COVID-19 in Asia

COVID-19 AND BANGLADESH

INCLUSION, DISAGGREGATION AND TRANSITION

Edited by
Debapriya Bhattacharya
Towfiqul Islam Khan

COVID-19 and Bangladesh

COVID-19 and Bangladesh analyzes the aftermath of the COVID-19 pandemic and features the socioeconomic fallouts for disadvantaged communities in Bangladesh, their coping mechanisms, and implications for the country's development ambitions.

The contributors to the book examine the immediate impact of economic adversities, which rapidly translated into health, employment, education, and other socioeconomic problems. They show that the pandemic has disproportionately impacted the communities that were traditionally left behind and created a new group of people that are "pushed behind". Structured in four sections, the book examines impact and adjustment in the areas of employment, income, and expenditure and health, education, and the Sustainable Development Goals (SDGs) and offers policy perspectives. The empirical analysis and policy conclusions presented in the chapters are based on official secondary data, household-level primary surveys, focus-group discussions, key informant interviews, and reviews of public policy documents. The policy conclusions and outlook presented in the book can be instructive for other low-middle income, or graduating least developed countries (LDC).

A unique contribution to the current debate on the diverse implications of the COVID-19 pandemic, this book will be of interest to policymakers and academics studying health and society in Asia and other countries of the Global South.

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This volume is dedicated to the courageous frontline fighters of the COVID-19 pandemic in Bangladesh

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Preface

The COVID-19 pandemic set off a chain of devastating events worldwide. Its effects are still with us and are expected to persist into the foreseeable future. Moreover, it has given a new impetus to social scientists to explore the nature and depth of the implications beyond its short-term manifestations and policy relevance. The pandemic thus served as an exceptional opportunity for researchers to investigate how the changes instigated by an exogenous shock interact with the prevailing structural attributes and responses to policy interventions. The question is whether this learning will lead to the construction of more resilient economies and societies.

One of the critical lessons learned was that the pandemic disproportionately hit traditionally disadvantaged communities in affected countries. Moreover, these communities often remained obscure in the policy spectrum as the national efforts to counter the pandemic's debilitating effects progressed. These communities included low-income groups, women, the young, persons with disabilities, people in climate-vulnerable areas, migrant workers, and informal sector laborers. It is important to recognize the multidimensional and protracted impact of the pandemic on traditionally left-behind communities, as well as those newly pushed into unfavorable situations, and to tailor our macroeconomic and specific policy interventions accordingly.

This volume builds on the COVID-19 experience in Bangladesh and examines the medium-term implications of the pandemic. The pandemic coincided with a pivotal moment in Bangladesh's developmental trajectory. The nation is preparing to exit the group of least-developed countries (LDCs) in 2026 and aspires to become a high-middle-income country by 2041. Simultaneously, efforts are being made to implement the United Nations Sustainable Development Goals (SDGs).

The five decades of Bangladesh's independent existence have witnessed a spectacular turnaround from a so-called 'international basket case' to a 'development paradox'. However, while Bangladesh may have been only 'moderately' affected by COVID-19, the pandemic did interfere with the country's mid-term development prospects. Moreover, the impact was exacerbated by the country's inherent structural challenges. As we reflect on the enduring aftermath of the pandemic, it is tempting to believe that the worst is behind us, but the lessons of COVID-19 should serve as a stark reminder of the vital importance of preparedness. The emergence of another external shock of such a global dimension remains possible. The world is facing volatile food and fuel prices, a war in Ukraine, escalating conflict in the

Middle East, and growing geopolitical tensions. This era of post-pandemic polycrisis demands that we consider how prepared we are for a potential resurgence.

As we navigate the complexities of the evolving global challenges, our ability to protect disadvantaged communities in our respective countries will define the robustness of our resilience in the face of future shocks. While this volume focuses on the Bangladeshi experience, its lessons extend far beyond one nation's borders. It serves as an enlightened guide for other LDCs and developing countries, offering insights into how post-pandemic recovery strategies may be shaped to promote inclusivity and equity. For a world in constant flux, evidence-based policy analysis may be the best guide.

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Four national dialogues also fed into the preparation of the research: 'Data-driven Policy Making During the Pandemic: Taking the Experience Forward', on 25 November 2021; 'Relief Supports to Cope with COVID-19: How Effective Were They?' on 27 May 2021; 'Income and Employment Situation in COVID Times: How the People Are Coping? Findings from Household Survey', on 5 May 2021; and 'Employment Implications of Stimulus Packages: Challenges for Recovery', on 5 November 2020. Two further dialogues were held, one for disseminating research findings among media professionals on 18 October 2021, and the other for validation with Members of Parliament, senior government officials, business leaders, and editors of leading newspapers on 24 October 2021.

We would also like to thank the academics, international development partners, think tanks, and civil society organizations that participated in the two expert group meetings, which were instrumental in shaping our work, held on 15 September 2020, and 28 September 2021.

Finally, initial findings from the report 'COVID-19 and Bangladesh: Macroeconomic Impact and Policy Choices' were presented at the United Nations University World Institute for Development Economics Research Annual Conference on 7 September 2021.

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The support and contributions of colleagues at the CPD, such as the Secretariat of the Citizen's Platform for SDGs, Bangladesh, are also gratefully recognized. Special mention must be made of the contributions of Mr. Muntaseer Kamal, Research Fellow, CPD. In addition, the support and contributions of Ms. Mamtajul Jannat and Ms. Shourza Talukder, both research associates at the CPD, and Ms. Fabiha Bushra Khan, a former research associate at the CPD, in bringing this volume to life are deeply appreciated.

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Dhaka
Debapriya Bhattacharya December 2023
Towfiqul Islam Khan

List of Abbreviations

ADB	Asian Development Bank
ADP	Annual Development Programme
BB	Bangladesh Bank
BBS	Bangladesh Bureau of Statistics
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
BIGD	BRAC Institute of Governance and Development
BRAC	Bangladesh Rural Advancement Committee
BRAC JPGSH	BRAC James P Grant School of Public Health
CAMPE	Campaign for Popular Education
CCSA	Committee for the Coordination of Statistical Activities
CGWR	Centre for Global Workers' Rights
CMSME	Cottage, Micro, Small and Medium Enterprises
CPD	Centre for Policy Dialogue
CRR	Cash Reserve Ratio
DA	Disabled Allowance
DFID	Department for International Development
DGHS	Directorate General of Health Services
DSS	Department of Social Services
EMDEs	Emerging Markets and Developing Economies
EPZ	Export Processing Zone
FGD	Focus Group Discussion
FTC	Financial Transparency Coalition
GED	General Economics Division
GoB	Government of Bangladesh
GR	Gratuitous Relief
HIES	Household Income and Expenditure Survey
HNPP	Health, Nutrition and Population Programme
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
IEDCR	Institute of Epidemiology, Disease Control and Research
IFC	International Financial Corporation
IHRB	Institute for Human Rights and Business
ILO	International Labour Organization

IMF	International Monetary Fund
IOM	International Organization for Migration
LAC	Latin America and the Caribbean
LDCs	Least Developed Countries
LG	Local Government
LICs	Lower-income Countries
LNOB	Leave No One Behind
MDG	Millennium Development Goal
MJF	Manusher Jonno Foundation
MoDMR	Ministry of Disaster Management and Relief
NBFIs	Non-banking Financial Institutions
NGO	Non-government Organization
NTMC	National Telecommunication Monitoring Centre
OAA	Old Age Allowance
OECD	Organisation for Economic Cooperation and Development
OMS	Open Market Sale
PEP	Partnership for Economic Policy
PFDS	Public Food Distribution System
PNOB	Push No One Behind
PPRC	Power and Participation Research Centre
PWD	Persons with Disabilities
QIIP	Quantum Index of Industrial Production
RMG	Ready-made Garment
SDG	Sustainable Development Goal
SME	Small and Medium Enterprise
SSACs	Sub-Saharan African countries
UN ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGA	United Nations General Assembly
UNICEF	United Nations Children's Fund
UNOHCHR	United Nations Office of High Commissioner for Human Rights
WA	Widow Allowance
WHO	World Health Organization

1 COVID-19 Implications in Bangladesh

Lessons for Inclusive Policy Transition

Debapriya Bhattacharya,
Towfiqul Islam Khan

The Context

The multifaceted impact of the COVID-19 pandemic on the global economy is likely to shape resilience and the response to future shocks. The World Bank (2022) estimated that 90% of countries contracted as the global economy narrowed by approximately 3%, while the global poverty rate increased for the first time in known history. However, the macro- and socioeconomic effects of the pandemic have differed across countries and population groups. Low- and middle-income countries are particularly hard hit, owing to their limited resources and government capacities (Miguel & Mobarak, 2022). United Nations Conference on Trade and Development (UNCTAD, 2022) cautioned that the world economy is on a 'two-speed' recovery path, as developing countries are found to be less capable of recovering from the pandemic and are more vulnerable to external shocks. The United Nations (UN, 2021) has highlighted the damaging implications of COVID-19 in attaining its Sustainable Development Goals (SDGs).

Bangladesh has been moderately affected by the COVID-19 pandemic, according to official records on the number of infections and deaths. Management of the pandemic, particularly free-of-charge mass vaccinations, has placed the country as one of the better performers. Although the number of infection cases and deaths declined in subsequent waves of the pandemic, economic, and social repercussions in the form of income, consumption, education, and health are likely to be protracted in the country. These repercussions disproportionately affect the traditionally 'left behind' and newly 'pushed behind' people. However, these people deployed several adjustment and adaptation strategies at the household level to deal with the pandemic-induced adversity. Bangladesh has been credited for quick and decisive actions that facilitated a faster rebound than countries in the neighborhood. However, the composition of packages and the efficiency of their distribution have been debated, raising concerns regarding inclusive recovery. Moreover, the multifaceted dimensions of impact have risked achieving the SDGs by 2030 and the smooth transition of the country from least developed country (LDC) status by 2026. The pandemic experiences have exposed several prevailing structural challenges, demonstrated the value of the right policies, and imparted dynamic lessons for future shocks.

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Numerous studies have explored the implications of COVID-19 across countries and socioeconomic sectors. These studies have focused on critical issues, including COVID-19's impact on the informally employed, education, manufacturing, agriculture, and other sectors. Many of these studies have delved into the underlying dynamics of coping mechanisms in both the Global North and South, offering valuable lessons that can be applied across borders. These studies have relied primarily on secondary data and the existing literature (e.g., Tan et al., 2023; Gonçalves et al., 2022; Ing & Basri, 2022; Bhattacharya et al., 2021; Rasul et al., 2021). However, studies have also collected primary data through key informant interviews and online and telephone surveys (e.g., Nungsari et al., 2022; Mahmud et al., 2020).

This volume offers a structured analysis of socioeconomic impacts and adjustments at the country level through the lens of traditional and newly disadvantaged populations. It addresses the gap between macro and micro perspectives by examining how public policies and household-level activities influence each other through various intermediaries.

Analytical Framework and Methodology

This volume presents COVID-19 experiences and implications at Bangladesh's national, population, and household levels. Several country studies have presented their findings thematically, exploring the macroeconomic and social impacts of COVID-19, mitigation strategies, policy responses, and prospects (e.g., Tan et al., 2023; Gonçalves et al., 2022; Ing & Basri, 2022). In these studies, the needs of vulnerable communities were referenced. Our exploration of COVID-19 realities in Bangladesh highlights three distinct features that emerged prominently. First, the impact of COVID-19 was specific to particular groups, highlighting the immediate need for a disaggregated analysis. Second, the failure to integrate the diverse experiences of these population groups into policymaking resulted in their exclusion from policy considerations. Third, it has become clear that existing policies are insufficient to address the challenges. Therefore, policy transition is imperative. This compelled us to dissect these realities into three analytical categories, 'disaggregation', 'social inclusion', and 'policy transition'. However, it is essential to delve deeper into the precise meanings of these three categories.

Disaggregation refers to the disproportionate impact of COVID-19 on specific populations. These population groups, referred to as the 'vulnerable', are unevenly affected, evidenced by their different levels of capacity to be resilient, respond, and recover from the impact of the pandemic. Bhattacharya et al. (2017) proposed a conceptual framework with a set of 12 criteria to identify vulnerable population groups: life cycle, civil identity, disability, education and skills, gender, geographic location, health, income, occupation, religion, ethnicity, sexual orientation, and shock induction. Using this framework, stocktaking of the disaggregated impact helps understand the disparities in COVID-19-related hazards.

Inclusion refers to the provision of vulnerable people with equal access to opportunities and resources. An inclusive approach to responding to the pandemic will limit exclusion from government support and essential services for vulnerable

groups (International Labour Organization [ILO], 2021). Understanding pandemic implications at a disaggregated level to inform policies will help realize the third dimension of inclusion.

Transition refers to a shift in policy design from the mainstream model. In general, policies are not formulated based on a participatory approach, which excludes the disadvantages of influencing policy design and outcomes (International Monetary Fund [IMF] & World Bank, 2000). Therefore, their interests and concerns remain outside the scope of policy delivery. The multidimensional forms of vulnerability induced by the pandemic and the types of vulnerable groups formed do not inform policies, resulting in groups being mere recipients of ill-advised state benefits. Based on the disaggregated information and data, need-specific policies will prevent the perpetual marginalization of the left behind. Considering the different development priorities, the transition also focuses on a renewed policy context. As Bangladesh is on its path to recovery from the pandemic, it is at a critical junction of overlapping macroeconomic priorities, such as dealing with the post-pandemic aftermath, SDG delivery, the transition from a low- to a high-middle-income country, and rising global tensions.

Chronologically, the disaggregation dimension becomes operational when the perspectives of vulnerable people and communities concerning livelihood challenges and coping mechanisms underlie the analysis. The discussion then moves on to the dimension of inclusivity, which informs the pursuit of policies to effectively deliver public support measures. Policy transition refers to policies that present a forward-looking perspective.

In view of this, the chapters are organized into four broad segments informed by these three analytical categories. The studies in the volume have been prepared using a wide range of methodologies, including literature reviews, household surveys, computable general equilibrium models, focus group discussions, key informant interviews, and expert group meetings. In addition, a series of dialogues have been fed into the political-economy dimensions. A conference titled ‘Bangladesh Emerging from the Pandemic: Coping Experiences and Policy Choices’ further reflected the review comments of experts in relevant studies.

As part of the first segment, the current chapter presents an overview summarizing the findings and the policy takeaways. Chapter 2 reveals the core analytical issues that inform the subsequent chapters of this volume. It highlights the key choices and challenges in developing an assessment framework that focuses on the impact of COVID-19 on vulnerable populations in developing countries. It defines vulnerability as ‘an individual’s or group’s susceptibility to risks in terms of exposure and adaptive capacity’, while the state of vulnerability is ‘the condition of being pressured into becoming marginalized, discriminated or excluded and eventually becoming deprived or left furthest behind’. Chapter 2 argues that understanding and managing the multidimensional consequences of the pandemic at a disaggregated level inform policy responses to accommodate differences in exposure to risks, adaptation efforts, and mitigation capacities across the vulnerable population spectrum. Section 3 presents the macroeconomic implications of COVID-19 and argues for a countercyclical policy stance.

The second segment of the volume focuses on the disaggregation dimension and is a collection of chapters on economic impacts and adjustment approaches captured through multiple household surveys. In Chapter 4, a specialized survey assessed the economic impact on vulnerable population groups in terms of household income, employment, expenditure, savings, and loan uptake. Chapter 5 presents the impact, adjustment, and adaptation efforts of workers in the readymade garment industry, the most crucial section of the manufacturing sector workforce in Bangladesh, during multiple waves of the pandemic. Chapter 6 is based on a nationally representative survey that captures the adjustments in the labor market during the COVID-19 pandemic. Chapter 7 presents the coping strategies of vulnerable households facing multifaceted economic fallout.

The third segment brings together the social implications of health and education, followed by the attainment of SDGs. The health implications involve pandemic-induced challenges for COVID-19 vaccination, food consumption, and maternal and child health, as discussed in Chapter 8. Chapter 9 assesses the implications for education through the impact on students from vulnerable families, their coping mechanisms for school closures, and accessibility to public support. The disaggregated progress toward SDGs from the perspective of vulnerable populations is analyzed in Chapter 10 using a novel index captured through 28 SDG indicators grouped under four pillars: economic, social, environmental, and governance. The index considers four dimensions of the COVID-19 impact – intensity, time, linkage, and disaggregation – and provides an opportunity to compare the pillars and dimensions. The index is designed such that it can be replicated in other developing countries, adjusting for the national context.

The final section focuses on the policy perspectives in the context of the COVID-19 pandemic. Chapter 11 provides an overview of the support packages, their taxonomy, and sectoral and communal compositions. Chapter 12 assesses the quality of delivery of key targeted social protection interventions through a nationally representative household survey. Finally, focusing on health-related data initiatives, Chapter 13 highlights the experience of generating basic statistics to manage COVID-19, the extent of its integration in policymaking, and the challenges resulting from policy actions due to data deficits.

Multifaceted Ramifications of COVID-19

Within the complex tapestry of COVID-19's far-reaching influence, this section unveils the varied impacts on Bangladesh, spanning health and macroeconomic impacts, economic distress at the household level, its toll on education, and human rights, to scrutinize the effectiveness of COVID-19 support measures.

COVID-19 Context

Bangladesh has been moderately affected by COVID-19 infection rates and has low mortality rates. By the end of July 2023, there was a total of 29,473 deaths in a nation of approximately 170 million people. Although the COVID-19 incidence

rate in Bangladesh is relatively low, financial constraints and the belief that they do not deter people from being tested. Chapter 8 of the volume demonstrates that, despite one-third of the surveyed population having symptoms, less than 2% underwent testing. Vulnerable communities have shown low willingness and uptake of vaccines owing to limited awareness, low confidence in the healthcare system, and a lack of access to digital devices and literacy during the early stages. Specifically, transgender individuals face humiliation due to gender identity misspecifications and digital illiteracy. District-wise disparities and vaccine shortages also hindered vaccination efforts in the early stages. Despite these challenges, the use of technology, a national identity card database, and a cost-free vaccination program have eventually helped Bangladesh become one of the most vaccinated countries. According to our data, approximately 93% of the total population of Bangladesh is vaccinated, and approximately 84% is fully vaccinated. The corresponding global figures are 72% and 67%, respectively.

Macroeconomic Impact

Bangladesh's economy recorded a decelerated but positive growth rate from July 2019 to June 2020 (FY2019–20). Chapter 3 shows that exports faltered during the initial period of the COVID-19 outbreak owing to a global demand slump, cancellation of significant export orders, and supply chain disruptions. Private investments, including foreign direct investment, have also plunged. In contrast, remittance inflows and food grain production are resilient. Lower tax revenue mobilization led to an increased fiscal deficit, despite a slowdown in the implementation of public expenditure programs.

Labor Market Adjustments

The labor market demonstrated a certain level of resilience, notwithstanding the immediate loss of domestic jobs and the return of many overseas migrant workers. However, there was urban-rural migration and further informalization of the economy, with consequent lower wages and higher underemployment. Chapter 3 illustrates that in the first wave, approximately 13 million employed individuals were at risk of losing employment, with informal-sector workers being the most affected. The employment situation has worsened because of restrictions on mobility, supply chain disruption, demand reduction, and business entity closure. The informal sector, comprising 85.1% of the total labor force, was more severely affected. Chapter 6 reveals that about two-thirds of employment was affected, with the majority remaining unemployed for one to two months.

The pandemic caused a reallocation of jobs through a negative structural change in Bangladesh's labor market. The share of employment in agriculture has increased, while that in the service sector has decreased. Interestingly, the average weekly working hours in the agriculture sector declined by approximately 10%. Most new employment opportunities come from self-employment, contributing family members, and day laborers. Women are more likely to work as

self-employed or contributing family members; however, there is a reduction in the number of male urban employees. These labor market trends continued during the post-pandemic recovery phase. The latest official labor market statistics suggest that between FY2016–17 and FY2021–22, employment in the industry sector declined, while it boomed in the agriculture sector (Bangladesh Bureau of Statistics [BBS], 2018, 2023a). Women are increasingly engaged as unpaid family workers in rural areas.

Economic Distress at the Household Level

Economic distress at the household level was more severe and protracted than the macroeconomic correlates and health-related fallouts, manifested as a drop in income and consumption, substantial financial hardship, decay of savings, and a rise in debt. Indeed, despite a positive economic growth rate in FY2019–20, the pandemic caused a decline in the country's progress in poverty reduction. Chapter 6 reveals that labor market adjustments lead to serious distress from job loss and income erosion. The decrease in the average income level was approximately 12% nationally. On average, the incomes of formal-sector workers in the readymade garment industry dropped by 11.4% (Chapter 5).

The income shock and employment loss during the lockdown pushed a significant portion of the vulnerable non-poor below the poverty line. Even after lifting the general public holiday, only a small proportion of the population has escaped this vulnerable state. Indeed, distress appears to be more severe in vulnerable groups. Chapter 4 shows that, on average, approximately 78.8% of the surveyed vulnerable population groups experienced financial hardship. The corresponding hardship was more severe for households engaged in micro, medium, and small enterprises (MSMEs) and for persons with disabilities, urban slum dwellers, and coastal communities. On average, monthly household income decreased by 18.7% in households facing financial hardship, whereas the drop in monthly expenditure was 9%.

