

SUMMARY ASSESSMENT OF DAMAGE AND NEEDS

1. Bangladesh is exposed to a high level of disaster risk. It is ranked as the 7th most disaster-affected country in the world,¹ 28th most vulnerable, and 35th least ready to respond to climate change.² It faces numerous disasters such as floods, cyclones, tidal surges, riverbank erosion, earthquakes, and landslides on a regular basis. The high level of disaster risk is being further compounded by the effects of climate change. The Intergovernmental Panel on Climate Change predicts that the South Asia region will experience “wetter rainy seasons and drier dry seasons” with more violent monsoon floods in the future.

2. During May–June 2022, unprecedented floods inundated a vast area across 18 districts in north and northeast Bangladesh. The compounding effect of twin flood events during May followed by record-breaking rainfall in the Indian state of Meghalaya during June caused widespread damage, destruction, and disruption to public infrastructure, services, and livelihoods. The *haor* wetland area, which bore the brunt of the floods, represents a critical ecosystem that provides value through both its economic and environmental productivity. The more than 1-in-100-year floods of 2022 dramatically reduced agricultural output in the worst-hit districts, washed out thousands of tube wells on which people depend for their drinking water supplies, caused extensive damage to embankments and culverts that help manage the flow of water, and seriously disrupted the rural road network that people rely on for their livelihoods and access to services. An estimated 7.2 million people were affected by the floods, and 141 people lost their lives between May and August 2022.³

A. Macroeconomic and Human Impact

3. The 2022 floods compounded the macroeconomic challenge confronting Bangladesh. The economy was still recovering from the negative impact of the coronavirus disease (COVID-19) outbreak and the global economic downturn during 2022, which had already prompted a lowering of the country’s growth prospects for 2023. The average economic impact of disasters has been estimated at \$2.2 billion annually, equivalent to 1.5% of current gross domestic product. By 2050, the economic losses from severe flooding may be as high as 9% of gross domestic product, unless proper mitigation actions are taken.⁴

4. People living in districts affected by the floods experienced extreme hardship. Even before the 2022 floods, many of the disaster-affected areas had been suffering higher levels of monetary and nonmonetary deprivation, particularly households in the northeastern districts, where more than 40% of *upazilas* (subdistricts) have high or very high poverty rates. Poverty will worsen for households that were already impoverished before the floods.

5. Damage to rural infrastructure disrupted access to services, such as schools, clinics, and hospitals; and economic connectivity was hampered by interruption to market access and loss of agricultural output. Employment and livelihood opportunities declined severely as demand for day laborers shrank and farmers found it difficult to undertake agricultural activities. A household survey carried out after the disaster found that monthly incomes had fallen dramatically in the two worst affected districts—by 61% in Sylhet and by 71% in Sunamganj. The impacts on health and education are also likely to be significant: more than 3,000 primary and secondary schools in the

¹ D. Eckstein, V. Kunzel, and L. Schafer. 2021. [Global Climate Risk Index 2021](#). Bonn: Germanwatch.

² ND-GAIN Index (dataset). “Bangladesh.” <https://gain-new.crc.nd.edu/country/bangladesh>.

³ Office of the United Nations (UN) Resident Coordinator Situation Update # 2; dated 22 June 2022.

⁴ World Bank. 2022. [Bangladesh Country Climate and Development Report](#). Washington, DC.

two districts remained closed for about a month, resulting in learning loss for more than 1.5 million students, while 349 out of 505 community clinics were affected. Cases of waterborne diseases and other ailments were reported up to the end of July 2022, affecting 19,918 people. The floods also fully or partially damaged 186,703 homes. Many communities in Sunamganj and Sylhet were uprooted as most of their areas became inundated. Rural homes, many of which are *katcha* (structures made of bamboo or a combination of bamboo and tin), suffered severe damage.⁵

6. The floods disproportionately affected women and other vulnerable groups. The shelters were overcrowded and lacked gender-sensitive and disability-inclusive design features. A lack of clean drinking water because of damaged and nonoperational tube wells and destroyed latrines caused multiple problems, including open defecation that contaminated scarce drinking water supplies. Women who were interviewed said that many households continued to consume contaminated river and canal water. School closures, which affect children's mental health and their nutritional intake, and heighten the risk of abuse—in addition to causing learning loss—can increase young girls' vulnerability to unintended pregnancy, or early and forced marriage.

