will inform the

World Bank's next Bangladesh Country Partnership Framework currently being prepared, which is expected to have a strong focus on climate resilience.

9. Climate objectives are integrated across World Bank operations. All IDA projects approved since FY17 have been screened for climate and disaster risk to inform design. Since then, cumulatively US\$3.9 billion (or 30 percent) of total IDA commitments in Bangladesh (FY17–22) had climate co-benefits, 60 percent of which was for adaptation. Adaptation investments include coastal protections against cyclones and storm surges, flood risk reduction, livelihood adaptation, urban resilience, and social protection, and projects in agriculture, energy, and transport, amongst others, are supporting mitigation objectives. Building on CCDR policy recommendations, the proposed Green and Climate Resilient Development Policy Credit series (FY23–25) will support structural reforms to (i) enhance public planning, financing, and delivery of green and climate resilient interventions at national and local levels; and (ii) promote key sector reforms for climate-smart production and services. The reforms include incorporating green and climate resilience in public investment management; strengthening the system of fiscal transfers to local governments for green and climate resilience activities at the local level; strengthening air quality management policies; disclosure of highly polluting industries and activities and introducing a measurement, reporting, and verification (MRV) system; reducing fiscal costs of fuel subsidies; and rationalizing capacity charges in rental power plants, which are primarily based on fossil fuels. The ongoing Bangladesh Recovery and Resilience DPC series (FY22–24) supports the cancellation of planned investments in coal-fired powerplants, the introduction of a new building code to increase energy efficiency, and adoption of the Mujib Climate Prosperity Plan, which includes retrofitting the built environment to adapt to the impacts of climate change and climate migration. The series will also support a public-private partnership policy for the electricity transmission sector, to help scale up financing that supports efficient use of energy.