Two-thirds of all the surveyed vulnerable households experienced a decline in their monthly savings. Chapter 7 finds that approximately 25% of these households withdrew their savings, and approximately 60% had to take out loans. Chapter 7 further reveals that 95% of vulnerable households lacked access to formal financial institutions and had to resort to relatively risky and expensive loan sources. Hence, soft loans offered by the government through commercial banking channels helped them in this context. On average, these households would require more than two years to repay their loans, mostly from informal sources, often through high-interest bearings. Distress in the form of selling assets (mainly livestock) was also observed in one of the seven households. Chapter 5 also highlights that approximately half of the readymade garment workers faced additional financial hardships during the pandemic's first phase, emanating from unpaid salaries, overtime cuts, and job losses. They adopted different coping strategies, including mortgaging or selling assets, obtaining loans, and extracting savings.

Nutrition and Health Concerns

Households' coping responses during pandemic-induced income shocks resulted in adjustments to food consumption, leading to medium-term nutritional deficits. Chapter 8 shows that the pandemic significantly affected food security in vulnerable communities, with 85.6% of such households reducing their food consumption, leading to a rise in moderate or severe food insecurity and reduced dietary diversity. Most households have attempted to cope with financial hardships by lowering the number of meal items and their protein intake. These adjustments were more prevalent among haors, MSMEs, and indigenous households. Chapter 5 also indicates that this trend is also true for readymade garment workers in Bangladesh.

Chapter 8 further reveals that half of pregnant women in slums and one-third of migrant households could not access antenatal care. Similarly, the rates of new mothers from urban slum, coastal, and Dalit households who missed none of their postnatal visits decreased drastically compared to their corresponding shares for antenatal care.

A higher proportion of vulnerable rural households also missed child immunization than their urban counterparts. The implications for maternal and child health could lead to maternal malnutrition, low birth weight, and the undernourishment of children born in poor households, thereby deteriorating human capital formation.

Learning Loss

According to the United Nations Educational, Scientific, and Cultural Organization (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2023), Bangladesh ranks fourth among all the countries with the longest school closures due to the pandemic, following the Philippines, Honduras, and Uganda. Bangladesh has implemented various modes of virtual schooling, including broadcasting pre-recorded lessons through television and radio-based classes, using online social media platforms and state-run e-learning platforms. Third-party e-platforms, such as Google and Zoom, are popular among private institutions. Chapter 9 reveals that, despite these efforts, a substantial number of students were excluded due to unequal access to technology and increased out-of-pocket expenditure for education. Secondary school students were more involved in virtual schooling than their primary school counterparts. However, students in secondary school and college are 2.6 times more likely to drop out in a post-COVID-19 situation than students in primary school or below.

The World Bank, UNESCO, and the United Nations Children's Fund [UNICEF] (2021) also concluded that one in every ten girls aged 12–15 years might not return after the reopening of schools. BBS and UNICEF (2022) found that the rate of out-of-school children increased from 6% in 2019 to 15.4% between 2019 and 2021. The study also revealed that one out of four children whose mothers were illiterate was out of school, compared to only one out of ten children out of school for mothers who had higher education.

Severe inequity in e-learning has been observed, particularly in remote areas of Bangladesh. A Bangladeshi government-led survey revealed that among

fifth-grade students at primary schools, 70.2% never joined television classes during the school closure period, while 76.5% could never access online classes using smartphones or laptops (National Curriculum and Textbook Board [NCTB], 2023). Consequently, the study also found that approximately 40% of grade five students had significant learning gaps in the fundamental concepts covered by the grade four curriculum. According to the Household Income and Expenditure Survey 2022 reported by the BBS (2023b), the proportion of school-going children aged 6–10 declined between 2016 and 2022. Thus, learning losses at both collective and individual levels require urgent policy attention.

Weakened Human Rights

The COVID-19 pandemic has exacerbated prevailing human rights challenges. Chapter 9 discusses the rise of child marriage and child labor due to the pandemic. BBS and UNICEF (2022) reported that in 2021, one-third of women aged 15–19 years will be married. Nearly 89% of Bangladeshi children aged 1–14 years experienced violence, with child rape and online harassment increasing during the pandemic (Hossian et al., 2021). This problem is further exacerbated by the lack of awareness and legal action, with only a small percentage of victims seeking help. The BBS and ILO (2023) reported that the proportion of child labor increased between 2013 and 2022. During the pandemic, elderly individuals are particularly vulnerable to abuse owing to isolation and limited access to support networks. Additionally, the economic impact of the pandemic has placed many families under financial strain, which may increase the risk of abuse toward older family members (Islam et al., 2021).

Effectiveness of COVID-19-Related Support Measures

In Bangladesh, COVID-19-related support measures were rolled out early with impressive policy guidance through enhanced public expenditures, private sector incentives, increased market liquidity, and social safety net expansion. Several observations can be made regarding COVID-19-related support measures.

First, policymakers responded with 25 support measures, of which 18 were new and 7 were extensions of pre-existing programs. Chapter 11 estimates that the combined size of these programs was equivalent to 2.8% of the GDP in FY2020 and 1.6% of the GDP in FY2021. Indeed, compared to other countries, the size of the interventions was relatively smaller (Akibo-Betts et al., 2021).

Support measures include fiscal, monetary, and hybrid measures. Despite the urge for much higher fiscal support in a countercyclical policy stance (Chapter 3), the policy package was overwhelmingly dominated by hybrid measures (Chapter 11). More than 80% of the support was repayable at concessional interest rates.

Third, the coverage of eligible participants was much lower than required. Chapter 12 estimates that in the lowest income quartile, only one-fourth of households were covered by the three dedicated relief programs. Chapter 7 also pointed out that approximately 63% of vulnerable households did not receive any support

from eligible government or non-government entities. While one in every four households received government assistance, the delivery of such support was weaker in remote and hard-to-reach areas. The government intended to roll out demand-based policy support through a dedicated hotline; however, its effectiveness was limited. Vulnerable households were not noticeably 'networked'; therefore, their weaker social and organizational relations did not effectively access public support. Chapter 12 highlights that when beneficiaries of these programs had acquaintances with the program committee members, they were more satisfied with the efficacy of service delivery.

Fourth, the support measures are intended for large corporations (Khail et al., 2022). Approximately 60% of the total support measures were dedicated to large corporations. Senior citizens and children did not figure prominently in the support measures.

Fifth, the disbursements of fiscal stimuli and liquidity support measures were underutilized, inefficient, and often mistargeted. The BDT 2,500 cash support program for five million households reached only 3.5 million (Chapter 11). However, Chapter 13 noted that the use of technology for beneficiary pruning in this program helped avoid mistargeting. Only 43% of the total allocation for free food distribution programs could be utilized. The loan or grant schemes to smaller enterprises missed out on intended beneficiaries because of the eligibility criteria or distribution hurdles. By October 2020, only 45% of the total funds were disbursed under the 'agricultural refinancing scheme', and the disbursement rate in the second phase also did not make any substantial progress.

Key Policy Lessons

The experience of COVID-19, in terms of its multifaceted impact and various support measures, has led to several key policy lessons. These lessons can contribute to future public policy design in response to widespread crises such as COVID-19. In addition, recalling that Bangladesh is in a transitional phase in its development journey, these lessons are expected to inform the design of the country's forthcoming medium-term development policies. Similarly, many other developing countries can internalize their contexts.

The Sign of a Growing Unequal Society Is Imminent

At the beginning of the outbreak, the COVID-19 pandemic was often termed a 'great equalizer', as it impacted all countries across the world and all classes of citizens, irrespective of their economic and social status. It was later discovered that this did not hold true worldwide (Galasso, 2020). In Bangladesh, disadvantaged population groups were also found to be more susceptible to the economic and social fallout of the pandemic (Chapter 2). According to the post-pandemic household income and expenditure survey (HIES) conducted in 2022, both income and consumption inequality, as measured by the Gini index, increased. The Gini coefficient for income inequality was approximately 0.5. Only a handful of countries have high levels of inequality. Chapters 8 and 9 show that the technologies

used for vaccination and online education are unequally accessible due to inherent inequality. Similarly, larger firms were able to receive and utilize more government policy support because of their accessibility to the existing institutional framework (Chapter 11). Averting the shock of similar crises requires investment in addressing economic and social inequalities.

Fiscal Space Is Critical

The ability of a country to deliver policy support is often constrained by the available fiscal space. Chapter 3 argues in favor of pursuing a countercyclical policy in the form of fiscal interventions, more so on the public expenditure side, as an effective policy tool. However, in Bangladesh, the lack of fiscal space due to the prevailing low level of domestic resource mobilization constrained the size and composition of policy support extended in the face of the pandemic (Chapter 11). Hence, Chapter 3 highlights the importance of creating fiscal space through the mobilization of incremental domestic resources, reprioritization of public expenditure composition, scrutiny of subsidy structures, and domestic and external financing, such as grants and loans. Chapter 3 further recalls that while expanding fiscal space is a necessary condition for a sustainable and countercyclical fiscal policy, the limited capacities of the government agencies responsible for delivering such a program could emerge as a binding constraint.

Data and Technology Play an Important Role in Delivering Policy Actions

Several data-driven initiatives in Bangladesh during the pandemic have played a critical role in addressing pandemic-induced challenges and designing the required strategies (Chapter 13). Managing healthcare sector necessities and COVID-19 vaccination programs are prime examples of the use of data and technology in Bangladesh. Chapter 13 recommends the adaptation of such successful initiatives across sectors; more proactive use of existing databases, such as national identification, and sustainable support in the form of human resources, finance, and institutional reforms.

Prevailing Institutional Weaknesses Can Constrain Good Policy Intentions

The experience of policy support during the pandemic suggests several prevailing and embedded weaknesses, including a reticence in information dissemination, a deficit of transparency in identifying eligible beneficiaries and targeting errors. Chapter 12 highlights the need to take several lessons from the pandemic experience into consideration while designing policy support measures in the future, including the size of the allocation, spatial dimensions, new dimensions of vulnerability, access to information, transparency, costs involved in accessing services, timing, innovation, grievance redress mechanisms, and zero tolerance against corruption and nepotism.

Medium-Term Development Targets and Strategies Need to Be Revised

The immediate impact of the COVID-19 pandemic on the economy was greater in Bangladesh; however, social indicators require medium-term attention. Chapter 10 reveals that while the economic pillar embraced the highest impact intensity among the SDG pillars, the social pillar's influence had the greatest effect on disadvantaged populations. There is a strong need to bring environmental concerns into the development agenda. Chapter 10 also highlights the need for disaggregated data to develop future policies and understand the depth of the impact of the pandemic. Policymakers must use SDGs as a guide to reformulate medium-term development targets.

The Need to Have a 'Whole of Society Approach' Is Reemphasized

The collective efforts of all stakeholders in Bangladesh, both state and non-state, were critical in addressing challenges during the pandemic period. This was demonstrated through the extension of support to disadvantaged populations amid economic distress (Chapter 2). Similarly, Chapter 13 shows that the pandemic has broadened the scope of new partnerships among multiple stakeholders, both within and outside government agencies. Chapter 12 also emphasizes the need to involve all stakeholders in the successful delivery of policy support.

The key policy lessons drawn from studies in this volume are also reflected in other countries' contexts. Tan et al. (2023) argued that certain vulnerable populations, such as people with disabilities and migrant workers, are often overlooked in formal COVID-19 policy responses across countries. To address the needs of vulnerable groups, various online platforms, including social media and technological tools, have been scaled up in different countries to enhance contact tracing and provide essential public health information and healthcare services that might otherwise have been inaccessible to them (Haldane et al., 2021; Marcassoli et al., 2023). However, the diversity and effectiveness of COVID-19 responses were largely dictated by state capacity, i.e., 'the nation's ability to organize its bureaucracy efficiently in order to mobilize resources' (Yen et al., 2022). Indeed, the role of state capacity in effectively shaping and delivering policy responses has been a long-standing issue and has been vividly highlighted during the pandemic. As efforts to counter the debilitating effects of COVID-19 have intensified, the importance of diversifying revenue sources to expand fiscal capacity has also been emphasized (Tan et al., 2023; Ing & Basri, 2022).

Sharma et al. (2021) underscored the importance of encouraging policymakers worldwide to institutionalize the lessons learned during COVID-19 and design policies to prepare for future emergencies. One such lesson was the scarcity of timely disaggregated data that needed to be addressed, a point that resonated globally during the COVID-19 pandemic. Despite its importance, the lack of timely and disaggregated data is a neglected aspect of data-driven policymaking (Naudé et al., 2020; Wehbe et al., 2021). Other studies have also emphasized the importance of preemptive preparation to enhance coordination between state and non-state actors during policy formulation and the delivery of support to mitigate fallout from future shocks (Seddighi et al., 2021; Tan et al., 2023).

Concluding Remarks

The COVID-19 pandemic has hit Bangladesh at a critical juncture in its development trajectory, particularly considering its forthcoming graduation from being a least developed country in 2026. It should be noted that progress toward attaining the SDGs has already been veering off course in Bangladesh, especially in the areas of food security, universal health coverage, and quality education. However, this progress has only been jeopardized since the COVID-19 outbreak. The pandemic has undoubtedly exposed the country's mid-term development outlook to multiple challenges.

The pandemic appeared to be an unanticipated exogenous shock that tested the resilience levels of countries. In this case, national resources were combined to address a widespread crisis that emerged from external sources. The policy question for the future is whether this would be possible if the internal sources were in crisis. It is also critical to see if the country can learn from this experience and prepare for unprecedented challenges in the coming years.

The success of a country in addressing the pandemic over the medium term critically hinges on its ability to sustain the innovative and successful policy actions observed during this period. The extended use of data and technology in policymaking, maintaining the infrastructure created during the pandemic period, focusing on expanding fiscal space, building up a universal social protection system, having policy sensitivity toward disadvantaged population groups, and putting emphasis on pulling and utilizing external resources are some of the examples to this end.

Although addressing immediate fallout remains a key policy focus, this volume underscores the significance of COVID-19's medium-term implications for development. It also highlights that strategies for post-pandemic development must be crafted to ensure an inclusive and equitable transition toward recovery and resilience. There is a need to institutionalize these lessons and update the modus operandi across countries to better prepare for potential future shocks. The global development community should consider incorporating these lessons into its development cooperation strategy, ensuring that they are on board with the necessary updates and upgrades in preparation for future emergencies.

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2 Choices and Challenges in Assessing COVID-19 Impact on Disadvantaged Groups

Debapriya Bhattacharya, Sarah Sabin Khan and Towfiqul Islam Khan

Introduction

COVID-19 continues to leave a trail of devastation in its wake. Diminishing decades' worth of development progress, the pandemic's impact extends far beyond the health sector. With successive lockdowns disrupting the resumption and continuation of socioeconomic activities, the pandemic has exacerbated old vulnerabilities and created new ones. The chapter puts forward a conceptual and analytical framework to assess COVID-19's impact on a developing country's vulnerable population. In line with this, the chapter finds that policy actions toward recovery and resumption – both immediately and over the medium term – need to be informed by genuine and disaggregated evidence based on realities on the ground. It also highlights the need to have conceptual, analytical, and methodological clarity on the relevant issues. The chapter offers a set of analytical questions to construct the assessment framework, which can be adopted and replicated across national contexts.

A review of the already available state of primary knowledge in the national context revealed an obvious trend of marginalization of pre-existing vulnerable groups during the pandemic. Furthermore, new groups of people and sources of vulnerabilities emerged from the crisis. Poorer cohorts and women were found to be worse off across different vulnerable groups. Evidence suggests that the loss of income induced by the global and local halt in economic activities and ensuing poverty and hunger have been the greater drivers of vulnerability for these people compared to the relatively minor concerns for health risks. The slowdown of the economy had been dire, particularly for small businesses. The disproportionate impacts originated from underlying structural challenges facing these groups rather than being policy-induced. Addressing structural injustices would require concerted efforts beyond the usual generalized, one-size-fits-all policy supports to allow more tailored interventions in terms of design, targeting, and execution.

It may be noted that the state of knowledge was still at a preliminary stage when reviewed. The studies comprised mostly rapid assessments in the early stages of the pandemic and hence lacked scientific rigor or sufficient representativeness. There was also no theoretical or analytical framework backing these studies that primarily relied on arbitrarily set research agendas and objectives. A comprehensive comparative assessment of the pandemic's impact on different vulnerable

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population groups was missing. Such an exercise could give vital policy insights by identifying the groups most at risk of being left furthest behind. Furthermore, the studies lacked any political economy angle explaining the underlying implicit factors contributing to the continued marginalization of certain population groups and their inaccessibility to policy support. Finally, the studies reviewed demonstrated limited linkages to implications for the Sustainable Development Goals (SDGs) and broader public policy frameworks.

Addressing some of these gaps in the literature is among the many objectives that this volume seeks to accomplish. This chapter provides conceptual and analytical guidance toward that goal. It starts with delineating the different concepts underpinning the volume's research, including identifying vulnerability criteria and selecting groups. This is followed by discussions to understand benchmarks and shocks, differentiate among adjustments, adaptation, and resilience, assess public policy interventions, and highlight the political economy aspects. The concluding section underscores the choices and challenges in designing an empirical approach to capturing the impact of the COVID-19 crisis on the vulnerable.

Understanding Vulnerabilities and the Vulnerable

Vulnerability and Vulnerable Groups in the Context of COVID-19 in Bangladesh

The chapter follows the work of Bhattacharya et al. (2017) which focused on conceptualizing the SDG principle of *Leave No One Behind* (LNOB) and identifying the 'left-behind' groups in the context of Bangladesh. It employs the prism of 'vulnerability' in distinguishing the left-behind population groups and understanding their predicaments during the pandemic. An individual or community may be subjected to multiple, overlapping, and often reinforcing vulnerabilities.

COVID-19 has brought forth two more important issues in the discussion concerning vulnerabilities and vulnerable groups. First, the chronically vulnerable, or the LNOB groups had their chronic or persistent vulnerabilities accentuated by the pandemic and increased their risk of being left behind. Second, there are the transient groups who have been 'pushed behind' to a vulnerable state owing to the unprecedented nature of the crisis, henceforth referred to as the *Push No One Behind* (PNOB) groups. Both LNOB and PNOB groups have been subjected to old and new forms of vulnerabilities. For example, many lower-middle-income households have fallen under the poverty line since the onset of the pandemic and constitute a newly vulnerable group referred to as the 'new poor'.

Ten groups are considered in this volume to comprise the LNOB and PNOB groups, as defined by their primary vulnerability criteria – income (low-income urban employees/self-employed); life cycle (youth, children, senior citizens); gender (women); religion and ethnicity (indigenous communities, Dalit communities); geographical location (people of remote and hard-to-reach areas e.g. char, haor, coastal areas); disability (persons with disability); identity (transgender communities); occupation (cottage, micro, small and medium enterprises [CMSME] entrepreneurs); and shock-induced (returnee migrant workers, new poor). Each of these groups faces multiple vulnerabilities to varying degrees. However, 'income' is

often considered an intermediary variable or a common criterion through which other vulnerabilities often manifest.

Generating Benchmarks and Assessing Shocks

Policy and scholarly appraisals of the COVID-19 pandemic have been inherently negative. Much attention is rightly paid to the socioeconomic impacts on those 'left behind' – and more recently, 'pushed behind' – in the process of development guided by the SDGs. A countervailing but related position is that the pandemic presents profound opportunities to reshape development to better reduce income inequality and address the plight of marginalized groups (Mazzucato, 2020; Sen, 2020).

In this context, it is critical to understand precisely how the development trajectories of the marginalized and left and pushed behind have been affected by the pandemic. This process itself requires reference points or 'benchmarks' of previous and present development contexts against which post-pandemic circumstances may be compared. Also, the outbreak of COVID-19 and policy responses thereto represent a series of intertwined and mutually reinforcing shocks. They affect almost all levels of the economy: macro, sectoral, and micro. Understanding these shocks and their transmission channels are foundational methodological commitments critical to understanding impacts on the left and pushed behind.

Benchmarking

In the most common sense of the word, benchmarking is the comparison of performance metrics against relevant standards and best practices. Benchmarks may also represent the status of initial conditions before some incident, shock, or change, useful in understanding how those conditions have changed.

Evidently, in the context of COVID-19 and its implications on the left and pushed behind, the initial conditions can be represented as if the pandemic had not happened. As such, a benchmarking exercise, in this case, entails comparing the post-pandemic positions of vulnerable and marginalized groups against pre-pandemic, or perhaps counterfactual, positions.

This process of benchmarking comprises three core elements. Firstly, who ought the left and pushed behind be compared against? There are two options in this regard. These groups may be compared to how an 'average' person is faring with the pandemic. This option entails several challenges. It requires an available and nationally representative household survey to determine what the position of an average person is – similar in scale to the Household Income and Expenditure Survey (HIES) with a sufficient sample size to capture randomness.