B. Relief and Response Needs Assessment

7. In June 2022, the Humanitarian Coordination Task Team (HCTT), co-chaired by the Ministry of Disaster Management and Relief (MoDMR) and the office of the United Nations (UN) resident coordinator, conducted—through the Needs Assessment Working Group (NAWG)⁶—a preliminary impact assessment (May–June 2022). The humanitarian response plan was prepared based on the rapid needs assessment and gender analysis, to complement the government's response. The NAWG's assessment prioritized the restoration of livelihoods with specific support to farmers who were affected by the floods. In July 2022, the HCTT prepared a Flash Flood Humanitarian Response Plan 2022 (July–December 2022) calling for a \$58.4 million prioritized humanitarian assistance to 1.5 million flood-affected people in the five districts that suffered the worst impact—Habiganj, Moulvibazar, Netrokona, Sunamganj, and Sylhet. The priorities of the response plan were food security and nutrition; shelter; water, sanitation, and hygiene (WASH); flood protection. So far, \$20.45 million of the \$58.4 million needed for the Humanitarian Response Plan 2022 has been met. The HCTT also recommended a medium- to longer-term recovery and reconstruction effort to repair the damaged houses, embankments, roads, sources of safe drinking water, and sanitation.

C. Rehabilitation and Reconstruction Needs Assessment

8. Immediately following the floods, the provisions of the Standing Orders on Disaster 2019 were triggered,⁷ and MoDMR led a bottom-up process using damage forms (D-Forms) to generate initial estimates of the financial cost of damages caused by the disaster. The districts aggregated information from each ward, union, and *upazila* based on data collected across the areas of (i) roads, bridges and culverts, embankments, WASH, and power lines; (ii) cropland and seed beds, livestock, fisheries, and commerce; (iii) housing, educational institutions, health services, religious institutions; and (iv) water bodies, forests or afforestation land, and nurseries. Based on the D-Form submissions, an initial estimate put the total damage across all flood-affected 18 districts at \$547.6 million. The D-Form data were collected as soon as possible after the floods. Some remote areas were difficult to reach as many areas remained under water until September

⁵ UN Development Programme. 2022. [Community-led housing recovery needs assessment—North and northeastern floods 2022](#). Dhaka.

⁶ The NAWG was formed under the HCTT to act as a platform for government and nongovernment humanitarian agencies on flood responses. CARE Bangladesh acts as the secretariat of the NAWG.

⁷ [Government of Bangladesh. 2019. Standing Orders on Disasters. Dhaka.](#)

2022. There was substantial variation in how local agencies and officials generated the damage estimates, e.g., differences in unit costs for similar infrastructure across different areas. The D-Form data also focused mainly on physical damage to assets and did not include estimates of loss resulting in changes to economic flows caused by the disaster, nor any estimate of recovery needs.

9. A post-disaster needs assessment (PDNA), prepared during November 2022–January 2023 under the leadership of MoDMR and with technical support from the Asian Development Bank, evaluated damage, loss, and needs in four focus areas that accounted for 62% of the overall damage—rural roads, culverts, bridges, and railways; WASH facilities; water resources management; and agriculture and livestock—and 9 districts that accounted for 68% of overall damage—the 7 *haor* districts of Brahmanbaria, Habiganj, Kishoreganj, Moulvibazar, Netrokona, Sunamganj, and Sylhet; as well as the Mymensingh and Sherpur districts.⁸ The PDNA was undertaken recognizing the assistance from key development partners in the flood affected region.

10. The process involved various agencies and departments such as the Economic Relations Division, Local Government Division, Ministry of Water Resources, Ministry of Agriculture, and Ministry of Railways. It also benefited from inputs from the bilateral and multilateral partners, nongovernment organizations, and community members in the affected areas. Quantitative data provided by sector agencies at district level were supplemented by field visits and stakeholder consultations with affected communities, development partners, and civil society organizations. Two sources of data were used: (i) MoDMR’s D-Forms that were generated as an initial estimate of total damage and (ii) an in-depth analysis conducted across the four focus areas (para. 9). Sector experts were mobilized to coordinate with national line agencies such as the Department of Disaster Management, Local Government Engineering Department, Bangladesh Railway, Bangladesh Water Development Board, Department of Public Health Engineering, and Department of Agricultural Extension. A team of economists and cross-cutting experts were fielded to conduct the human impact assessment, covering poverty, gender and inclusion, employment and livelihoods, and human development.