A broader question is whether a national standard or average is even a desirable benchmark in this context. Comparing the experiences of the left and pushed behind with aggregate or average outcomes reveals little about the consequences of pre-existing vulnerabilities and disadvantages on post-COVID outcomes.

A second option is the development of more disaggregated comparators, to see how the left and pushed behind are faring in comparison to how they would have been in the absence of the pandemic. This approach requires a sufficiently large sample of each disaggregated group of the left and pushed behind. Compared to the construction of a national average, this option is more feasible and likely to better isolate the implications of the pandemic on the vulnerable.

The second challenge with benchmarking is the choice of time points used as comparators. What point in time should be nominated as the 'pre-COVID' baseline for benchmarking? To better distinguish between the effects of COVID-19 itself and the subsequent lockdown, it makes sense to incorporate multiple reference points in both the pre- and post-COVID comparator periods. Moreover, looking at evolving trends in each of these periods makes sense, rather than simply static points in time.

The third challenge with benchmarking is the choice of the objects of comparison themselves. Given the objective of this edited volume to understand the implementation process of the SDGs during the pandemic, it makes sense to choose indicators broadly in the domain of socioeconomic development. This includes environmental and governmental dimensions. Common indicators of assessment include income, consumption habits, health, employment, education, living conditions, financial inclusion, digital infrastructure, and policy support.

Shocks and Their Transmission

The pandemic has precipitated covariant shocks at the global, national, sectoral, local, and household levels. It has affected global value chains, trade, prices, growth, migration, employment, and the finance sector – particularly given developing nations' relatively poorly diversified economy and export sectors.

Both aggregate demand- and supply-side shocks have been at play. Initially, supply-side shocks restricted the provision of goods reliant on complex global value chains during lockdowns and amidst cross-border restrictions (Triggs & Kharas, 2020). This has the potential to become a 'Keynesian supply shock' in which negative supply can cause reductions in demand (Guerrieri et al., 2020). Workers' lost income when businesses shut down reduces spending in every sector (Duarte et al., 2020).

There are also 'uncertainty shocks' to do with future epidemiological outlooks, the availability of vaccines, and the nature of the 'new normal'. It has been argued that around half of the forecasted output contraction relates to COVID-induced uncertainty (Baker et al., 2020). The psychological dimension of confronting a massive *Knightian uncertainty* – unknown unknowns – affects producers and consumers alike (Baldwin & di Mauro, 2020). Demand and uncertainty shocks are expected to linger longer than supply-side issues (Andersen et al., 2020; Islam & Rahman, 2020).

In some sectors, shocks and their transmission have been particularly serious. Health systems, even in most developed countries, have been pushed to the brink. With respect to its soft and hard infrastructures, Bangladesh's health system was unready and inadequate to deal with COVID and its interaction with other health

issues and comorbidities. The country's education sector saw an almost complete halt. Both the demand for and supply of informal labor have been affected. As a result of these shocks, many vulnerable groups faced additional axes and dimensions of vulnerability.

At the household level, there have been health shocks from the virus itself and increased expenditure of savings, loans, and sales of assets. Low-income households reduce consumption more significantly than affluent ones, precipitating greater consumption inequality (Finck & Tillmann, 2020). The threat of recurrent natural disasters only further affects vulnerable communities.

Interpreting the nature of these shocks and understanding their transmission mechanisms are critical to designing effective policy interventions that accurately target the left and pushed-behind population groups.

Adjustments, Adaptations, and Resilience

If identifying benchmarks to measure the exposure of the left and pushed behind to pandemic-induced shocks is the first step, understanding how individuals, households, and communities respond to these shocks is the second. In the context of the pandemic, considering shock responses entails both immediate adjustments and adaptation strategies, as well as the longer-term journey toward recovery and resilience.

Immediate adjustments

Immediate adjustments to shocks are often conceptualized as coping mechanisms. These are short-term remedial actions and adjustments made by actors whose survival and livelihood have been imminently compromised or threatened (Davies, 1993; World Health Organization [WHO], 1998). Coping entails reactive, immediate, ad-hoc, and temporary adjustments guided by a shorter-term vision of survival and mitigation of shock impacts (CARE, 2009; United Nations Office for the Coordination of Humanitarian Affairs, 2012). Adjustments arising from coping mechanisms may lead to inefficient use of resources or their depletion. This implies less control over a situation than its 'management', and is typically geared toward smoothening consumption (WHO, 1998). Coping strategies also vary across socioeconomic, demographic, and geographical contexts and are influenced by prior experience. Immediate adjustment strategies also become more drastic in line with the scale of the shock (Partnership for Economic Policy [PEP], 2011).

Previous and nationally representative research in the Bangladeshi context has found that household coping strategies against (mostly) idiosyncratic shocks include reducing both essential and non-essential consumption and the use of savings, loans, asset divestment, and community, government, and NGO support (Santos et al., 2011). In the case of severe economic shocks, a reduction in essential consumption was the most common response in poorer households. Savings and borrowings were more commonly utilized to address health- and asset-related shocks. Rural households were more likely to rely upon coping mechanisms that could negatively affect their welfare, such as the depletion of assets. In these

communities, whether households adopt potentially harmful coping strategies depends on access to microcredit, remittances, and the ability to engage in non-farming economic activities (Osmani & Ahmed, 2013).

At the pandemic's outset, vulnerable poor households' most common coping strategy was to use savings, borrowings, and grocery shop credits and adjust food consumption. While coping through adjusting food consumption was moderated over time following the end of the lockdown, these practices were not entirely reversed. Social and institutional support to facilitate coping was minimal during this time (Rahman et al., 2020).

Rapid surveys on several population groups – low-income professionals, CMSME entrepreneurs, indigenous communities, persons with disabilities, sex workers, and transgender communities – yielded important observations about immediate coping strategies. Besides accessing savings and borrowings, affected groups also reduced food expenditure and curbed their intake of protein and other nutritious foods (ADD International, 2020; BRAC, 2020; Chakma, 2020; Islam & Rahman, 2020; Rahman et al., 2020). Households may have also resorted to taking children out of school, exposing them to child labor or early marriages to ease economic stresses (Campaign for Popular Education, 2020).

The reality that COVID-induced shocks are new and uncertain makes it difficult to assess the timeframe or vision against which existing coping strategies can – or ought to be – continued in a sustainable manner. As the discussion above has illustrated, coping mechanisms, as short-term adjustments, can have negative implications for welfare in the long run – particularly via the disposal of otherwise productive assets. There are also long-term implications to reduced protein intake or discontinued education. Both courses of action can have severe consequences for the long-term growth and skills development of children and youth. With recurring pandemic waves, discussions on adaptive measures targeting the reality of the 'new normal' have become pertinent.

Adjustment to Adaptation

Adaptation is more often used in development discourse to describe longer-term responses to shocks related to climate change and natural disasters (Ayers & Dodman, 2010; Huq & Reid, 2004; Schipper, 2007). Thus, utilizing the idea of *adaptation* in the current context of the pandemic could refer to longer-term changes in 'natural or human systems' in response to actual or expected effects of COVID-19-induced shocks, 'which moderates harm or exploits beneficial opportunities'. Adaptation involves longer-term and more efficient usage of resources through more anticipatory, planned, and proactive actions, which may be constrained by short-term and immediate adjustments required to address the initial consequences of shocks. Adaptive actions are calibrated to build adaptive capacities, thereby achieving more sustainable outcomes for individuals, households, and communities (CARE, 2009).

In the COVID-19 context in Bangladesh, adaption to climate change and natural disasters sits in an ongoing and complementary relationship with adaptation efforts

aimed at the shocks arising directly from the pandemic. Such comingled adaptation strategies are also in the interest of the overall Bangladeshi economy. This implies that to be effective, adaptation to COVID-19 – like adaptation to climate change – will also have to be a continuous process with provisions to evolve, innovate, and adapt to changing circumstances. It is also important that adaptation does not solely center on directly affected actors. Because of their scale and temporality, adaptation efforts also require more social, institutional, and structural support, compared to coping and adjustment measures. Involving a multiplicity of actors in this process creates more structural and longer-term opportunities to 'build back better' (Hu & Hassink, 2017).

The departure point for the more comprehensive and longer-term process of 'adaptation' is addressing the sources of vulnerabilities of the left and pushed behind. Evidence suggests that existing vulnerabilities inhibit the taking of adaptation actions. As such, vulnerable communities are at a greater risk of further marginalization – and induction into different types of vulnerabilities – through the adaptation actions of others. Addressing structural vulnerabilities, manifested in issues such as poverty and building capacities to address adaptation deficits, can be understood as modes of adaptation (Duncan et al., 2017, as cited in Tompkins et al., 2018). Indeed, the 'transformative' adaptation concept further highlights the relevance of good governance, social capital, and effective and inclusive adaptation strategies in addressing inequality – or the absence of these things in propagating it (Farber, 2007).

Although there exists a consensus on the need for adaptation itself, capturing and describing the necessary extent of adaptation is difficult. This involves challenging questions and conceptual and empirical ambiguities around who is adapting and who drives adaptation. While it may still be too early in the pandemic to assess adaptation actions, household-level queries should embed elements of adaptation actions.

Adaptation to Recovery and Resilience

Resilience to and recovery from shocks are best thought of as extensions of the processes of adjustment and adaptation. A successful adaptation process can lead to a capacity for adaptability, which is conducive to better resilience and recovery. In the long term, adaptability is the constructive capacity to change and transform communities in ways that make them more robustly resilient (Hu & Hasskink, 2017). This is significant to the 2030 Agenda for Sustainable Development and its call for transformative change. Besides having explicit targets around resilience, the 2030 Agenda is a framework embodying the very notion of resilience, particularly for the left and pushed behind.

Much like adaptation, resilience most commonly appears in development literature in relation to climate shocks and the risks of natural disasters. Resilience is defined as the ability of nations, communities, and households to 'manage' change by 'maintaining' or 'transforming' standards of living when faced with shocks, but without forgoing long-term welfare when faced with shocks (Department for International Development [DFID], 2011). Resilience is often contrasted against

adaptation in that the former includes acquiring new capabilities to emerge stronger, whereas the latter focuses on preserving existing resources (Wong-Parodi et al., 2015).

Despite these scholarly discussions, there is no standard or consensus on conceptualizing and measuring resilience in the current literature. The concept of resilience may consider both capacities that enable people to be resilient and the outcomes of resilience itself in terms of development gains and improved well-being in the face of multiple shocks and stresses (Bahadur et al., 2015). In the context of COVID-19, resilience thus entails attaining capacities through transformations and changes that enable systems (including individual and household ones) to absorb and cope with shocks, adapt to the adversities of shocks, and anticipate future ones to reduce their impact. However, there is a need to account for the implications of such transformation on aspects of inequality and negative externalities.

A concept that operates in tandem with resilience is recovery. The literature defines recovery from a crisis as the sustainable restoration of pre-crisis conditions, an improvement upon pre-crisis conditions, or such improvement coupled with increased resilience (PEP, 2011). The last definition aligns with the narrative of 'building back better'. In understanding and assessing recovery from COVID-induced shocks on the vulnerable, it is important to state clearly what a successful recovery and the attainment of resilience looks like.

To revise the conceptual question raised above, there are challenges in choosing benchmark comparators and measuring what recovery means for old and new vulnerable populations. Do resilience and recovery entail returning to vulnerable states that existed before the pandemic? Or does it entail coming out stronger from the experience to possess resilience against future shocks? What dimensions of recovery are comparatively difficult to achieve because of the lasting effects of shocks – such as on nutrition, mental health, or education? Observing and understanding the macro implications of recovery at the household level will also be vital. Does recovery in the latter context translate into macro-level improvements in terms of trade, remittances, debt sustainability, and growth?

Whatever yardsticks and benchmarks are chosen to assess recovery from this pandemic, it is essential to note that measures of success will ideally vary between different vulnerable groups. This is because success at different stages of coping – adjusting and then adapting – that lead to resilience and recovery should be interpreted as a combination of individual or group characteristics and the tailored opportunities made available to them.

This discussion has elucidated the conceptual categories needed to help understand the impact of an unprecedented event like COVID-19, and how such an event is handled. Figure 2.1 summarizes these categories in chronological order. This graphical depiction may appear to focus more on individual efforts. However, institutional support and public policies play a key role in each stage of the process. The section following this, therefore, focuses on the role of public policy in defining a coping strategy and achieving recovery for the vulnerable in the face of the pandemic.

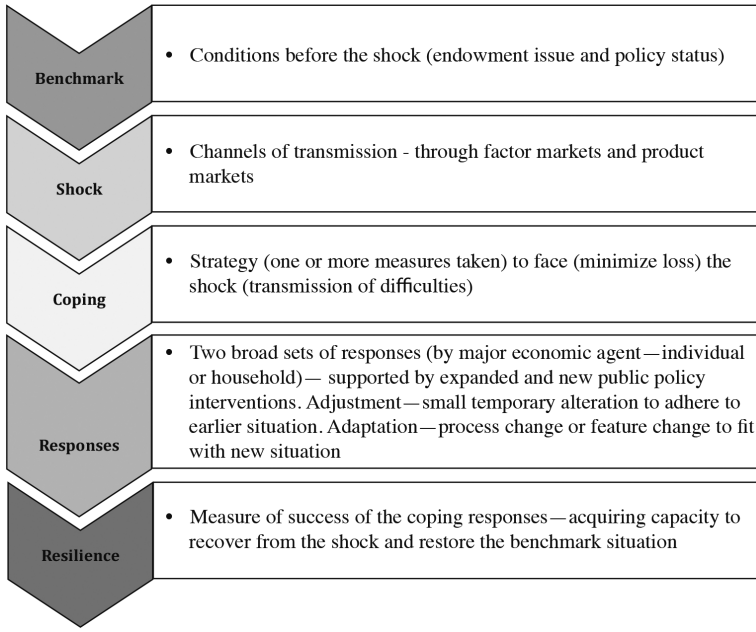

Figure 2.1 Conceptual Categories to Analyze Household-Level Impacts and Responses
Source: Based on authors' deliberations.

Public Policy Interventions

One major systemic driver of the marginalization of vulnerable population groups in Bangladesh is how overlooked they are in public policy domains. This trend continued in the COVID-19 context. Policy responses – even when they are fairly targeted – are often riven with ineffective processes and outcomes. The general and targeted public policy responses to the country's macroeconomic impacts of the pandemic will be discussed in detail elsewhere in the volume. This section instead highlights the relevant aspects of assessing the effectiveness of public policy interventions in response to a shock like COVID-19.

The discourse on effectiveness in policy interventions is vast and inconclusive. The concept itself has evolved over time, going beyond the previously understood and quite limited definition of attaining specific policy goals (Nagel, 1986). Rather, it now encompasses articulating policy problems, identifying alternative solutions, and designing deliberate policy actions. 'Effectiveness' can now refer to both effective processes and successful policy outcomes (Mukherjee & Bali, 2019). There is also a consensus in the literature regarding the need for context-specificity in policies (Howlett, 2018).

When assessing the ex-post effectiveness of COVID-19 public policy interventions in Bangladesh, three forms of policies are relevant: existing policies (such as safety nets) that continue in their original form; existing policies that have been

modified or expanded to fit new circumstances, and newly designed policies formulated specifically to respond to new shocks. Given the relatively short time elapsed since both the crisis and subsequent policy interventions, it is challenging to fully answer questions about impact evaluation and attribution. Rather, the aim is to track the fitness-for-purpose of policy interventions – particularly with respect to the left and pushed behind population groups. Several indicators contribute to this discussion.

Firstly, the appropriateness of policy instruments – as responses to and in proportion to the crisis at hand – needs to be assessed. For instance, has the increased focus on monetary instruments amid an already liquidity-crunched financial sector been a wise policy decision, or should more fiscal stimuli be preferred to counter lingering demand-side issues? Have institutional policies kept specific contexts and local realities in mind, or were they adopted from practices in Western countries? Assessing the aptness of programs requires delving into the responsiveness to shocks of existing and expanded social protection and safety net policies.

Secondly, the scale of policies must be assessed in proportion to the deficits caused by different shocks. This is a vital assessment criterion. This is precisely why estimating the impact of pandemic-induced shocks on different vulnerable and marginalized groups is also important.

Thirdly, policy design must be assessed based on the potential of policy interventions to meet the specific needs of identified target groups or beneficiaries. A precursor to this step is understanding the context-specific needs of different vulnerable groups.

Fourthly, whether policies are targeted to the neediest of vulnerable groups (thus prioritizing the furthest left or pushed behind), or indiscriminately address many income-poor groups must be considered. Such an assessment would require understanding which vulnerable groups have been most susceptible to the effects of COVID-19 and its consequences.

Fifthly, the quality of the policy implementation process, in terms of timeliness, speed, identification of beneficiaries, cost, efficiency, transparency, accountability, and attainment of intended deliverables, requires thorough scrutiny and evaluation.

Finally, assessment exercises remain incomplete without some way to measure the achievement of short-term objectives and medium-term outcomes.

Another avenue for improving and enhancing scholarly perspectives on the effectiveness of public policy implementation is to look at their purposive deployment at different stages of the coping process. The temporal dimension of this process is critical given that longer-term adaptation and resilience-focused policies are often at odds with policymakers' desire for instant results. Nevertheless, institutional support at each stage is crucial and in the interest of vulnerable populations. Criteria for assessing effectiveness in this context may include responsiveness, insuring against erosive coping in terms of deleterious short-term adjustments to measuring efficiency, flexibility, equity, consistency, capacity-building potential, and adaptability (which encompasses both adaptation and resilience).

Besides these rather observable and measurable assessment criteria, underlying and contextual political economy factors significantly impact policy interventions'

effectiveness. The following section details this issue and gestures at what an empirical investigation into these factors would entail.

Political Economy Dimensions

Discussions surrounding the effectiveness of COVID-19 public policy interventions remain incomplete without careful consideration of the encompassing political economy within which these interventions unfold. At the micro or group level (such as in households and communities) accounts of power, participation, and agency – particularly in relation to those left and pushed behind – are relevant. These concepts are important and intuitive but often less clear and difficult to measure. On the other hand, issues of political settlement at the state or national level bear upon the success of policy responses at the macro and micro levels.

Power, Participation, and Agency

In socio-political literature, power is understood, inter alia, as the ability to influence the conduct of others or to exercise one's will, realize one's interests, or control resources (Cairney, 2019; Greiner & Schein, 1988; Weber, 1922). In public policy discourses, discussions of power seek to explain the dynamics behind changing policies, resistance, or opposition thereto, and how unequal power between different groups results in disparate social outcomes. Scholars are also interested in the implications of power when it is elitist (i.e., concentrated among a few), or pluralist (diffused among competing groups in society) (Cairney, 2019).

The most common understanding of power innately assumes a negative 'power over' something, experienced as dominion. However, the concept can also positively connote the 'power to' exercise agency, effective choice, and the capacity to decide to act. It can also describe 'power with' (the ability to act collectively with others) and 'power within' (confidence in oneself to act) (Rowlands, 1997, 2016; VeneKlasen & Miller, 2002). Power is often seen as capability in rights-based approaches, and often by International Nongovernmental Organizations (INGOs) championing bottom-up transformations. However, this may also be complemented by top-down 'power over' approaches to empower the vulnerable and excluded populations (Chambers, 2008).

The notion of power is related to the concepts of participation and social change (Eyben et al., 2006). 'Visible' power, manifested in discriminatory laws and policies, can weaken the participation of vulnerable groups, but more 'hidden' forms of power exercised at different levels can also prevent participation at a more primary level (such as in setting policy agendas at the cost of disengaged groups) (Just Associates et al., 2006; VeneKlasen et al., 2004). Rights-based approaches to development regard participation in governance as a human right (Hickey & Bracking, 2005; McMurry, 2019; Theis, 2004; United Nations, 1966; United Nations Office of High Commissioner for Human Rights [UNOHCHR], n.d.). This conceptual treatment of power results in a more empowered understanding of engagement, compared with the notions of participation invited by policymakers. Indeed, advocating for more engaged participation from stakeholders entails a shift

in focus from audiences as consumers of policies as 'users' and 'choosers', moving instead to understand them as 'makers' and 'shapers' of policies that have direct implications upon their lives. In this regard, consideration of changing policymaking contexts is critical to help recognize the 'entry points' for vulnerable groups and civil society actors to work effectively and closely with policymakers. While equal participation is often impeded using vulnerability criteria to define relevant population groups, a lack of access to other human rights can also hinder effective participation rights (UNOHCHR, n.d.).

Citizens' participation in the policy process, as a manifestation of peoples' agency, is also a critical aspect of good governance (Cornwall & Gaventa, 2001; Mahmud, 2004). In sociology and political economy, agency is often understood as the ability and capacity to act independently, make free choices, and shape life conditions and trajectories – either individually or collectively in concert with others (Cole, 2019). The agency of individuals can differ with age, gender, income, education, social status, and many other dimensions – usually favoring the less vulnerable (Otto et al., 2020). The 'capabilities approach' to development understands the agency of individuals as instrumental in bringing about change in line with their own values via participation in economic, social, and political life and actions (Alkire, 2005; Sen, 2001). This view of agency also emphasizes that besides well-being, empowerment, participation, democratic praxis, and public debates are essential in fostering capabilities. However, the agency in practice is often expensive and not straightforward for chronically vulnerable people and communities. These people usually lack resources and face high trade-offs in exercising a political voice or gaining political representation. They may often be forced to give up their agency to protect subsistence livelihoods and cede security to more powerful and potentially exploitative political actors (Hickey & Bracking, 2005).