11. On 15 January 2023, the PDNA was shared by the Director General of the Department of Disaster Management under the MoDMR.⁹ In the nine districts, across the four focus areas, damage totaled \$405.5 million; loss \$223.5 million, and needs \$580.6 million.¹⁰ The PDNA also evaluated the recovery and reconstruction needs required to help the region recover and improve its future resilience to the impacts of climate change. The process explicitly includes the opportunities to build back better (BBB) guided by the principles of resilience, sustainability, and inclusion. The PDNA approach is time-bound, so the overall damage, loss, and needs is expected to be higher than what was assessed and may need to be updated based on more complete information. Tables 1 and 2 summarize the damage, loss, and needs by sector and the districts.

Table 1: Summary of Damage, Loss, and Needs by Sector

Sector	Damage		Loss		Total damage and loss		Recovery and reconstruction needs	
	(Tk lac)	(\$ million)	(Tk lac)	(\$ million)	(Tk lac)	(\$ million)	(Tk lac)	(\$ million)
Rural roads, bridges, culverts, and railways	250,514	241.3	62,772	60.5	313,286	301.8	325,668	313.7

⁸ According to MoDMR’s D-Form data.

⁹ Government of Bangladesh, Ministry of Disaster Management and Relief. 2023. *Post-Disaster Needs Assessment—Bangladesh: Floods 2022*. Dhaka (Hard Copy).

¹⁰ The definitions are: (i) damage—total or partial destruction of physical assets; (ii) loss—change in economic flows resulting from the disaster; and (iii) needs—cost of recovery and reconstruction with build-back-better (BBB) principles (damage plus a BBB premium).

Sector	Damage		Loss		Total damage and loss		Recovery and reconstruction needs	
	(Tk lac)	(\$ million)	(Tk lac)	(\$ million)	(Tk lac)	(\$ million)	(Tk lac)	(\$ million)
Water resources management	42,252	40.7	-	-	42,252	40.7	149,554	144.1
Water supply, sanitation, and hygiene	52,591	50.7	5,259	5.1	57,850	55.7	40,495	39.0
Agriculture and livestock	75,587	72.8	163,995	158.0	239,582	230.8	86,992	83.8
Total	420,944	405.5	232,026	223.5	652,970	629.0	602,709	580.6

Source: Government of Bangladesh, Ministry of Disaster Management and Relief. 2023. *Post-Disaster Needs Assessment— Bangladesh: Floods 2022*. Dhaka (Hard Copy).

Table 2: Summary of Damage, Loss, and Needs by District

District	Damage		Loss		Total damage and loss		Recovery and reconstruction need	
	(Tk lac)	(\$ million)	(Tk lac)	(\$ million)	(Tk lac)	(\$ million)	(Tk lac)	(\$ million)
Sylhet	95,083	91.6	55,873	53.8	150,956	145.4	138,258	133.2
Sunamganj	165,640	159.6	56,107	54.0	221,747	213.6	240,218	231.4
Moulvibazar	23,162	22.3	9,383	9.0	32,545	31.4	35,423	34.1
Habiganj	31,923	30.8	57,445	55.3	89,369	86.1	54,016	52.0
Mymensingh	9,188	8.9	3,849	3.7	13,037	12.6	11,713	11.3
Netrokona	26,316	25.3	9,174	8.8	35,490	34.2	33,556	32.3
Sherpur	15,148	14.6	3,248	3.1	18,396	17.7	19,354	18.6
Kishoreganj	15,187	14.6	7,305	7.0	22,492	21.7	17,274	16.6
Brahmanbaria	13,646	13.1	23,501	22.6	37,148	35.8	19,549	18.8
Kurigram	8,727	8.4	1,859	1.8	10,586	10.2	11,345	10.9
Jamalpur	16,924	16.3	4,282	4.1	21,206	20.4	22,002	21.2
Total	420,944	405.5	232,026	223.5	652,970	629.0	602,709	580.6

lac = equal to 100,000; Tk = taka (Bangladeshi currency).