The foregoing conceptual discussion raises critical questions about the effectiveness of policy interventions in improving the political positions of the left and pushed behind in terms of their empowerment, representation, participation, and improved agency. Did imbued power dynamics underlying policy processes increase the participation of vulnerable people and groups in policies in which they had direct stakes? Did government responses revive, or worsen, the agency of women, children, and vulnerable youth? The COVID-19 crisis is rightly believed to entail a crisis of capabilities (Anand et al., 2020). As in the case of other diminished capabilities, did the pandemic and associated policy responses disproportionately reduce the positive freedoms and capabilities of the vulnerable? These are some of the queries that need to be considered in ground-level analyses of the pandemic.

Political Settlements

Responses to COVID-19 across nations have illustrated that the nature of political settlements, rather than a country's regime type (such as democratic or authoritarian), has shaped whether institutions have delivered 'in practice' or not (Fukuyama,

2020; Klienfeld, 2020). A political settlement can be defined as the underlying balance of power among competing elites and excluded groups within a society, which informs the distribution of economic opportunities by a set of institutions. Settlements can be observed both in the structure of property rights and entitlements as well as that of the state's regulatory environment (DFID, 2011; Di John & Putzel, 2009; Khan, 2010).

Democracies and authoritarian regimes in developing countries have both been among the best and worst performers in their responses to the pandemic. This illustrates that myriad factors related to political settlements determine the effectiveness of initial responses. These factors include the state's capacity to intervene competently, the trust of citizens, the legitimacy of political systems, political leadership of implementation, and previous experience in the management of epidemics and pandemics (Fukuyama, 2020; Kleinfeld, 2020). The crisis has also demanded more 'politically attuned' responses rather than simply 'best practice' approaches followed by other states. In these senses, country context, state capacity, and coalitions (national and international) have all been identified as critical elements of inclusive responses – in both dominant and competitive political settlements (Hickey et al., 2020).

The current political settlement in Bangladesh is characterized by a dominant, authoritarian-style party lacking inclusivity and relying upon coercion (Hassan & Raihan, 2017; Riaz, 2020). The ruling party has assumed power in three consecutive national elections since 2009. Domestic and international observers have often warned about the credibility of the last two election outcomes (Riaz, 2014, 2019). These claims have put pressure on the government to enhance its legitimacy in the eyes of citizens. The party also has influence over national and local bureaucracies and elected local government (Ali et al., 2021). Local elites and political groups often use the selection of beneficiaries and resource distribution under social safety nets as means to establish preferable political settlements (Revzi, 2020). Furthermore, a systemic class bias is apparent and has been reinforced in recent years by businesses and elites' capture of electoral politics and state policymaking processes. The dominance and collective power of readymade garments factory owners, as foreign currency earners and mass employers, are apparent (Hassan & Raihan, 2017; Khan, 2013).

Assessing this political settlement, Ali et al. (2021) have examined how the Bangladeshi state has responded to COVID-19 through control of political factions to strengthen its legitimacy among the masses. Following a reluctant official recognition of community transmission in the country, a lockdown was ordered, and a range of relief programs and stimulus packages were announced. However, compliance regarding restrictive rules was short-lived, along with diminishing faith in the efficacy of relief measures and their implementation. Non-cooperation from local administrations and unwanted intervention of local influential people were identified as major challenges that hindered relief work and essential service delivery by grassroots organizations (Citizen's Platform for SDGs Bangladesh, 2020). Consequently, enforcement of lockdown orders was slowly and tacitly withdrawn, culminating in an official end despite rising case numbers. This was perceived as the

state's prioritization of sustaining legitimacy and the livelihoods of the poor – amid failures to overcome weak capacities – over national public health concerns (Ali et al., 2021).

The Effective States and Inclusive Development framework identified Bangladesh as having a narrow social foundation with a high-power concentration. Such political settlements, by definition, are likely to possess substantial coercive potential and rather small health sectors with elite biases. Due to a lack of legitimacy, citizens are more likely to disobey public health directives and regulations if they impede their economic activities. As such, inclusive responses from development partners in such settlements would entail supporting the government in quickly rolling out innovative social protection modalities targeted toward marginalized population groups. Moreover, diplomatic influence should be channeled toward reducing state repression (Kelsall et al., 2020).

What emerges strongly from this political economy lens on the pandemic is that the current context in Bangladesh is far from optimal for the left and pushed behind. They are struggling to thrive amidst the pandemic and to combat its multifaceted repercussions. Have exclusionary national and local political settlements and ensuing uncertainty decreased vulnerable peoples' faith in state apparatuses and increased their dependence on market apparatuses? A more nuanced understanding of these issues will be critical to comprehending the coping process of vulnerable groups and the required interventions at different levels. This will be important to enable resilience and sustainable recovery for the left and pushed behind and to highlight the support required at community levels and through non-state channels.

Choices and Challenges for Research Design

The above sections have highlighted an array of conceptual and analytical issues relating to the COVID-19 pandemic and the measurement of its effects and consequences upon the left and pushed behind. They provide the necessary guidance to develop an empirical research program grounded on nuance and disaggregation to effectively map and understand the immediate, short- and medium-term development concerns emerging from COVID-19. This framework will form the empirical basis for the work of the following chapters, allowing robust recommendations to be made that can objectively guide policy interventions by state and non-state actors. The forgone discussions essentially underline the following nine steps to build a framework for an empirical approach.

First, identify the research problem and frame research questions. The present volume seeks to first frame a research problem in a way that can effectively trace the impacts of the COVID-19 pandemic and responses thereto on the left and pushed behind population groups.

This broad goal was required to be transformed into a set of relevant research questions. Consistent with the above analyses, a broad-based participatory research approach has been chosen to develop these questions. Consultation processes have engaged a wide range of stakeholders, including academics, think

tanks, development professionals, and real people affected by the pandemic. These consultations have been complemented by an extensive review of the existing literature and rapid survey reports, policy documents, and thought pieces. This process has assisted in identifying lacunae in the literature, mapping the interests of critical stakeholders, and initially appreciating and understanding on-the-ground realities.

Second, define important concepts. The concepts of vulnerability and our taxonomy of coping mechanisms (from adjustments to adaptation through to resilience) have been explored and explained above. We believe that clarifying these concepts from the outset limits the possibility of ambiguity and ensures fulsome interlinkage with established theories and existing policy analysis and intervention modes. We acknowledge that these conceptualizations are irrevocably shaped by the prevailing country context in Bangladesh and by the gravity of the development challenges that are the subject of this edited volume.

Third, distinguish the target groups of research. This is critical to effectively illustrate the effects of the pandemic and responses thereto on the most vulnerable. This is the purpose of the twin conceptualizations of the left and pushed behind, respectively. While some other studies have spoken of and recognized the emergence of a 'new poor', this volume advocates for the importance of a more granular understanding of vulnerability – one which moves beyond income and consumption criteria and recognizes the complex and interrelated challenges faced by the vulnerable.

Fourth, recognize the critical development needs of the left and pushed behind population groups. As introduced above, these development needs fall into four dimensions: health, economic, social, and climate. Health needs are particularly significant considering the nature of the COVID-19 pandemic. Interrelated political, social, and economic vulnerabilities impede access to healthcare (or render the delivery of healthcare less effective) for the left and pushed behind.

There is also a range of economic and social challenges experienced by the vulnerable amidst the pandemic, which have emerged as distinct policy problems outside the health domain. Some key economic constraints include reduced demand for labor, production, and service; higher production and operation costs; increased interest rates; restricted finance distribution channels; reduced savings; increased debts; maintaining consumption amidst rising consumer goods prices; and financial access to proper nutrition.

Equally, some social restraints faced by the left and pushed behind include access to education, including transport, infrastructure, learning facilities, and digital literacy modalities; access to shelter; weakened gender rights brought about by domestic violence and work burdens; restricted mobility; the provision of personal security and concomitant lack of law enforcement; access to legal support and justice outcomes; and access to religious services.

Climate change also looms as a critical and unmet development need of the vulnerable. Even before the emergence of the pandemic, climate change had represented a critical and challenging vulnerability for the left and pushed behind. The pandemic has only accentuated pre-existing vectors of marginalization and

vulnerability for these groups. However, the scale of this vulnerability has grown to include women, children, and persons with disabilities in new areas – not just in the areas that typically bear the brunt of climate change. For these reasons, the contributors to this volume are careful to consider the implications of exposure to a broader range of climate-related risks, as well as the progress of mitigation and adaptation efforts.

Fifth, trace key public policy interventions to combat COVID-19 and its effects. The outbreak of the pandemic forced countries to rapidly design policy interventions to counter newly emergent pitfalls and challenges. These policy responses have included specific measures such as supporting people in need of food and income. There have also been several interventions in the form of economic stimulus packages. These packages have variously employed fiscal and monetary instruments – separately or in concert through hybrid policies and institutional mechanisms. This volume seeks to carefully disaggregate and explore the nuances of public policy interventions and their impact on the left and pushed behind. Their stated objectives, scope, choice of instrument, and institutional mechanism must all be explored. Also, administrative capacity, timeliness, and 'good governance' principles should be considered. While it is common for policy interventions to be designed and delivered within existing institutional frameworks, addressing the needs of the left and pushed behind often requires 'thinking outside of the box'. Public policy interventions must be assessed against their ultimate failures and successes and their impact on prevailing political settlements.

Sixth, consider the relative priority of short- and medium-term development objectives. This is partly because of the extreme degree of uncertainty attached to the COVID-19 pandemic. In such circumstances, the focus on safeguarding a sustainable turnaround in immediate health, economics, and social domains is understandable. However, it is even more critical that the already left and pushed behind are effectively included in the journey of recovery rather than being pushed further behind. As such, the focus on short-term concerns must be accompanied by a drive to 'build back better' through recovery, resilience, and rebound.

Seventh, have clarity regarding the data needed to delineate the scope of the research. This entails reliance on quantitative and qualitative data from multiple sources, including primary data collection through surveys carried out at the household level. The survey design should reflect and capture the reality that the left and pushed-behind population groups are often very small and spread out. The design must, therefore, adopt micro approaches to identify target groups for purposive sampling and supplement with satellite cluster surveys where possible.

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3 Macroeconomic Impact and Policy Implications

Debapriya Bhattacharya, Towfiqul Islam Khan and Mursalin Hossain Rabbi

Introduction

While Bangladesh was still tackling the serial effect on its macroeconomic and socioeconomic indicators from the first wave of the COVID-19 pandemic in March 2020, the second wave arrived with a greater impact on health in March 2021. Within the South Asia region, Bangladesh has had the third-highest number of cases of infections and deaths, placed below India and Pakistan. The health impact of the COVID-19 pandemic on Bangladesh has been moderately high compared to other least-developed countries (LDCs). However, the country has shown some resilience compared to its neighboring and LDC counterparts (Bhattacharya & Islam, 2020).

Like other nations, Bangladesh opted for measures related to restricted mobility to tackle the spread of the virus. As a result, the pandemic has been exerting pressure on the economy through both global and domestic shocks, leading to an economic slowdown.

In the fiscal year July 2019–June 2020 (FY2020), Bangladesh experienced a diminished but positive GDP growth rate along with an initial fall in the export revenue, foreign direct investment (FDI), and remittance inflow, particularly from March to May 2020 (Bangladesh Bank, 2021; Ratha et al., 2020a; World Bank, 2021a). At the same time, the economy generated lower tax revenues. This explains why the fiscal deficit increased even though the implementation of the public expenditure program slowed down.

The pandemic shocks seriously halted Bangladesh's decade-long socioeconomic progress and dented its achievements in the area of Sustainable Development Goals (SDGs). As a result, fragile progress was achieved in the areas of extreme poverty, health, and education, and the gender gap was undermined. Moreover, income inequality and youth unemployment, which were already in a negative trend, were exacerbated (Centre for Policy Dialogue [CPD], 2020a).

Studies have further indicated that the economic impacts have disproportionately affected the traditionally disadvantaged 'left-behind' communities and created a sizable newly vulnerable population, i.e., 'pushed behind'. This also contends that the economic impacts would stay longer than the health impacts.

To the credit of the Bangladeshi government, it rolled out several support packages two weeks after the detection of the first case of the virus. The packages were a combination of expanded pre-existing programs and new measures. The four types

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of economic measures included (i) an increase in public expenditure, (ii) fiscal and financial incentives for the private sector, (iii) infusion of more liquidity in the market, and (iv) expansion of social safety net programs (International Monetary Fund [IMF], 2021a). Even though Bangladesh's early move to launch the support packages was in the right direction, it was inadequate. Moreover, the preponderance of monetary measures and fiscal measures was also a rule of contention.

Furthermore, the country's economic recovery pattern was considered uneven between the two waves. It is reckoned that the support measures favored the large export-oriented industries and the service sector while neglecting the cottage, micro, small, and medium enterprises (CMSMEs) and marginalized groups at bay. As a result, a few sectors have recovered faster than the others. This has subsequently indicated a K-shaped[1] recovery for Bangladesh (CPD, 2021). The rapid recovery can be observed through the turnaround of exports and a surge of remittance inflow, even though the FDI inflow is relatively stagnant. In addition, employment restoration has had an effect, but with low income, under-employment, and distress in CMSMEs. This, in turn, has resulted in further informalization of the economy.

It is widely agreed that the pandemic's unprecedented health and economic crisis must be addressed through a countercyclical expansionary fiscal policy. This would entail both creating an investible surplus by providing tax and tariff rebates on exemptions and enhancing public expenditures (partially direct cash transfer) to support consumption and expenditure at the household level (Citizen's Platform for SDGs, Bangladesh, 2021). However, the ability to implement a substantive fiscal measure is contingent on the availability of fiscal space in the country's budgetary framework. Bangladesh faces a narrow fiscal space as it confronts the fallout of the pandemic. Needless to say, to build back better, the authorities need to accelerate spending in order to save lives and support livelihoods. This ability, in its own turn, determines the prospects of human capital formation, social protection, and economic growth. In this context, exploring the fiscal limits in pursuing pandemic-mitigating policies as well as their economic outcomes became a critical policy question.

In view of the above, the study aimed to identify the policy options available for Bangladesh to design a recovery strategy for 'building back better' by assessing the impacts of the pandemic. The narrative study of this chapter is based on the review of the existing literature and results of the post-pandemic household survey. The key findings of these studies were used to determine the impacts of COVID-19 on macroeconomic variables as well as the implications of the pandemic at a disaggregated level.

Capturing the Macroeconomic Impacts of COVID-19: An Analytical Framework

The study's analytical framework drew on the concept of the availability of fiscal space and the implications of enhanced public expenditure in response to the COVID-19 shocks.[2] As a countercyclical measure, the government will have to spend more on support interventions, and accordingly, it will need more expandable resources. The government will also need to explore what type of resources it

will need, what the challenges involved are, and what it means for macroeconomic and other socioeconomic indicators.

COVID-19 Shock and the Importance of Fiscal Space for Policy Response

In the context of Bangladesh, limited mobility, economic activity slowdown, and a fall in global demand have channeled shocks to the economy by reducing the merchandise trade and external finance flow (e.g., FDI). When the external demand worsens, the government needs to augment the domestic demand using a fiscal multiplier to restore aggregate demand. In that regard, the government needed to provide cash transfers to people with a high marginal propensity to consume and invest. Moreover, given the context of the pandemic, additional public expenditure on health and education is also needed.

Under these circumstances, enhancing the fiscal space to pursue a countercyclical measure is critical. This entails increasing public expenditure and providing tax and tariff rebates at the same time. Fiscal space means room for additional resources in the government's budget, which allows the government to allocate the resources to the desired and required sector without risking the stability of the economy (Heller, 2006).

According to the British economist John Maynard Keynes, if an economy faces any negative shock, the economic downturn will persist for a longer period with low private investment and high unemployment. Therefore, the government should adopt deficit spending to revive consumer spending and investment scenarios. Moreover, a large amount of public spending is recommended in the current crisis for a better economic recovery.

Socioeconomic Implications

Despite Bangladesh showing some recovery after absorbing the pandemic-induced shock in the macroeconomic sector, the country's socioeconomic shock may persist. The negative impacts of the pandemic have undermined the country's decade-long progress and its five years of achievement of SDGs. Moreover, some of that progress is moving in a reverse direction (World Bank, 2021b).

The pandemic has significantly impacted various economic, social, and environmental dimensions in many ways. The impacts of the pandemic can surely be traced beyond traditional economic correlates and found in socioeconomic and environmental domains. Several studies on the ongoing pandemic have presented critical implications in this regard using household survey information. These areas and related policy implications concerning the two policy measures discussed in the preceding section are discussed below.

Economic Growth Remained Resilient

Bangladesh experienced a diminished but positive GDP growth rate in FY2020. All projections indicated an improvement in FY2021 compared to FY2020 (World

Bank, 2021a). Export recovery, strong remittance rebound in the third quarter of 2020, and a stable inflation rate were the key reasons for the improved projection for FY2021 (Asian Development Bank [ADB], 2020). In June 2020, the national target was set to an 8.2% GDP growth rate for FY2021 (Ministry of Finance, 2020). In December 2020, the central bank projected it to be approximately 7.4% (Bangladesh Bank, 2020). In August 2021, the National Statistical Office of Bangladesh released the provisional estimate of the GDP growth rate for FY2021 as 5.5%. In 2022, the final official estimate of the GDP growth rate for FY2021 was released, which was 6.9% at constant prices with a revised base year (FY2016). More precisely, at a time when the economic growth rates of many countries slipped to a negative rate, the economic growth rates in Bangladesh remained relatively strong. The government has set a GDP growth rate target of 7.2% for FY2022. Although the government expressed optimism about the recovery of the GDP growth rate, the socioeconomic fallout has been channeled through unemployment, income loss, increasing poverty, declining health service and education attainment, increasing gender gap, and vulnerability to natural disasters.

Poverty Appeared to Rise

The employment loss as well as the income shock during the lockdown pushed 77% of the vulnerable non-poor[3] below the poverty line in April 2020 (Power and Participation Research Centre [PPRC] & BRAC Institute of Governance and Development [BIGD], 2020a). It is expected that after the restart of the economy, these people may recover from the vulnerable state of being the new poor. However, after lifting the general public holiday, a very meager share of the population has escaped from the vulnerable state of being the new poor (PPRC & BIGD, 2020b). The new poor[4] have been created due to income reduction and unemployment, which, in turn, pushed the poverty rate upward. Even before the second wave emerged, the pandemic had already pushed 14.7% of the country's population (approximately 24.5 million) below the poverty line (PPRC & BIGD, 2021).

It is, therefore, evident that the pandemic has undermined Bangladesh's progress in poverty reduction. More precisely, the poverty rate was projected to increase from 24.3% in 2016 to 35.0% in 2020 (CPD, 2020a). Moreover, the extreme poverty rate was projected to increase more than three times in 2020 compared to that in 2018 (South Asian Network on Economic Modeling [SANEM], 2021). Another projection estimated that the extreme poverty rate would rise from 11.9% to 18.9% in 2020 and slightly decline to 17.9% in 2021 (World Bank, 2021b). However, the projection did not incorporate the second wave and the subsequent lockdown.

Employment Situation Worsened

The pandemic has affected employment negatively through restricted mobility, supply chain disruption, demand reduction, and closure of tourism and business entities. Approximately 13 million vulnerable individuals were at risk of losing their employment during the first wave (Citizen's Platform for SDGs, Bangladesh,

2020). The workers in the informal sector were more severely affected because they had no opportunity to work remotely or had to stay home (International Labour Organization [ILO], 2020a). During the first lockdown period, the informal sector of Bangladesh might have experienced a colossal job loss, amounting to approximately 12.4 million (United Nations Economic and Social Commission for Asia and the Pacific [UN ESCAP], 2020). Importantly, informal sector workers comprise about 85% of the total labor force, and women's participation in the informal sector is relatively higher than that of men (Bangladesh Bureau of Statistics [BBS], 2019).

From February 2020 to February 2021, on average, 4% of weekly working hours declined (Rahman et al., 2021). Although the recovery of employment started after absorbing the initial shock, it was accompanied by the cost of income cuts as job seekers moved to agriculture and informal sectors with lower wages, indicating a reverse transformation of the economy (Rahman et al., 2021). Furthermore, approximately 1.1 to 1.7 million youths in Bangladesh might have lost jobs in 2020 due to the COVID-19 pandemic (ADB & ILO, 2020).

Loss of Income and Employment Went Beyond Urban Areas

During the first wave of the pandemic in April and May 2020, job loss was exceptionally high. According to Rahman et al. (2021), approximately 62% of employed people in the pre-COVID-19 period lost their employment at some point. While most of them could find some jobs during February 2021, when the infection rate was manageable before the second wave, the average income was still approximately 12% lower. Although the loss in income in urban areas was higher, the loss in income in rural areas did not lag considerably. More specifically, in rural areas, agriculture, wholesale retail, and the transport sector were the hardest hit even before the emergence of the second wave. Along with these three categories in the urban areas, the construction, accommodation, and food services activities also suffered the most brutal blow (Rahman et al., 2021).

For many households, the current income does not sufficiently cover current expenditure. Therefore, the households have to deal with their financial hardships by reducing expenditure, particularly on health and education, withdrawing savings, adjusting consumption patterns, particularly through food consumption, borrowing and selling property, and involving themselves in jobs that require lower skills and lower wages (Bhattacharya et al., 2021).

Indications of Reverse Structural Transformation: From the Modern to the Primary Sector and from High-Skill to Low-Skill Employment

During the first year of the pandemic, there was a substantial shift of employment from the services sector to the agriculture sector, implying both a reverse migration from urban to rural areas and from modern economic sectors to primary economic sectors (Rahman et al., 2021). Employment in the pandemic era leaned toward the low-paying informal sector with a trend of growing hidden unemployment.

Higher Informalization and Higher Income Loss in Women's Labor than That of Men

The household survey conducted by Bhattacharya et al. (2021) found that female-headed households, mostly dependent on informal sector employment and overseas remittances, faced an 18% reduction in income,[5] where 76% of female-headed households had trouble meeting their regular expenditure with the income during the pandemic. According to Rahman et al. (2021), the average monthly income fell to a greater magnitude for women in the first year of the pandemic between February 2020 and February 2021. The situation is more acute in rural areas, where more women have joined the labor market to support the declining household income and have created downward wage pressure. Women aged between 30 and 64 years are suffering the most compared to women from other age groups and men of the same age group. Furthermore, the incremental share of self-employment and contributing family members for women is also higher than that of men (Rahman et al., 2021). This indicates greater informalization for females compared to males. Although the simulation could not generate a female disaggregated outcome, improving household consumption and factor return will also promote female labor and female-headed households. The wage increase will work for both male and female laborers. Moreover, overall household income and consumption improvement will passively benefit women in the context of education attainment, skill improvement, and participation in the labor force.

Youth Freshly Entering the Labor Market Faced Higher Challenges in Finding a Proper Job

In a demographic context, youth labor has encountered severe challenges. The pandemic has had negative impacts on the youths' education, training, and recruitment. It has become harder for the youths to find employment matching their skills and wage demands (Bhattacharya et al., 2021). To cope with household income reduction, youths must enter the labor market with premature skills and education. The surge in the labor force participation of youths aged between 15 and 29 is the highest compared to other groups (age group 30–64 and age group 65 and above), as found by Rahman et al. (2021). Moreover, the surge is more considerable for the rural male labor force.

With the surge in labor force participation, the monthly income has declined for the youth. In rural areas, youths aged between 15 and 29 faced a 10.1% negative growth in their average monthly income. In urban areas, the figure was 9.6% (Rahman et al., 2021). This indicates that the rural youth labor force is suffering more. Accordingly, it is also critical to provide more public funding to education to retain young people in the education system.

Methods for Enhancing Fiscal Space

Theoretically, a government can create fiscal space through mobilization of additional domestic resources, reprioritization of public expenditure structure, review of subsidy allocations, domestic borrowings from the bank and other sources, the

printing of new currency, i.e., seigniorage, and through external finances such as grants and loans (Heller, 2006).

Revenue Mobilization

The government can increase the fiscal space by improving and strengthening tax administration, tax collection, and tax policies. It is unrealistic to increase the tax-GDP ratio during the pandemic; rather, the government has to provide some tax relief to the private sector to increase their investible surplus. However, the tax-GDP ratio in Bangladesh has always been below 10%, which is below the developing countries' average.

Reprioritizing Public Allocation

The government can create fiscal space through reprioritization of the public allocation in different sectors. Reducing the allocation for the lower priority sectors will enable allocation to the sectors that require it more.

Reformation of Subsidy

The government can plan the reformation similar to the reprioritization of public allocation to different sectors. It can replace or reduce subsidies from the costly sectors (e.g., energy) or programs and provide subsidies to sectors (e.g., health, social safety net) that have been affected more by the pandemic. However, in both FY2020 and FY2021, budgetary allocation for the health sector was not prioritized. In contrast, physical infrastructure development was one of the key priorities in terms of budgetary allocations (CPD, 2020b).

Borrowings from Domestic Sources

The borrowing can be done through both channels: domestic banks and non-banks. Excessive public domestic bank borrowing may create a liquidity shortage in banks and generate a crowding-out effect.[6] It should be noted that borrowing from both sources is subject to future repayment. In FY2021, the government financed 63.2% of the budget deficit through domestic borrowing, of which 25.2% was from domestic bank borrowing and the rest from non-bank borrowing.

External Borrowing (Grants and Loans)

Besides borrowing, foreign grants, concessional loans, and other external assistance can create fiscal space. It must be taken into account that the external assistance may be a one-time payment. However, some sectors may need multiple-period support. Therefore, external assistance through multiple periods is required for a sustainable fiscal space. In FY2021, the government accumulated 36.8% of the total budget deficit through net foreign borrowing.

Printing New Currency (i.e., Seigniorage)

By printing new currency or seigniorage, the government can create extra liquidity as well as fiscal space.

Opportunities and Challenges for Expanding Fiscal Space

In the context of Bangladesh, there are some opportunities to adopt countercyclical expansionary fiscal policies with a higher fiscal deficit. In addition, there are some challenges associated with increased budget deficits. The opportunities and challenges within the macroeconomic context are presented below.

External Borrowing, Including Public Debt, Has Been Good

According to the World Bank and the International Monetary Fund (IMF), the public debt was projected to be over 40% of GDP in FY2021. The debt-GDP ratio of FY2021 stood at 39%. The gross public debt was suggested to be kept below 40% of GDP (IMF, 2010). IMF portrayed an optimistic scenario by projecting public debt to decline from FY2022 (IMF, 2021b). The World Bank's projection is rather harsh. It shows that there would be a gradual rise in public debt (World Bank, 2021b).

Positive Balance of Payments

The overall balance registered a hefty surplus, to the tune of USD 9.3 billion. Even though the FDI has faced a blow, the positive scenario of the forex can be attributed to the export recovery, a drop in imports, and a surge in remittance inflow. From April 2020 to May 2020, merchandise export suddenly dropped due to the cancellation of export orders for apparel. However, the export performance started to quickly improve from June 2020 with a faltering recovery path. In FY2021, growth in merchandise exports was 15.1%, whereas import payments increased by 19.7%. There was an initial fall in the remittance inflow during April and May 2020. However, an extraordinary surge from FY2020 to FY2021 occurred (10.9% to 36.1%) because of the diversion of flow from the informal channels to formal channels. This can be attributed to the global travel restrictions and a 2% incentive imposed by the government for transferring money through the formal channel (Ratha et al., 2020b).

The FDI inflow in Bangladesh experienced an overall 40% negative growth in FY2020. In particular, the country's greenfield FDI inflow observed a colossal fall in 2020 (ILO, 2020b). However, the improved balance of trade and remittance surge posed a positive balance of payment as of April 2021. The FDI inflow experienced highly insignificant but positive growth from FY2021 (4.8%).

High Forex Reserve and Stable Exchange Rate

The positive balance of payments helped Bangladesh exhibit a healthy foreign exchange reserve (USD 46.1 billion) as of FY2021. It included an import payment

coverage of seven and a half months. The exchange rate was relatively stable during the pandemic and remained at approximately BDT 85 per USD.

Low Inflation Rate

Bangladesh has managed to control the inflation rate during the pandemic. The inflation rate remained between (approximately) 5.2 to 5.6%, while the point-to-point inflation remained between 5.8 to 6.0% throughout the period of FY2021.

Fiscal Deficit Still Modest

The budget deficit as a percentage of GDP in FY2020 (6.1%) surpassed the programmed level (5.7%). The fiscal deficit was surprisingly low in FY2021. Against the target of 5.4% of GDP, the actual budget deficit was only 3.7% of GDP. This was largely due to the inability to deliver the programed budget. Total expenditure was only approximately 80.9% of the annual target, whereas, for revenue mobilization, the corresponding figure was approximately 86.9%.

Stagnating (If Not Falling) Revenue-GDP Ratio

Although Bangladesh has achieved relatively higher economic growth among the South Asian countries, the country portrays a sorry figure in terms of the tax-GDP ratio. The tax-GDP ratio in FY2022 was only 7.6% of GDP, whereas the revenue-GDP ratio was only 9.3%.

Low Absorption of Foreign Assistance

The utilization of foreign assistance has remained low. By April 2021, Bangladesh signed contracts for receiving approximately 48% of the total committed COVID-19-related assistance from three multilateral sources, namely, the World Bank, the Asian Development Bank (ADB), and the Asian Infrastructure Investment Bank (AIIB). However, less than 20% of the assistance was actually disbursed. Despite a high dependency on domestic bank borrowing and non-bank borrowing with greater interest payments, budget deficit financing experienced a low use of foreign assistance in FY2021 compared to FY2020.

Inability to Deliver the Public Expenditure Program

In FY2021, the public and development expenditure as of April 2021 showed a strange figure. The Annual Development Programme (ADP)[7] allocation in FY2021 was BDT 2051.5 billion (approx. USD 23.7 billion), which is 7.2% of the GDP. Even though the allocation in FY2021 increased compared to the ADP allocation in FY2020 (BDT 2027.1 billion, approx. USD 23.5 billion), the increment is significantly marginal. Moreover, most of ADP in FY2021 contributed to transport and infrastructure. In FY2021, only 77.9% of the allocation was implemented.

Low Quality of Public Expenditure

Strangely, the ADP allocation for FY2021 represents a more typical framework and does not consider the pandemic. It is evident that spending on megaprojects was intended to cover 20.2% of the total ADP while also showing a low implementation rate. In contrast, the health sector was allocated only 5.7% of the total ADP allocation.

The Policy Outlook

Bangladesh remains one of the moderately affected countries in the COVID-19 pandemic. At a very early stage of the scourge, the country did roll out a number of public policy interventions to mitigate its negative fallouts. However, these assistance packages were inadequate in comparison to the demand and were compositionally unsuitable given the needs of the affected population. Some sections of the population were more affected than others. Further debilitating impacts of the pandemic will continue to affect them even if the health exigency ceases to exist.

The present chapter contends that, like most of the COVID-affected countries globally, Bangladesh needs to pursue a countercyclical policy stance where fiscal interventions would play a greater role than monetary instruments. In their own turn, the fiscal interventions have to move in the form of direct cash transfers (and food support) compared to a general increase in public expenditures. However, it is also maintained that enhanced public expenditures in the health and education sectors may have the desired economic outcome.

The policy perspectives advocating enhanced fiscal measures through direct cash transfer to disadvantaged groups are dictated by the premise that in order to have a heightened fiscal multiplier effect, greater fiscal resources have to be put in the hands of the people, households, and enterprises having a higher propensity to consume and invest over the immediate term. Accordingly, the targeted flow of fiscal resources to the more vulnerable households as well as to relatively smaller (and informal) enterprises would have more of an 'aggregate demand augmenting' effect at the margin and will compensate for the fall in external demand.

While the constraining factor for realizing such a policy dispensation relates to the availability of the required fiscal space in the concerned country, the present chapter argued that the current level of fiscal deficit in Bangladesh remains modest (below 6% of GDP) and another additional one to two percentage points increase in the budget deficit will be manageable. This is particularly so because the country is currently enjoying a relatively low level of inflation, a comfortable foreign exchange reserve, a stable exchange rate against USD, large excess liquidity in the banking system, and a low public debt-GDP ratio.

However, given the depressing tax-GDP ratio in the country (approximately 10% of GDP), it is maintained that the incremental budget deficit will be covered by a greater drawdown of external concessional finance in the pipeline and/or through enhanced borrowing from domestic (banking and non-banking) sources.

In view of the macroeconomic performance of the Bangladesh economy over the last decade, it needs to be pointed out that it is not the lack of resources for underwriting the incremental budget deficit that has constrained the government's flexibility to undertake expansionary fiscal measures. It is rather the inability of the government to deliver its own public expenditure program that has kept its budget deficit relatively low. Accordingly, while accelerating domestic resource mobilization is the fundamental prerequisite for the sustainability of the expanded fiscal program, the limited capacity of the Bangladeshi government to scale up impactful public expenditures has emerged as a binding constraint.

More specifically, a number of complementary reform initiatives have to be pursued for the population disadvantaged by the pandemic to derive the fuller benefits of the expansionary fiscal policies. In the meantime, the government may consider the policy approach espoused in this chapter as it mulls designing assistance packages to deal with the consequences of the second wave of COVID-19 in Bangladesh.

Notes

1 A K-shaped recovery is a post-recession scenario in which one segment of the economy begins to climb back upward while another segment continues to suffer (Aldrich, 2020).
2 The analytical framework of this chapter is informed by the methodological approach proposed by Keane et al. (2021), which takes into cognizance fiscal policy, monetary and financial policy, and trade and production policy in a country.
3 Vulnerable non-poor refers to people whose income level is above the upper poverty line and below the median income.
4 The new poor are defined as those who were expected to be non-poor prior to the COVID-19 outbreak but are now expected to be poor after the COVID-19 outbreak (World Bank, 2020).
5 Average income reduction was reported to be approximately 15.8%.
6 The crowding-out effect indicates that the public sector spending drives out the private sector spending. The situation may arise due to excessive domestic borrowing by the government. As a result, the banks may face a liquidity shortfall, and interest rates may be pushed upward. This, in turn, demotivates the private firms to borrow from the banks.
7 The ADP consists of government development policies and investment plans. This comprises a major share of development investment.

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4 The Economic Impact of COVID-19 and Lockdowns on Disadvantaged Households in Bangladesh

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Introduction

This chapter explores the economic impact of COVID-19 on disadvantaged households in Bangladesh. Utilizing survey data collected by the Citizen's Platform for the SDGs, Bangladesh, we consider how the pandemic has economically impacted several distinct disadvantaged communities and how they have responded to cope. We identified char, haor, coastal, slum, Dalit, disabled, and indigenous households and communities as traditionally disadvantaged groups that have encountered economic stress because of COVID-19 and subsequent lockdown responses. These groups can be conceptualized as those 'left behind' in Bangladesh's development trajectory, whose pre-existing vulnerabilities have been exacerbated by the pandemic.

Furthermore, we argue that migrant and small and medium enterprise (SME) households and communities are newly disadvantaged groups more recently affected economically by the pandemic. These groups can be understood as 'pushed behind' in Bangladesh's response to COVID-19. They experience new forms of vulnerability created by public health responses to the pandemic.

We find that job losses, closures of businesses, and underemployment all contributed to financial hardship among both traditionally and newly disadvantaged groups in Bangladesh. These groups experienced losses in income that meant they could not meet their daily needs with their current income level. Consequently, these households' expenditures have substantially decreased, and many have had to rely upon accumulated savings or take out loans to survive. These financial deficits incurred through accessing savings and loans will not be absorbed in the short term, with repayments of just the principal of loans to take several years.

The devastating impact of COVID-19 continues to be felt across the globe since its first detection in Wuhan, China (International Monetary Fund [IMF], 2020; Sun et al., 2020). One dimension of this impact is obvious: the infections, illnesses, and deaths caused by the pandemic. Infection and death rates continue to reach new peaks amidst subsequent waves and variants. The pandemic has also had significant economic impacts. Countries across a spectrum of income status and development have been profoundly affected. Public lockdown measures to combat the health effects of the pandemic have also caused job losses, uncertainty in business

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operations, exacerbated stock-price volatility, decreased nominal interest rates, and contractions of real economic activity (Barro et al., 2020; IMF, 2020). The global economy contracted by 4.3% (World Bank, 2021), while an estimated 255 million full-time jobs have been lost (International Labour Organization [ILO], 2021). The economic fallout from the pandemic has affected groups in society differently. A particularly significant finding is that COVID-19 has exacerbated the vulnerability of low-income households, those who are marginally non-poor, and those below the poverty threshold (Patel et al., 2020; Suryahadi et al., 2020).

Despite significant inequity in how the economic impacts of the pandemic have been felt, the vaccine rollout in Bangladesh has been an important component of the government's response to COVID-19 (Burki, 2021). Similarly, to other countries, Bangladesh has experienced an array of health and economic impacts from COVID-19 during the first and second pandemic waves (Kumar & Pinky, 2021). The most recent Omicron variant of COVID-19 continues to create health and economic challenges for the government and society to respond to.

During the first COVID-19 wave in Bangladesh in April 2020, the government implemented a lockdown, which successfully reasonably limits infection rates despite some implementation challenges (Shammi et al., 2021). However, global estimates have highlighted that the unchecked spread of COVID-19 would have incurred higher opportunity costs (long-run economic costs) than the short-run economic costs incurred due to the lockdown. A region or countrywide lockdown is still considered an effective measure to control infection rates (Gros, 2020; Islam et al., 2020). However, there is no denying that mobility restrictions have affected economic activity and reduced average incomes, especially those in the informal sector (Bhuiyan et al., 2021; Gatto & Islam, 2021; Hossain, 2021). According to the latest available statistics, more than 80% of people in Bangladesh are engaged in the informal sector (Bangladesh Bureau of Statistics [BBS], 2019).

With the rapid spread of the 'Omicron' variant, a comparatively slow and compromised vaccine rollout, and rampant vaccine hesitancy, there is little hope that the pandemic will swiftly abate (Khatun, 2021). The long-term economic impact of the pandemic will likely be bleak for Bangladesh (Lalon, 2020). This has been attributed to the country's structural disadvantages, which have long been recognized as a challenge in the way of achieving the Sustainable Development Goals (SDGs).

Lockdowns in Bangladesh

The implementation of lockdowns in Bangladesh to limit infection rates has been inadequate and often mismanaged. Despite several public support measures to ease their impact, lockdowns were initially short-lived in recognition of their challenging implementation and economic impacts. After two months of haphazard lockdown episodes, the government of Bangladesh took a calculated risk and withdrew lockdown status to strike a balance between low infection rates and reinvigorating economic activity. From June 2020 to the emergence of the 'Delta' variant of COVID-19 in June 2021, low infection rates alongside a low death toll in Bangladesh instilled a semblance of hope among the population (Sakamoto et al.,

2020). Nonetheless, those economically affected by the earliest lockdowns tried desperately to recover financially.

Where educational institutions and in-person classes remained closed, other sectors of the economy attempted to restore economic momentum. MSEs, with credit from formal and informal sources, have tried to start afresh. Households that had been forced to take loans or withdraw savings to manage the initial crisis sought to recover and save.

However, the second wave of COVID-19 began, and the situation further worsened in June 2021 as the potent 'Delta' variant emerged. These public health threats forced the government to enact several phases of lockdown again starting in April 2021. This continued for some months, as Bangladesh recorded its highest infection and death rates during June and August 2021. Subsequently, the infection rate began to decline. As the country now contends with the new threats posed by the Omicron variant wave, the economy continues to experience cyclical structural uncertainty. Amidst recurrent lockdowns and their economic fallouts in response to new waves of COVID-19, lessons learned during the first phase of the pandemic remain relevant to this day.

Key Characteristics of Traditionally and Newly Disadvantaged Households

The situation has been exacerbated by the pandemic for several traditionally disadvantaged groups with pre-existing economic vulnerabilities. For instance, households in char, haor, coastal, and slum areas earned a comparatively lower average monthly income than national income even before COVID-19 (Figure 4.1). Despite having more income-earning members within their households, their

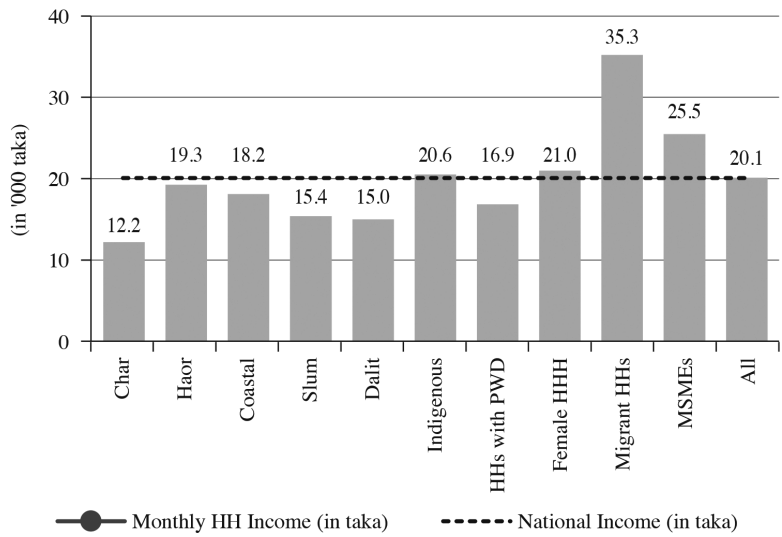

Figure 4.1 Pre-pandemic Monthly Household Income of Disadvantaged Groups

Source: Citizen's Platform Household Survey 2021.

relatively lower average income indicates that they had been primarily involved in economic activities that provided a lower return on effort. Conversely, the average incomes of migrant, SME, and female-headed households were much higher than the national average. Unsurprisingly, these newly disadvantaged households had higher monthly incomes than the national average in the pre-pandemic period.