Note: Numbers may not sum precisely because of rounding.

Source: Government of Bangladesh, 2023 data.

12. While the needs estimate accounts for a recovery and reconstruction of damaged facilities and livelihoods with BBB premium, it does not comprehensively include the broader investments required to strengthen Bangladesh's adaptation to climate change and its overall resilience to future climate and disaster shocks, or the reconstruction needs of affected private entities.

D. Disaster Recovery Framework

13. The disaster recovery framework prepared for the PDNA emphasizes the concept of BBB as key to achieving longer-term resilience to the increased risks arising from climate change. Implementing BBB in practice requires a people-centric approach to socioeconomic recovery and the establishment of systematic resilience to the impacts of climate change and natural hazards. Government agencies responsible for undertaking the activities in the four focus areas to ensure public infrastructure restoration and economic recovery will adopt approaches designed to strengthen longer-term resilience. For example, the design of rural roads will be enhanced to a higher level of resilience, concrete armoring will be selectively applied to strengthen embankments, elevated platforms and submersible pumps for deep tube wells will be implemented to increase the sustainability of water supply, and climate-smart agricultural practices will be adopted.

14. Significant financial resources are needed to establish longer-term resilience in Bangladesh's northeastern districts. The proposed emergency assistance loan will make an important contribution to enabling and accelerating the implementation of activities that support the recovery from the 2022 floods and reconstruction efforts in the nine target districts and four

focus areas. However, further resources will be needed to cover other key areas such as housing. External funding for longer-term resilience already includes the World Bank's \$500 million Resilient Infrastructure for Adaptation and Vulnerability Reduction project, approved on 25 May 2022, that directly supports the flood-damaged areas through the construction of climate-resilient flood shelters and community infrastructure and capacity development on disaster preparedness and response.¹¹ The Japan International Cooperation Agency is supporting flood management, rural infrastructure, agriculture, and fishery in five flood-affected districts of Brahmanbaria, Habiganj, Kishoreganj, Netrokona, and Sunamganj through the Haor Flood Management and Livelihood Improvement Project (\$150 million).¹² The International Fund for Agricultural Development's Haor Infrastructure and Livelihood Improvement Project—Climate Adaptation and Livelihood Protection (\$133.3 million) is supporting road infrastructure, local capacity building, and access to natural resources, technology, and markets in the five flood-affected Haor districts of Netrokona, Sunamganj, Kishoreganj, Habiganj, and Brahmanbaria.¹³ The United Nations Development Programme has conducted a community-led housing recovery needs assessment estimated at \$296 million, focusing on private housing and community infrastructure in the three worst flood-affected districts.¹⁴ Beyond the ongoing and planned external support, and to leverage scarce public resources, the government is also engaged in mobilizing additional financing from global climate funds to build up resilience.

E. Next Steps

15. The prioritization of interventions will be determined through the implementation of the recovery framework. The framework will guide how the PDNA recommendations will be operationalized. More work will be done to reach consensus among stakeholders on critical recovery results and outcomes, as well as to sequence, prioritize, and monitor needs across sectors to achieve these outcomes based on criteria such as urgency, institutional capacity, and financing feasibility. For the key outcomes, institutional arrangements, financing plans, and detailed recovery action plans will be developed. The recovery framework will ensure that efficient, equitable, coordinated, and transparent delivery mechanisms are put in place to implement priority needs, led by the government and supported by the international community. Although the focus will be on flood-affected areas, the development and implementation of the recovery framework presents an opportunity to deepen resilience to natural hazards and climate change in Bangladesh's development planning systems, and to boost the implementation of existing plans. A successfully implemented recovery framework will contribute to achieving a more climate- and disaster-resilient pathway for the country's future growth.

¹¹ World Bank. [Resilient Infrastructure for Adaptation and Vulnerability Reduction](#).

¹² Japan International Cooperation Agency. [Haor Flood Management and Livelihood Improvement Project \(HFM&LIP\)—BD-P80](#).

¹³ International Fund for Agricultural Development. [Haor Infrastructure and Livelihood Improvement Project—Climate Adaptation and Livelihood Protection](#).

¹⁴ United Nations Development Programme, 2022. [Community-led Housing Recovery Needs Assessment](#). Dhaka.