Traditional and newly disadvantaged households surveyed have some key demographic and socioeconomic characteristics. The average size of disadvantaged households surveyed is 4.63, relatively larger than the national average of 4.06. Excluding char, haor, and MSME households, about 10% of disadvantaged households are headed by women – closely representing the national average.

The educational endowment of household heads is relatively lower. For instance, 37.2% of household heads have no formal education, while only 27.6% of household heads completed primary schooling. An even lower 21.1% of household heads received education between grades six and eight.

The average monthly income of traditionally disadvantaged households in the pre-COVID-19 period was significantly lower than the national average (BDT 20,185), except for indigenous households (BDT 20,573). Conversely, the average monthly incomes of newly disadvantaged households in the pre-COVID-19 period were significantly higher than the national average (BDT 35,329 for migrants and BDT 25,536 for MSMEs).

A third of all traditionally and newly disadvantaged households have received support through social safety net programs, excluding slum and Dalit households. This is likely because a relatively higher share of traditionally disadvantaged households falls within the coverage of social safety net programs.

Both traditionally and newly disadvantaged households have relatively weaker networking ties with various local, social, and political organizations. Additionally, the traditionally disadvantaged from char, haor, and coastal areas are more exposed and vulnerable to natural disasters such as floods and cyclones.

These characteristics highlight the vulnerabilities experienced by many traditionally disadvantaged communities even before the pandemic. These characteristics and vulnerabilities are only further exacerbated due to COVID-19.

Economic Fallout at the Household Level

During the survey under this study, traditionally and newly disadvantaged households were asked whether they had experienced additional 'financial hardship'[1] due to COVID-19. Nearly 78.8% of all surveyed reported that they had experienced financial hardships induced by COVID-19 (Figure 4.2). Among the traditionally disadvantaged groups, 88.1% of households with a person with a disability experienced financial hardship. Slum and coastal community households were similarly gravely affected, with 87.3% and 86.0% of households experiencing financial hardship, respectively. Seventy-five percent and 71.0% of char and haor households faced financial hardship during the first wave of the pandemic. In addition, nearly two-thirds of households from Dalit and indigenous communities have reported a

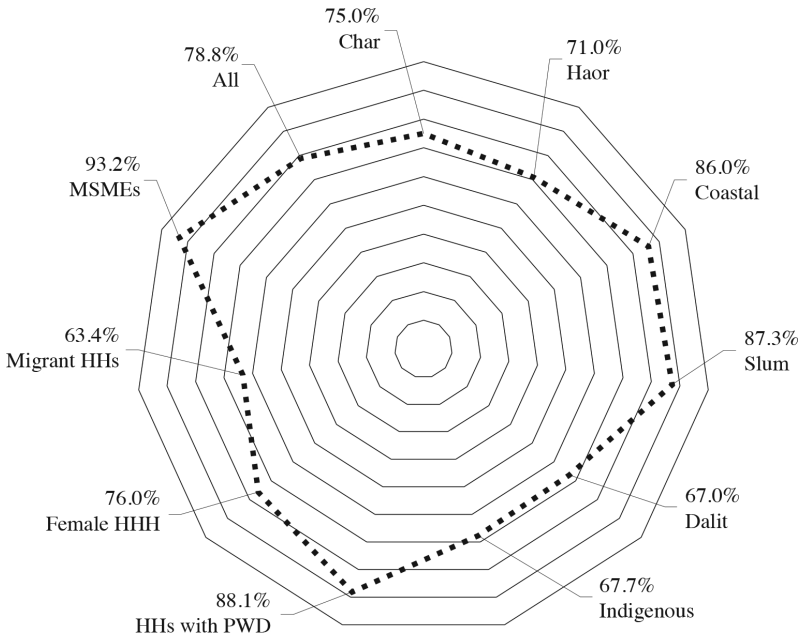

Figure 4.2 Share of Households Experiencing COVID-19-Induced Financial Hardship by Groups (%)

Source: Citizen's Platform Household Survey 2021

similar state of financial hardship. Within the newly disadvantaged experiencing new vulnerabilities caused by COVID-19, a considerable 93.2% of MSMEs and 63.4% of migrant households have experienced financial hardship during the early period of the pandemic (Figure 4.2).

The following sections assess the economic fallouts induced by COVID-19 and lockdown responses using a framework of five indicators: (i) change in employment status, (ii) change in average income per month, (iii) adjustment in monthly household expenditure, (iv) change in financial endowment due to withdrawal of savings; and (v) a change in the amount of debt accrued at the household level.

Impact on Employment

At least one member from 70.0% of disadvantaged households had lost their job during COVID-19 (Table 4.1).[2] Notably, 97.8% of those who lost a job subsequently regained it. With the exception of households from the indigenous community, job losses were significantly higher for households that had also faced financial hardship induced by the pandemic. This indicates that the first COVID-19 lockdown in Bangladesh led to subdued consumption demand caused by restrictions in movement that wiped out jobs for many of these disadvantaged groups.

Table 4.1 Share of Households That Had Experienced Job Loss and Their Job Re-joining Rate (%) by Groups

Groups	*% of Households with Job Losses*			*Re-joining Rate (%)*		
	Facing financial hardship	*Not faced financial hardship*	*All households surveyed*	*Facing financial hardship*	*Not faced financial hardship*	*All households surveyed*
Char	67***	33	59	100.0	100.0	100
Haor	63***	32	55	97.7	100.0	98.1
Coastal	80***	43	75	98.6	100.0	98.7
Slum	84***	50	80	98.6	100.0	98.7
Dalit	67***	24	53	88.9	100.0	90.6
Indigenous	55	46	52	94.6	93.2	94.2
PWD	80***	66	78	97.4	100.0	97.6
Female HHH	73**	53	69	96.2	100.0	96.8
Migrant	71**	45	62	88.1	100.0	91.3
MSME	96***	69	94	99.1	100.0	99.1
All	77***	44	70	97.0	97.8	97.1

Source: Citizen's Platform Household Survey 2021

However, a significantly high work re-joining rate also indicates that members from disadvantaged communities are primarily involved in informal labor susceptible to intermittent demand shocks. Once the first lockdown was over, nearly all of the households surveyed, irrespective of which disadvantaged group they belonged to, returned to their earlier jobs or found new ones.

Impact on Income

Monthly household income decreased more significantly in households that experienced COVID-19-induced financial hardship. On average, monthly household income decreased by 18.7% within households that faced financial hardship (Table 4.2).[3] In contrast, households not facing additional financial hardship experienced an 8.5% decrease in income on average per month. Char community households that had faced additional financial hardship more than one-fourth of their regular income, while others who had not experienced any additional financial hardship lost only 6.6% of their regular income. Higher-income endowments during the pre-pandemic period have provided households with some cushioning to ameliorate income erosion in the early stages of the pandemic.

Impact on Expenditure

The drop in monthly household expenditure was significantly higher for households that faced additional financial hardship induced by COVID-19. The average decrease in monthly expenditure was 9% among households that had faced financial hardship. In contrast, households that did not face additional financial hardship experienced a 5% drop in average monthly expenditure (Table 4.3). Similarly, Genoni et al. (2020) estimate that Bangladesh's average household consumption per capita has dropped by 13% nationally. Except for indigenous households and households with a person with a disability, there was no statistically significant difference in pre-pandemic monthly household expenses between households with financial hardship and those who did not. Additionally, as of February 2021, only households from the char, haor, disabled, and indigenous communities have made a statistically significant adjustment to their monthly household expenditure. However, even with this level of reduction in expenses, households struggled to compensate for half of their estimated loss in regular income. This may indicate that, despite their willingness to cover reductions in income by cutting back on household expenses, there was little room to reduce further. Therefore, reducing household expenditure will only substantially diminish standards of living further.

Impact on Savings

Disadvantaged households that have become cash-strapped during the pandemic have relied upon whatever savings they possess. Two-thirds of all traditionally and newly disadvantaged households surveyed experienced a decline in their monthly

Table 4.2 Reduction in Monthly Household Income by Groups

Groups	*Current income (in BDT)*		*Income before COVID-19 (in BDT)*		*Reduction in Household Income (%)*	*Reduction in Household Income (%)*
	Facing financial hardship	*Not faced financial hardship*	*Facing financial hardship*	*Not faced financial hardship*	*Faced/facing financial hardship*	*Not faced financial hardship*
Char	8,712	12,479***	11,831	13,367	–26.4	–6.6
Haor	14,326	20,564***	18,018	22,452*	–20.5	–8.4
Coastal	14,802	19,764***	17,500	22,214*	–15.4	–11.0
Slum	12,519	16,039***	15,118	17,392**	–17.2	–7.8
Dalit	10,852	17,239***	13,694	17,724**	–20.8	–2.7
Indigenous	16,097	24,545***	18,015	25,927***	–10.6	–5.3
PWD	13,032	25,470***	15,433	27,788***	–15.6	–8.3
Female HHH	15,046	24,279***	19,102	27,225***	–21.2	–10.8
Migrant	23,439	36,326***	31,992	41,144**	–26.7	–11.7
MSME	19,615	31,219***	24,782	35,906**	–20.9	–13.1
All	15,007	23,733***	18,455	25,925***	–18.7	–8.5

Source: Citizen's Platform Household Survey 2021
*Note: ***P-value>0.001; **P-value>0.01; *P-value>0.05*

Table 4.3 Adjustment in Monthly Household Expenditure by Groups

Groups	*Current Expense (in BDT)*		*Expenditure before COVID-19 (in BDT)*		*Reduction in Household Expenditure (%)*	*Reduction in Household Expenditure (%)*
	Facing financial hardship	*Not facing financial hardship*	*Facing financial hardship*	*Not facing financial hardship*	*Facing financial hardship*	*Not facing financial hardship*
Char	7,700	9,888**	9,216	10,340	–16.4	–4.4
Haor	10,199	12,187*	12,137	13,883	–16.0	–12.2
Coastal	12,134	12,357	13,105	12,357	–7.4	0.0
Slum	10,631	11,722	11,571	12,027	–8.1	–2.5
Dalit	9,910	11,197	11,209	11,530	–11.6	–2.9
Indigenous	10,393	11,928**	10,698	12,593***	–2.8	–5.3
PWD	10,515	16,576***	11,380	17,697***	–7.6	–6.3
Female HHH	10,743	11,974	12,101	12,925	–11.2	–7.4
Migrant	15,897	16,146	18,069	16,796	–12.0	–3.9
MSME	14,202	13,775	15,713	14,519	–9.6	–5.1
All	11,394	12,889***	12,520	13,566**	–9.0	–5.0

Source: Citizen's Platform Household Survey 2021
*Note: ***P-value>0.001; **P-value>0.01; *P-value>0.05*

Table 4.4 Share of Households Forced to Withdraw Savings during the First Wave of the Pandemic (%)

Group	*Share of households making withdrawal (%)*	*Average withdrawal of savings per household (in BDT)*	*Number of months it took to save the withdrawal amount*
Char	21.0	9,476	4 months
Haor	10.0	46,800	8 months
Coastal	12.0	36,833	8 months
Slum	28.3	22,704	7 months
Dalit	18.0	22,389	7 months
Indigenous	10.3	22,226	3 months
PWD	19.1	23,830	5 months
Female HHH	19.0	42,744	5 months
Migrant	21.1	103,988	6 months
MSME	34.3	35,302	4 months
All	20.8	34,462	5 months

Source: Citizen's Platform Household Survey 2021.

savings induced by COVID-19. One of five households facing additional hardship had to withdraw funds from their savings. The average size of a savings withdrawal was BDT 34,462. This amount is equivalent to nearly five months of household savings in the pre-pandemic period (Table 4.4).

Households with migrants have withdrawn six months' worth of savings. In this context, Karim et al. (2020) observe that 13 million Bangladeshi migrant workers and 30 million of their dependents have been affected by COVID-19 through shrinking remittance flows, savings depletion, and socioeconomic crises. While migrant households may have withdrawn the highest outright amount of savings, haor, and coastal community households withdrew eight months' worth of their household savings. This was the largest monthly equivalent of savings withdrawn. Following closely, households from slum and Dalit communities had withdrawn savings, which took seven months to accumulate.

Impact on Loans

Nearly 50% of all traditionally and newly disadvantaged households that experienced additional financial hardship had to take out loans early in the pandemic. The average size of a loan was BDT 52,533. Assuming that no further loans were taken out, it would take an average of two years and one month for a disadvantaged household to repay the principal of the loan, taking into account their current monthly savings (Table 4.5). Although loans taken by haor community households have averaged BDT 51,700, it will take three years and six months to repay on account of income and savings levels. While migrant and MSME households took out the highest value loans, they will take the least amount of time – one and a half years – to repay.

Table 4.5 Share of Households Forced to Access Loans at the First Phase of the Pandemic (%)

Group	*Share of households taking loans (%)*	*Average loan taken (in BDT)*	*Number of months to repay the principal loan amount at the current rate of HH savings*
Char	48.0	40,792	2 years & 7 months
Haor	54.0	51,722	3 years & 6 months
Coastal	61.0	53,721	2 years & 6 months
Slum	50.5	50,455	2 years & 10 months
Dalit	51.0	32,069	2 years & 7 months
Indigenous	31.3	38,011	2 years & 5 months
PWD	48.9	58,217	3 years & 3 months
Female HHH	34.6	52,390	1 year & 9 months
Migrant	29.9	99,362	1 year & 7 months
MSME	75.0	67,226	1 years & 7 months
All	47.9	52,533	2 years & 1 months

Source: Citizen's Platform Household Survey 2021

The survey results illustrate that disadvantaged households with larger income declines are more likely to experience financial hardship. Traditionally disadvantaged household groups may become indebted for longer periods. These households will require more support in terms of direct cash transfers. Also, traditionally, these households are less covered by traditional financial institutions.4 Hence, subsidized soft loans offered through commercial banking channels may not be effective in this context. A more specialized instrument will be required to meet the needs of these disadvantaged households.[5]

Empirical Results: A Probit Model Analysis

Like others in the global community, Bangladesh policymakers felt compelled to impose lockdowns to contain the spread of COVID-19 (Rahman et al., 2021). However, unlike many of its global peers, the country's lack of digital infrastructure created overwhelming economic impacts amidst persistent lockdowns on par with the health crisis (Pu et al., 2021). This chapter has examined the economic impacts in Bangladesh during the first wave of the pandemic from the perspectives of traditional and newly disadvantaged communities. Our central argument has been that the pandemic has exacerbated the economic vulnerability of these disadvantaged communities.

Early lockdowns and associated restrictive measures significantly reduced the movement of economic agents and products. In the process, they slowed down economic activity and production and wiped-out jobs, especially in the informal sector (Alam et al., 2021). As noted earlier, a majority of households surveyed had at least one member who lost a job or had to temporarily shut down their business. Kumar and Pinky (2021) also found that COVID-19 had caused two specific types of employment loss: (a) temporary lockdown-induced job loss and (b) permanent

job loss. However, when the first wave plateaued, those who lost their jobs soon rejoined the workforce. The survey findings reflect that an overwhelming majority of households suffered from a loss in monthly income and consequently experienced financial hardship.

By controlling for pre-pandemic household income and wealth levels, the chapter conducts a probit analysis to further investigate the factors underpinning financial hardships experienced by disadvantaged groups.[6] The econometric exercise confirms that job losses caused by the pandemic significantly exacerbated vulnerabilities within households and triggered financial hardship in the initial phases. Among the newly disadvantaged, the likelihood of experiencing financial hardship during COVID-19 was 17% higher if at least one household member lost their job at the beginning of the pandemic.

The likelihood of job losses to increase household financial hardship was statistically significant for Dalit (31%) and slum-dwelling households (16%). Moreover, the likelihood of experiencing vulnerability increased by 16%, 15%, and 11%, respectively, in char, haor, and coastal communities situated in hard-to-reach areas. Among the newly disadvantaged, the likelihood of incurring any additional financial difficulties when faced with a job loss was 20% and 11% for migrant and MSME households, respectively. However, the impact of a job loss on a household's financial situation was not found to be statistically significant among indigenous and PWD households. The majority of members of traditionally disadvantaged households had been involved in informal labor. They bore the brunt of the initial effects of the economic slowdown. Informal sector jobs provide support services to the formal sector and are very physical in nature. With the imposition of movement restrictions, the livelihoods of those in informal jobs (e.g., hawkers and rickshaw pullers) had significantly suffered due to drastically subdued demand.

The probit analysis further suggests that traditionally marginalized households with members who had suffered from COVID-19 symptoms had a 5% higher likelihood of facing financial hardship. Members of households who displayed symptoms (e.g., fever, cough, or a runny nose) and those who had tested positive for the virus were both barred from working, at the risk of spreading the virus. Most members of newly disadvantaged households worked as day laborers in different informal arrangements and had to forgo a significant amount of income and thus struggled to manage daily expenses. In parallel, traditionally disadvantaged households that suffered from new 'natural supply shocks' (e.g., flooding or a cyclone) faced an additional 5% of financial hardship compared to others. In this context, a 'new supply shock' refers to shocks beyond COVID-19 that households encountered for the first time without prior knowledge for adaptation purposes, such as flooding or a cyclone. In particular, overlapping vulnerabilities have caused significantly higher distress to slum dwellers and PWD households.

The findings also demonstrate that households with relatively higher monthly incomes in the pre-pandemic period and higher wealth endowment in terms of agricultural and residential lands have faced comparatively lower likelihoods of incurring additional financial hardship from COVID-19. Irrespective of whether a

household is residing in urban or rural areas, the suffering of both traditional and newly disadvantaged households is quite similar.

Conclusion

Besides the obvious health risks emanating from the pandemic, significant economic vulnerabilities have emerged among disadvantaged population groups surveyed. The analysis of the economic impacts experienced by traditionally and newly disadvantaged groups undertaken in this chapter underscores several key findings.

First, it is clear that financial hardships at the household level were caused by the loss of employment, temporary closure of businesses, and underemployment, which had brought about losses in actual or potential income.

Second, rising instability in monthly income leads to reductions in household expenditure.

Third, as a result of the reduction in income and expenses, disadvantaged households had to access their savings. The average withdrawal of savings was equivalent to five months' worth of funds saved in the pre-COVID-19 period.

Fourth, borrowing remained the sole option for those who had insufficient savings to draw from. Given the average size of loans across both traditionally and newly disadvantaged groups, it will take a disadvantaged household more than two years, on average, to repay only the principal amount. However, these households may also require further loans to mitigate the induced vulnerability experienced during repeated or prolonged lockdowns. Debt burdens may have already increased further between the survey period and the analyses presented in this chapter. As the crisis continues to persist, assuming a second round of loans occurs, these disadvantaged groups will be burdened with significant loans for the next four to five years. Consequently, incidences of borrowing from multiple NGOs are likely to increase.

Fifth, the exacerbation of households' vulnerabilities caused by COVID-19 is unlikely to be absorbed in the short term. Indeed, they may persist for the disadvantaged in the medium to long term. Despite the optimistic rate of re-joining the workforce, recurrent employment may not fully address the need for support measures to ameliorate depleted savings and debts incurred.

Sixth, households that have experienced economic decline are more susceptible to future risks and stresses, including future pandemic waves. Recovering from the economic blows taken during the early stages of the pandemic will take considerable time.

Seventh, while the health implications of COVID-19 did not heavily impact all traditionally and newly disadvantaged households, disruption caused by lockdowns caused substantial economic suffering and lost potential income. The chances of char households and households with a person with a disability becoming financially distressed rose significantly when a single family member became infected. Out-of-pocket expenditure for testing and treatment of COVID-19 is also likely to create an additional financial burden for both the traditional and newly disadvantaged, especially if a positive result requires hospitalization.

In light of the vulnerabilities presented above, this chapter emphasizes the need for a tailor-made approach to prioritize specific disadvantaged groups. This approach must also take cognizance of levels of susceptibility to varying forms of pandemic-induced challenges. Indeed, further policy support measures will be required to address the pandemic period and post-pandemic recovery. As underemployment is not commensurate with full reemployment, a dedicated relief program targeting disadvantaged population groups for the duration of the pandemic will help compensate for income loss and mitigate further deterioration of living standards. Additionally, increased sector-specific stimulus will be required to protect informal jobs, as these are most threatened in the face of renewed strains of COVID-19 and rising infection and death rates. It will be increasingly important to provide both direct cash transfers and dedicated soft loans to disadvantaged households to expedite recovery in future waves of the pandemic.

Notes

1 In this chapter, 'financial hardship' is defined as 'when households find it difficult to manage monthly expenses with their level of monthly income at that given time'. The word 'additional' has been specifically used given that the selected traditionally disadvantaged groups had been exposed to pre-existing vulnerabilities long before the pandemic.
2 Many members from disadvantaged households, mainly from slums whose dwellers usually work as housemaids in urban cities, were the first to lose their jobs temporarily during the first lockdown period (Kumar & Pinky, 2021).
3 According to Genoni et al. (2020), during this period, cleaners and housemaids have lost nearly 60% of their pre-pandemic level income. Kumar and Pinky (2021) have also found that within marginally non-poor groups, a significant reduction in income was experienced by people engaged as drivers, garments workers, transport workers, retail/sales workers, porter/day laborers, cleaners, and household maids.
4 See Chapter 7 for details.
5 A detailed discussion on this issue is presented in Chapter 11.
6 See the technical appendix for methodology and annex tables for detailed results.

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Technical Appendix

An econometric exercise was undertaken to explain factors influencing surveyed vulnerable households' experience of additional financial hardship induced by COVID-19. Seventy-eight percent of households surveyed stated that they had experienced additional financial burdens induced by the pandemic. A dummy variable was created, i.e., households with additional vulnerability were assigned (=1) while (=0) were assigned to others. Given the dichotomous nature of the dependent variable, a quality response model such as logit or probit was deemed more appropriate. A probit analysis was used in this study, given the data's normal distribution among all possible outcomes.

The model was used to explain households' (i =1 … n) state of *'no change in utility'* and *'drop in level of utility (disutility)'* U_{ij} due to COVID-19. Where *'no change in utility'* refers to a state where despite households' exposure to different types of shocks induced by COVID-19, they maintained their standard of living equivalent to pre-COVID-19. In contrast, a '*drop in utility (disutility)'* implies that upon exposure to different types of shocks induced by COVID-19, a household's standard of living dropped compared to pre-COVID-19. Vulnerable households that managed to maintain existing living standards were assumed to have successfully mitigated additional vulnerability induced by the pandemic. Other households could not avoid newly induced challenges created by COVID-19 and have become more vulnerable.

The probability P_i denotes the likelihood of a household facing additional financial hardship induced by the pandemic compared to others. This can be expressed in equation (1), where φ represents the cumulative distribution of a standard normal random variable.

$$P_i = prob\left[Y_i = 1|X\right] = \int_{-\infty}^{x_i'\beta} 2\pi^{-1/2}\exp(-\frac{t^2}{2})dt = \varphi\left(x_i'\beta\right) \tag{1}$$

The dependent variable, i.e., whether a household had experienced financial hardship or not, is case-specific to its exposure to different shocks, e.g., economic shocks, health shocks, natural supply shocks, concerning its pre-pandemic income and wealth status. The relationship between a specific variable and its probability is interpreted by means of the marginal effect, which accounts for the partial change in probability. The marginal effect associated with continuous explanatory variables X_k on the probability P (Yi = 1 | X), holding the other variables constant can be derived as follows:

$$\frac{\partial P_i}{\partial x} = \gamma\left(x_i'\beta\right)\beta_K$$

where γ represents the probability density function of a standard normal variable.

On the other hand, the marginal effect of dummy variables refers to discrete changes in the predicted probabilities, and it can be derived as follows:

$$\Delta = \varphi\left(\bar{x}\beta, d = 1\right) - \varphi\left(\bar{x}\beta, d = 0\right)$$

The marginal effects provide insights into how the explanatory variables shift the probability of a household self-declaring itself as facing financial hardship or not. Using the econometric software STATA, average marginal effects were calculated for each variable while holding other variables constant at their sample mean. The specific empirical model estimated in the research exercise is as follows:

$$\begin{aligned}
&\boldsymbol{Prob}\left(\boldsymbol{Y_i} = 1\right) = \\
&\varphi(\pm_1 * \textbf{HH experienced job loss at the initial phase of pandemic}\left(=1\right) + \alpha_2 * \\
&\textbf{HH with members suffered from COVID} - 19\,\textbf{symptoms}\left(=1\right) + \alpha_3 * \\
&\textbf{HH exposed to new natural supply shocks}\left(=1\right) + \alpha_4 * \\
&\quad \textbf{Household size}\left(\textbf{in number}\right) + \alpha_5 \\
&*\textbf{Ln}\left(\textbf{pre} - \textbf{pandemic monthly HH income in taka}\right) + \alpha_6 * \\
&\quad \textbf{Ln}\left(\textbf{ownership of dwelling land in acre}\right) + \alpha_7 \\
&*\textbf{Ln}\left(\textbf{ownership of agricultural land in acres}\right) + \alpha_8 * \\
&\quad \textbf{Ln}\left(\textbf{ownership of agricultural land in acres}\right) + \alpha_9 * \textbf{Urban}\left(=1\right))
\end{aligned} \tag{2}$$

Y_i refers to the households' state of financial hardship. $\alpha_{i=1to9}$ are the coefficients of X_{i-1to9} explanatory variables. Besides the explanatory variables, the following are the dummy variables: household (HH) experienced job loss, HH with members suffered from COVID, HH exposed to new natural supply shocks and urban location. On the other hand, household size (in person), pre-pandemic monthly household income (in taka), ownership of dwelling lands (in acres), and ownership of agricultural lands (in acres) are numerical variables.

Annex Table 4.a.1 Probit Regression Coefficients by Selected Marginalized Groups
Dependent Variable: HH experienced financial hardship due to the COVID-19 pandemic (if yes =1)

Explanatory Variables	*Average Marginal Effects*									
	Char	*Haor*	*Coastal*	*Slums*	*Dalit*	*Indigenous*	*PWD*	*All LNOBs*	*Migrants*	*MSME*
	(i)	*(ii)*	*(iii)*	*(iv)*	*(v)*	*(vi)*	*(vii)*	*(viii)*	*(ix)*	*(x)*
HH experienced job loss at the initial phase of pandemic (=1)	0.677*	0.536*	0.735	0.896***	1.158***	0.115	0.222	0.691***	0.628**	1.281**
	(0.353)	(0.323)	(0.450)	(0.197)	(0.319)	(0.166)	(0.234)	(0.0911)	(0.262)	(0.504)
HH with members suffered from COVID-19 symptoms (=1)	0.984***	0.582	0.609	–0.0764	–0.363	0.0712	0.703***	0.209**	0.730**	0.438
	(0.331)	(0.391)	(0.401)	(0.186)	(0.319)	(0.181)	(0.231)	(0.0900)	(0.295)	(0.350)
HH exposed to new natural supply shocks (=1)	–0.247	–	–0.356	0.519**	0.412	0.277	0.455*	0.212**	–0.271	0.173
	(0.508)		(0.571)	(0.205)	(0.330)	(0.232)	(0.269)	(0.0928)	(0.315)	(0.383)
Household size (in number)	0.0369	0.00222	0.267**	0.0916	0.204	0.122**	0.0803	0.0671**	–0.0298	–0.0357
	(0.141)	(0.0831)	(0.109)	(0.0737)	(0.137)	(0.0514)	(0.0624)	(0.0298)	(0.0599)	(0.0884)
Ln (pre-pandemic monthly HH income in taka)	–0.406	–0.200	–1.015**	–0.461*	–0.794**	–0.898***	–0.996***	–0.559***	–0.365	–0.682**
	(0.422)	(0.377)	(0.505)	(0.255)	(0.323)	(0.192)	(0.260)	(0.105)	(0.291)	(0.322)
Ln (ownership of dwelling land in acres)	0.119	–0.0440	–0.534***	–0.276*	–0.138	–0.0922	0.0113	–0.0669	–0.153	–0.570***
	(0.244)	(0.188)	(0.199)	(0.144)	(0.232)	(0.0950)	(0.131)	(0.0475)	(0.123)	(0.166)
Ln (ownership of agricultural land in acres)	–	–0.142*	–0.133	0.174	0.0112	–0.0390	0.00725	–0.0499*	–0.0357	0.186*
		(0.0744)	(0.139)	(0.195)	(0.154)	(0.0374)	(0.0765)	(0.0276)	(0.0749)	(0.104)
HH's participation with local, social, and political organizations	0.138	0.0651	–0.419	–0.367**	–0.0453	–0.112	0.0198	–0.211**	0.177	–0.310
	(0.359)	(0.429)	(0.517)	(0.185)	(0.316)	(0.255)	(0.265)	(0.104)	(0.341)	(0.377)
Urban (=1)	–	–	–0.920	0.186	–0.227	–	0.704**	0.0994	–0.422	–0.133
			(0.809)	(0.254)	(0.341)		(0.285)	(0.120)	(0.293)	(0.391)
Constant	0.901	0.991	4.270***	1.229**	1.390	2.716***	2.453***	1.549***	1.399	3.185***
	(1.136)	(0.985)	(1.586)	(0.585)	(0.925)	(0.540)	(0.633)	(0.273)	(0.968)	(0.951)
Observations (n)	**91**	**94**	**98**	**399**	**99**	**298**	**270**	**1,230**	**127**	**236**

Note: Standard errors are in parenthesis; ***P-value>0.001; **P-value>0.01; *P-value>0.05

Annex Table 4.a.2 Average Marginal Effects from Probit Analysis by Groups
Dependent Variable: HH experienced/in financial hardship due to COVID-19 pandemic (if yes =1)

Explanatory Variables	*Average Marginal Effects*									
	Char	*Haor*	*Coastal*	*Slums*	*Dalit*	*Indigenous*	*PWD*	*All LNOBs*	*Migrants*	*MSME*
	(i)	*(ii)*	*(iii)*	*(iv)*	*(v)*	*(vi)*	*(vii)*	*(viii)*	*(ix)*	*(x)*
HH experienced job loss at the initial phase of pandemic (=1)	0.16** (0.0791)	0.15* (0.0851)	0.11* (0.0598)	0.16*** (0.0322)	0.31*** (0.0730)	0.03 (0.0524)	0.03 (0.0379)	0.17*** (0.0216)	0.20** (0.0782)	0.11*** (0.0422)
HH with members suffered from COVID-19 symptoms (=1)	0.24*** (0.0719)	0.16 (0.104)	0.09 (0.0556)	–0.01 (0.0328)	–0.10 (0.0858)	0.02 (0.0575)	0.12*** (0.0352)	0.05** (0.0223)	0.23*** (0.0865)	0.04 (0.0298)
HH exposed to new natural supply shocks (=1)	–0.06 (0.122)	–	–0.05 (0.0803)	0.09** (0.0368)	0.11 (0.0893)	0.09 (0.0730)	0.07* (0.0427)	0.05** (0.0232)	–0.09 (0.0993)	0.02 (0.0335)
Household size (in number)	0.01 (0.0337)	0.001 (0.0229)	0.04** (0.0154)	0.02 (0.0128)	0.06 (0.0363)	0.04** (0.0159)	0.01 (0.0101)	0.02** (0.00739)	–0.01 (0.0190)	–0.003 (0.00781)
Ln (pre-pandemic monthly HH income in taka)	–0.10 (0.0972)	–0.06 (0.104)	–0.15* (0.0846)	–0.08* (0.0441)	–0.22*** (0.0815)	–0.29*** (0.0544)	–0.16*** (0.0388)	–0.14*** (0.0253)	–0.12 (0.0901)	–0.06** (0.0292)
Ln (ownership of dwelling land in acres)	0.03 (0.0593)	–0.01 (0.0516)	–0.08** (0.0319)	–0.05* (0.0250)	–0.04 (0.0625)	–0.03 (0.0300)	0.002 (0.0215)	–0.01 (0.0118)	–0.05 (0.0381)	–0.05*** (0.0160)
Ln (ownership of agricultural land in acres)	–	–0.04** (0.0197)	–0.02 (0.0188)	0.03 (0.0343)	0.003 (0.0416)	–0.01 (0.0117)	0.001 (0.0125)	–0.01* (0.00686)	–0.01 (0.0237)	0.02* (0.00898)
HH's participation with local, social, and political organizations	0.03 (0.0870)	0.02 (0.118)	–0.06 (0.0759)	–0.07** (0.0317)	–0.01 (0.0853)	–0.04 (0.0808)	0.003 (0.0434)	–0.05** (0.0259)	0.06 (0.108)	–0.03 (0.0331)
Urban (=1)	–	–	–0.13 (0.116)	0.03 (0.0449)	–0.06 (0.0919)	–	0.12** (0.0472)	0.02 (0.0300)	–0.13 (0.0914)	–0.01 (0.0342)
Observations (n)	**91**	**94**	**98**	**399**	**99**	**298**	**270**	**1,230**	**127**	**236**

*Note: Standard errors are in parenthesis; ***P-value>0.001; **P-value>0.01; *P-value>0.05*

5 Dealing with the Aftermath of COVID-19

Adjustments and Adaptation Efforts of the Apparel Workers in Bangladesh

Debapriya Bhattacharya, Towfiqul Islam Khan, Fahim Subhan Chowdhury and Afra Tahsin Chowdhury

Introduction

The 'Made in Bangladesh' labels in readymade garments (RMG) have become customary in the international fashion industry. Bangladesh has remained the second-largest apparel exporter globally since 2010 (Van, 2021). However, the COVID-19 pandemic placed the RMG sector on the edge of an unprecedented catastrophe. Enforcement of country-wide lockdowns and border closures worldwide impacted the livelihoods of this sector's employers and workers. For a country whose apparel industry contributes to approximately 85% of its total exports and employs approximately 4 million people, even a nugatory decline in orders or exports can propel the whole economy into an unforeseeable predicament (Razzaque, 2021).

On the eve of the pandemic, the supply chains of this highly globalized sector were distorted. The apparel, i.e., the RMG sector in Bangladesh has also seen cancellation of orders by major buyers and deferred payments of ready or already delivered products. The buyers imposed higher payment terms, demanded suppliers to cut their prices, and sometimes even forced them to take orders below production cost (Fair Wear, 2021). Dual reduction in demand and production and the closing down of factories contributed to widespread lay-offs and retrenchments on top of decreased work hours and payment cuts and increased 'working poverty'.

Considering the fallouts of the pandemic, the government announced stimulus packages to provide a liquidity lifeline to the RMG sector. During the initial phase, the government of Bangladesh announced a USD 580 million (BDT 50 billion)[1] stimulus package for export-oriented industries primarily consisting of RMG factories[2] (Bangladesh Bank, 2021). The fund was to be utilized for paying the wages of the workers for up to three months. However, the minimum wage payment of the garment workers per month alone is USD 380 million (BDT 33 billion) (Sultan, et al., 2021). This stimulus package was only 51% of the total amount required to pay wages for three months. Moreover, the EU declared that it would provide incentives worth approximately USD 191 million (EUR 171 million) as wages for 1 million furloughed apparel workers for three months. The absence of documentation on the laid-off workers prevented Bangladesh from receiving the grant.

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As the lockdown eased and vaccinations rolled out, Bangladesh was starting to get back on track with export orders.[3] However, the second peak of COVID-19 cases occurred in April 2021. The severity of the first wave of the pandemic posed challenges for the RMG sector to navigate the relatively milder second wave. The impact of the second wave was not as rampant as that of the first wave; nevertheless, the volume of work orders slowed, causing uncertainty within the production chain making it difficult for factories to forecast and plan their inventories and cash flows.

Considering the pandemic-induced consequences, the current study focused on the households of the RMG workers to understand the impact of the COVID-19 pandemic on workers and their households, the adjustment strategies undertaken by the respondents to endure the crisis, and the serviceability of the public interventions targeted toward the workers. The study conducted an RMG household survey in June 2021.

Analytical Focus of the Study

This study analytically ventured upon various issues to reflect on the adaptability and resilience of Bangladesh's workers in the apparel industry and the impact the pandemic had on them. Labor market dynamics were examined to understand if any new adjustments were made considering the COVID-19 pandemic. The current status (at the time of the survey) and comparative well-being of the workers who were retrenched due to the pandemic were investigated to determine income, expenditure, and consumption correlations. Credit market impacts were drawn from the survey by investigating assets and savings losses. In addition, this study aimed to identify a pattern in the determinants of policy beneficiary selectivity.

The status of the garment workers was evaluated by addressing the impact of the pandemic on their lives and livelihoods at the household level. Another focus of the study was to draw attention to the adjustments and adaptations made by the RMG workers to survive the pandemic's fallouts. The study further focused on determining whether public policies were able to support the crucial actors behind the economy – garment workers.

In drawing up this study, a major goal was to include the impact of the pandemic's second wave, which was missed by most previous studies. The second wave of the COVID-19 pandemic peaked in Bangladesh at the beginning of April 2021, with a higher fatality rate than the first wave.

Novelty of the Study

Given the scope of the existing literature at the time, the current study was among the first to focus on the impact and adjustments of the RMG workers in Bangladesh after the second wave of the COVID-19 pandemic had taken effect. What differentiated the current study from the existing ones was that the survey of the workers was conducted at the household level, whereas past studies were mostly performed at the individual or enterprise level (BRAC Institute of Governance and Development [BIGD], 2020; Moazzem et al., 2021; Rabbani et

al., 2020). The impact on and adjustment efforts of an RMG worker has underlying factors that influence the worker's individual behavior, and those factors include household attributes. Surveying the households can identify the consequences of the pandemic not only on the workers but also on their families. At an individual level, adaptability tends to be poor compared to the one at the household level. Therefore, this study also emphasized differentiating the effect of the pandemic on workers living with their families compared to those not living with their families.

Methodology of the Study

This study was based on three data sources: literature review, analysis of survey results, and stakeholder feedback received during a dialogue.[4] The quantitative data for the current study were collected from a total survey population of 1,379 respondents from 500 RMG workers' households employed in factories located in Dhaka, Chittagong, Gazipur, and Narayanganj districts, the major locations for the RMG industry. The survey was carried out during the first half of June 2021. The survey results are presented in detail in three core sections.

State of Knowledge

Numerous studies have aimed to determine the impact of COVID-19 on the lives and livelihoods of the RMG workers in Bangladesh. The surveys have focused on major industrial areas in the country, namely Dhaka, Chittagong, Gazipur, Narayanganj, and Savar. Most of the studies have been conducted through rapid response surveys and media tracking exercises (BIGD, 2020a, 2020b; LightCastle, 2020; Manusher Jonno Foundation [MJF], 2020), while a few were conducted online (Centre for Global Workers' Rights, 2020). Hence, the susceptibility to compromising data quality was higher. In these studies, only the fallouts of the first wave were captured. Women were over-represented in almost all the surveys, which, however, is representative of the fact that female participation in the RMG sector is higher compared to male participation (Matsuura & Teng, 2020). Many cross-country studies have also been undertaken, yielding similar insights (Kyritsis et al., 2020).

The current literature review puts forward a number of issues that brought to light the hardships and struggles of the RMG workers of Bangladesh during the pandemic-induced lockdowns. These studies found that order cancellations by international buyers and a prolonged national lockdown led to factory closures and retrenchments. International buyers denied contributing to severance pay. RMG workers in Bangladesh faced delayed and partial payments and a decline in income. To minimize the impacts, the workers needed to adjust their household expenditures, take loans, or reduce savings.

Fortunately, most of the workers did not contract the COVID-19 virus. More than 90% of workers did not contract the virus and were oblivious of any other co-worker being infected (MJF, 2020; Rabbani et al., 2020). The low infection rate

may be attributed to workers not getting themselves tested despite having COVID-19 symptoms (Rabbani et al., 2020). In line with government health guidelines, workers had to maintain safety measures before entering their workplaces. Safety precautions were adopted by most of the factories. Protective equipment, hand washing facilities, and training on COVID-19 health safety guidelines were provided by a majority of the factories (MJF, 2020).

Poor provision and implementation of government support for the RMG workers came to light. It was revealed that a large number of workers did not receive any government support, which raises the question of whether workers were even aware of the stimulus packages (Rabbani et al., 2020). Some workers did receive support from their employers (LightCastle, 2020). Moreover, a very low number of workers received food relief, but not regularly (MJF, 2020). The gaps in the analysis of government support establish a basis for both the present study and future studies to elaborate on.

Impact of COVID-19 on the RMG Workers

The pandemic had a multidimensional impact on the RMG sector. The industry was affected by market closures, interrupted shipments, and postponed payments, resulting in a liquidity crisis. Consequently, it was the RMG workers who had to suffer the burden. This section presents the areas in which the workers and their households were impacted. In reporting the impact of the pandemic during both the first and the second wave, this section specifies the impact on income, employment, expenditure, food consumption, education, and health through various framing issues, which include the location of the surveyed workers, the location of the factories, the category of the garment made in the factories, and the gender and age of the workers surveyed.

Impact on Employment

Percentage of earning members in RMG workers' households decreased.

Prior to the pandemic, 63.5% of the surveyed members in the RMG households were employed, among whom 77.5% were from the RMG sector. However, due to the COVID-19 pandemic, the percentage of earning members decreased to 59.4%, and the percentage of RMG workers among them also decreased to 73.5%. Almost one-sixth of the respondents lost their jobs, and one in every ten who owned their business had to shut it down.

Most of the retrenched workers remained unemployed.

Over two-thirds of the retrenched workers were still unemployed during the survey, and those who returned to work after 7.5 months on average were employed in sectors other than RMG. Mostly workers who were aged between 36 and 50 years were impacted in this context, which coincides with the International Labour Organization's (ILO's) brief (International Labour Organisation [ILO], 2020). The

retrenched workers from Gazipur mostly remained unemployed. These workers all worked in factories outside the Export Processing Zone (EPZ). Among the unemployed workers, approximately 71% were still actively looking for work during the survey period, whereas 21% became homemakers.

The term of retrenchment was not favorable for the workers – low percentage of the furloughed or retrenched workers received their full payment.

Only 3% of the unemployed workers reported having received the full amount of their salary, which includes outstanding payments, compensation, and other forms of remuneration Most of the workers (more than 75%) reported having received only partial payment. This is because all RMG factories did not receive the stimulus package announced for the workers' wage support. Also, many factories retrenched workers despite receiving support. More precisely, more than 15% of the workers did not receive any pay before getting laid off. More workers employed outside the EPZ did not get paid compared to workers employed in factories inside the EPZ.

Impact on Income

The average income of RMG workers' households was lower compared to the pre-COVID-19 period.

Household income, on average, was 11.4% lower compared to the pre-COVID-19 period. This reduction was caused by job and overtime losses. The highest decrease in income was experienced by households in Narayanganj, followed by Chattogram (Figure 5.1).

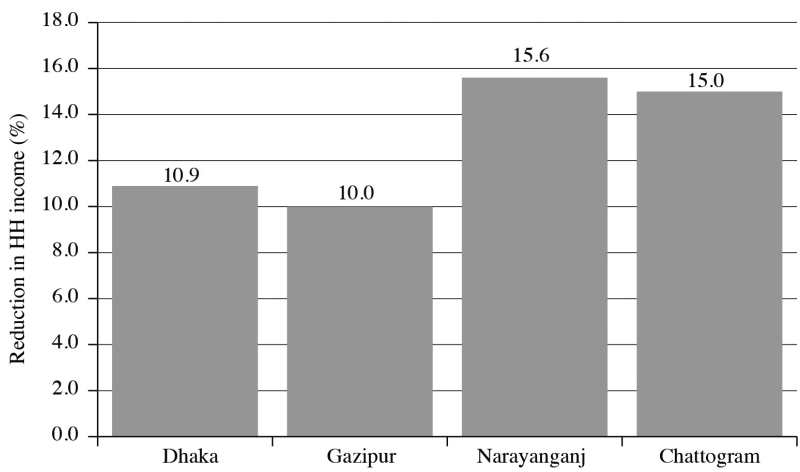

Figure 5.1 Reduction in Household Income by Location (%)

Source: Citizen's Platform RMG Workers' Household Survey 2021.

A significant proportion of workers did not receive their salaries on time during the first wave. This trend did not continue during the second wave.

During the first wave, two-thirds of the workers did not receive their salaries on time. They were either paid a partial salary or not paid at all. The Ministry of Labor further announced that absentee workers would get 65% of pay for April 2020 (Hassan & Sari, 2020). The number of workers who did not receive salaries decreased during the second wave when only one-fifth of the workers were not paid a salary on time since factories were able to regularize exports to some extent. Factories in Dhaka struggled the most to pay salaries and dues to workers during the first wave. Woven and sweater factories faced a similar predicament.

Reduction in overtime was more widespread during the first wave compared to the second wave.

On average, more than half (56%) of the RMG workers experienced a reduction in overtime during the first wave, and 41% experienced it during the second wave (Table 5.1). The RMG factories were closed for more than a whole month (from 24 March to 26 April 2020) when the first wave hit, reducing work hours (Hassan & Sari, 2020). During the second wave, RMG factories remained operational following the government's safety guidance despite the strict lockdown. In Dhaka, the workers faced the greatest reduction in overtime. Workers employed in factories outside the EPZ were more affected in this regard. Moreover, the reduction in overtime was higher among female workers during both waves.

Most of the RMG worker households faced financial difficulties in managing household expenditures.

On average, more than 52% of the RMG workers living with their families faced financial hardship during the pandemic compared with 35% of the workers staying without family. While living with a family means the financial burden of living

Table 5.1 Reduction in Salary or Overtime Reported by Workers during the First and Second Wave of COVID-19 (%)

	First wave	*Second wave*
Location of the workers		
Dhaka	80.2	47.3
Gazipur	53.8	44.1
Narayanganj	44.1	47.1
Chattogram	42.4	30.3
Location of the RMG factories		
In EPZ	50.7	39.4
Outside EPZ	63.0	45.5
Category of RMG factories		
Knit	59.8	41.4
Woven	59.2	43.4
Sweater	58.3	29.2
Mixed and others	69.4	58.1

Source: Citizen's Platform RMG Workers' Household Survey 2021.

expenses can be shared by all the earning members of the family, the burden tends to increase during a crisis. The financial hardships increase with a decrease in the number of earning members and their incomes. The figures for the unemployed workers' households were 80% and 56%, and for employed workers' households, they were 44% and 33%, respectively.

The surveyed workers faced a further decline in overall income and additional financial hardship due to the second wave of the COVID-19 pandemic.

The second wave brought additional hardship. Almost 33% of the RMG workers living with a family faced a further decline in income, and 23% faced additional financial hardship. The corresponding figures for workers living by themselves were 24% and 15%, respectively. The first wave had diminished the income of the households, and the outbreak of the second wave not long after gave them no time to pull through. Depreciation of salaries, exhaustion of savings, and accumulation of debts were building up on top of rising expenditures. More workers living with families and employed in factories within the EPZ (65%) reported having faced financial hardship compared to those employed in factories outside the EPZ (50%).

The RMG workers' household expenditure changed amid the financial difficulties.

The household expenditure declined for employed workers. Employed workers living with a family recorded a greater expenditure decline than those living without a family. Household expenditure could be shared among the members, reducing the pressure of managing expenses on a particular person. However, for unemployed workers' households, expenditures increased, and those who were living by themselves experienced a higher increase in expenditure compared to those living with family. The highest overall decline in household expenditure was recorded in Gazipur.

Impact on Food Intake

Reduction in carbohydrate intake was negligible, whereas protein and vitamin intake were reduced daily during the lockdown.

Carbohydrates, essentially rice for such households, are staples to their diet. Hence, there was only a negligible reduction in carbohydrate intake (Table 5.2). However, food items that were not deemed essential, such as fruits, soft drinks, and street

Table 5.2 Average Number of Days the Surveyed Workers' Households Had the Specified Food

	Carbohydrate	*Protein and Vitamins*	*Milk, fruits, soft drinks, juice, street food, pitha*
Prior to COVID-19	7	5.1	2.6
During lockdown	6.8	4.1	1.6
In the last month	6.8	4.3	1.6

Source: Citizen's Platform RMG Workers' Household Survey 2021.

food, were generally consumed less by these households and further declined due to the COVID-19 pandemic.

Impact on Education

Prior to COVID-19, 17% of the household members aged between 4 and 26 were enrolled in education.

Almost 92% of the household members who were enrolled in educational institutions before the COVID-19 pandemic did not regularly attend online classes or courses due to institutions not adopting online classes and poor internet connectivity.

Nearly 3% of the previously enrolled students responded that they would not continue education if educational institutions reopened. Among the dropouts, four joined the workforce and two got married (one member was forced to get married early due to the pandemic). Such an impact on education will have deeper implications in the long term.

Impact on Health and Well-Being

Approximately 43% of the surveyed household members had COVID-like symptoms, but only 2.7% went for tests.

When asked why the respondents did not go for the COVID-19 test, more than half of them said they either did not suffer much or they did not feel the need to get tested. Bangladesh initially had the second lowest test rate in Asia because of the reluctance of its citizens and low testing capacity (Sakib, 2020). No one tested positive among the respondents who did opt for the COVID-19 test (Table 5.3).

Nearly 5% of the household members either gave birth during the period of ten months starting from September 2020 until the survey or were pregnant during the survey.

Nearly 42% of these household members missed a scheduled regular checkup due to the COVID-19 pandemic. Almost four in ten of the expecting mothers gave birth

Table 5.3 Incidence of COVID-19 among the Household Members

	Number of people	*Percent*
Total members	1,379	100
Male	693	50.3
Female	686	49.7
Symptoms	599	43.4
Got tested	16	2.7
Tested positive	-	-
	Number of centers	**Average cost (in BDT)**
Public test center	13	360
Private test center	3	2183

Source: Citizen's Platform RMG Workers' Household Survey 2021.

at home, where at least two of them would have gone to the hospital for delivery if there was no COVID-19.

Almost 20% of the households reported having missed child immunization (children aged three or below).

Social distancing, home quarantining, lack of vaccinators, fear of the spread of the virus, and most importantly, negligence of public organizations in raising awareness of delayed immunization (Hanifi et al., 2022).

About two-thirds of the households stopped recreational activities such as visiting parks, leisure, tourist spots, and friends or relatives and going to the cinema and theaters.

At least four out of five of these households stopped recreational activities for fear of getting infected.

More than 7% of workers reported that there was an increase in harassment, and more than 4% of workers reported an increase in workplace violence during the COVID-19 period.

Nearly 20% of the employed respondents faced violence or harassment in the workplace. Almost 8% more women experienced violence and/or harassment compared to men. Workers employed in this sector very often experience violence and harassment at work, which is a major cause of job turnover (Matsuura & Teng, 2020). Thus, the pandemic highlighted the need to ratify ILO's Convention No.190 (C190) (ILO, 2021).

At the time of the survey, only 1% of the respondents received either the first dose or both doses of the COVID-19 vaccine.

The mass vaccination drive in Bangladesh started in February 2021 only for people aged above 40. It was not until July that the age limit was lowered for vaccination. However, it was noticed that only one household member aged 40 among all the eligible respondents received both doses of the vaccine.

The survey findings showed that due to job losses, unpaid salaries, and overtime cuts, RMG workers and their households encountered additional financial hardships. The workers' households most commonly reduced their food intake and overall household expenditure. Dropouts and early marriages were also observed among the children enrolled in education before the pandemic. The next section consolidates how the worker households attempted to overcome these impacts.

Coping Mechanisms of the RMG Workers

The RMG workers had to adopt different coping strategies to make ends meet. Some coped by adjusting their food consumption; for some, taking loans or withdrawing savings was the only way to reduce their financial burden. The current section elaborates on the survey findings to establish how the RMG workers battled the pandemic. The coping approaches undertaken by the workers and their households (cut down on non-food and food expenditure) are discussed next.

Coping via External Finance

To deal with additional financial hardships, most of the households either took loans or withdrew their savings.

During the first wave, 49% of all the households faced additional financial hardships and, therefore, undertook 17 different combinations of coping strategies to mitigate the burden. The coping strategies included selling or mortgaging assets like land, gold, and livestock, taking loans, and withdrawing savings. They even sold harvests or labor in advance. During the second wave, 21% of all households faced additional financial hardships and tried to cope by adopting 11 different combinations of strategies. The percentage of households who responded to have adopted specific coping mechanisms is shown in Table 5.4.

Therefore, a lower number of households opted for financial coping strategies, especially taking loans and withdrawing savings during the second wave. This was due to the prevailing indebtedness and exhaustion of savings during the first wave.

More female respondents faced additional financial hardships compared to males during both the first and second waves of the COVID-19 pandemic. During the first wave, 245 households (out of 500) reported facing additional financial hardships, where 105 were male and 140 were female. Moreover, among the 106 households that encountered additional financial hardship during the second wave, 48 were male, and 58 were female. Therefore, more female worker households took loans or withdrew savings in comparison to male worker households (Table 5.5)

Acquaintances, non-government organizations (NGOs), and micro-credit programs came to the rescue.

Community networks tend to strengthen during times of crisis (Petrus, 2021). Nearly two out of every three households took loans from their friends, relatives, or neighbors. Moreover, almost two out of every five households could obtain

Table 5.4 The Proportion of Households Facing Additional Financial Hardships Who Adopted Different Financial Coping Mechanisms (% of n)[5]

Coping strategies	*First wave (n = 245)*		
	Living with a family (n = 213)	*Living without a family (n = 32)*	*Second wave (n = 106)*
Took loan	66.2	62.5	67.0
Withdrew savings	23.5	28.1	37.7
Sold labor in advance	3.8	3.1	7.6
Mortgaged gold	1.9	-	3.8
Mortgaged land	0.5	3.1	2.8
Sold gold	0.9	-	1.9
Sold livestock	1.4	-	0.9
Sold harvest in advance	0.9	-	0.0
Others	15.9	15.6	-

Source: Citizen's Platform RMG Workers' Household Survey 2021.

Table 5.5 The Proportion of Households Who Adopted Different Financial Coping Mechanisms by Gender

	Male worker households (%)	
	First wave	*Second wave*
Took loan	65	31
Withdrew savings	27	17
	Female worker households (%)	
	First wave	*Second wave*
Took loan	86	40
Withdrew savings	32	23

Source: Citizen's Platform RMG Workers' Household Survey 2021.

loans from local non-government organizations or other micro-credit programs. Due to limited access to formal financial channels of borrowing, only one in every 26 households took loans from banks or other non-banking financial institutions (NBFIs).

On average, households withdrew savings equivalent to 2.3 months' income, and their average loan amount was equivalent to 2.2 months' income.

Nearly 94% of the funds from loans, savings, and asset sales were spent on regular expenses.

Coping via Adjustments in Food Consumption

Traditionally, marginalized households tend to spend a large proportion of their income on food items; therefore, when faced with financial difficulties, they tend to reduce their food expenditure. Households adjusted their food consumption by reducing the number of meals, the number of items in a meal, or even the quantity of protein (meat or fish).

The households most commonly undertake a reduction in the quantity of protein intake. The second most prevailing coping mechanism was the reduction in the number of items in their meals.

Every three in five households reduced their quantity of protein intake, and more than half of the households reduced the number of items in their meals.

During the first wave, workers living on their own coped better in terms of food consumption when compared to workers living with their families.

Nearly 10% more workers living on their own reported no adjustment in food consumption compared to workers living with their families.

During the second wave, households coped better in terms of food consumption.

Households tried to cope by reducing their food consumption even during the second wave; however, the percentage of households undertaking these coping

mechanisms decreased. During the first wave, nearly 40% of households did not make any adjustments in their food intake, which increased to 52% during the second wave.

Relocating as a Coping Mechanism

Most of the retrenched workers did not relocate.

Approximately 4% of the retrenched workers returned to their hometowns, 3% relocated to another district, and 2% shifted cities but stayed in the same district. However, 91% of the retrenched workers did not relocate.

Adjustments Made in Remittances

At the time of the survey, nearly 61% of the workers sent remittances to their families living in their hometowns or other places, among whom 60% either sent less money or reduced their frequency of sending money due to COVID-19.

Among the workers who lived without their families and sent remittances to them, more than 50% mentioned that their families are dependent on the remittance and cannot manage without it.

Recovery Status of the Workers

Among the 43% of RMG workers' households that faced additional financial hardship (n=213) due to COVID-19, only 32% of households recovered (in five months on average) at the time of the survey. The households that did not recover expected to do it in approximately 28 months. Among the 6.4% of RMG workers who lived by themselves and faced additional financial hardships (n=32), 50% recovered (in nearly 4.5 months). The workers who did not recover expected to do it in the next 26.5 to 27.5 months. However, as the crisis further unfolds, the recovery status of the workers would most likely change.

The coping strategies most commonly used by the households were borrowing money and reducing their consumption of food. The incidence of borrowing money was higher during the second wave. Workers even had to send fewer remittances to their families to cope with the financial burden. Therefore, in addition to individual coping strategies, the RMG workers needed external support to recover. The next section interprets the survey findings on the public support mediums available to the workers during the pandemic.

Effectiveness of Public Policies for the RMG Workers

Among the households that faced additional financial hardship, more than 88% needed cash or other in-kind support to overcome the burden. However, only one in every five households received financial assistance from the government or any institution (e.g., NGO) or individuals during the COVID-19 pandemic (Table 5.6).

Table 5.6 Households That Received External Support (%)

Type of external support	*Households that faced additional financial hardships (n = 245)*	*All households (n = 500)*
No assistance	80.0	85.0
Government support	4.5	3.0
NGO	3.7	2.0
Friends, neighbors, family	9.4	5.2
Charity (individual/institutional/ religious institutions)	3.3	4.4
Employer	0.8	1.0

Source: Citizen's Platform RMG Workers' Household Survey 2021.

Table 5.7 The Type of Government Support Received by the Households (%) (n = 15)

Combination of types of government support	*Percent*
Government cash assistance (BDT 2,500)	26.7
Government cash assistance (BDT 2,500) & Food assistance	6.6
Food assistance	53.3
Food assistance & Public works program	6.7
Food assistance + Safety equipment (e.g., mask, gloves, PPE, etc.)	6.7
Total	100

Source: Citizen's Platform RMG Workers' Household Survey 2021.

Among the 3% of total households that received government support, 47% received it one-off and 53% multiple times (during the second wave). Government support was received more commonly in the form of food assistance than as cash or any other form of in-kind support (Table 5.7). However, the number of households reported receiving government assistance is extremely low. This may be why the households' recovery time perceived from this survey is so lengthy. Five out of every six recipients of government support were men. Moreover, more workers working in factories outside the EPZ received public support than those employed in the EPZ.

Only 17.4% of the RMG workers' households reported that the factories they worked or used to work in received credit under stimulus packages.

However, most workers were unaware of the credit under stimulus packages.

The households desperately needed external support, which was not provided promptly. Only 15% of the households received support from the government or through the community network. Thus, the next section consolidates the survey findings and brings together key recommendations drawn from the survey's perspective and the earlier press briefing discussion.

Conclusion

The RMG industry of Bangladesh was facing a plethora of challenges even before the pandemic hit. The existing difficulties were only exacerbated by the coronavirus. The RMG workers live on poverty wages, often struggling to afford their nutritional and healthcare needs and children's education. The COVID-19 outbreak aggravated their situation. Income had decreased due to overtime reduction and retrenchments during the first and second waves of the COVID-19 pandemic. Most of the workers who lost their jobs found it difficult to rejoin the industry. The lack of safety nets implied no redundancy payouts or overdue wage payments.

Food consumption was considerably impacted due to diminished income induced by the pandemic. Even though carbohydrate consumption was marginally affected, protein and vitamin consumption were curtailed substantially. The impact on food consumption deteriorated more during the second wave compared with the first wave. In due course, the households that opted for reduced consumption expenditure by adapting to a low-cost carbohydrate-based diet were likely to experience a negative health impact (i.e., malnutrition).

Considering the second wave, indebtedness increased for the workers because they took more loans and used up most of their savings during the first wave. The loans were mostly required for daily essentials, not new investments or asset purchases. The loans increasingly built up, presumably due to no income restoration. A large number of these households are likely to lose all their savings and fall into a debt trap.

Moreover, remittances and money transfers decreased. An interesting observation drawn from the survey was that the relocation of the RMG workers was recorded at a highly negligible level. Moreover, the workers who lived with their families during the pandemic coped better with the crisis. However, on average, the households' perceived recovery time was 27 months, and a new wave may prolong their recovery time.

It is critical to understand whether the revealed reduction in earnings primarily originated from the decline in overtime payments is a short-term coping strategy for the firms or the practice that will be applied over the medium term. In this context, it is vital to ensure that apparel workers have collective bargaining power. Their low income–savings ratio indicates their inability to absorb shocks. Moreover, the soaring commodity prices call for the readjustment of the workers' wages. Thus, the Minimum Wage Board should revise the wages of the workers and maintain regular reviews (the last review was in 2018). Including new components to the wage structure (i.e., service benefits, childcare, and education allowances) is imperative.

There is a major gap in the social security system for the RMG workers. The mobilization of existing central welfare funds for workers' welfare purposes has largely been questionable. Therefore, it is time to undertake a strong system-wide commitment by introducing human resource support, insurance, public housing, and formal meal plans. Moreover, public support should be dedicated to the RMG workers by disseminating essential food commodities at subsidized prices through the ongoing 'open market sales (OMS)' program. This can be done by

arranging such OMS centers in community apparel industrial zones during the evening hours. Additionally, more fair-price shops need to be established and regulated.

Moreover, access to easy interest-free loans can help RMG workers meet emergency requirements without falling into prolonged debt liabilities. Interest-free loans can be provided through the central bank, NBFIs, or even their employers.

Although RMG workers are part of the formal labor force, due to access and information inadequacy, countless workers are not included in the financial safety nets. Therefore, the workers who were furloughed during the pandemic could not receive the needed support. The EU support for retrenched workers in the apparel sector could not be utilized. The labor leaders, entrepreneurs, the government, and independent CSOs need to develop a joint action plan to utilize such funds for the retrenched workers. Putting together an integrated serviceable database is also essential to ensure the delivery of private and public support.

The likelihood of a fourth industrial revolution will change Bangladesh's RMG industry. The country currently depends on a small basket of apparel export products. International competitors are already surpassing Bangladesh by venturing into fast fashion and employing automation. More initiatives are required to equip workers with post-COVID-19 adaptive skills. Therefore, it is high time for the apparel industry to institute skill upgrades.

The RMG industry is the golden goose of Bangladesh. With the country's graduation from the least developed countries (LDC), considerable preference erosion is certain. The pandemic had already altered the habits of the buyers (i.e., nearshoring, delaying payments, discounted prices from buyers, and ordering in small batches). The government needs to provide policy support to ensure the country's bargaining power in the international markets. Innovation, diversification, and green technology will help put an end to the woes of this industry.

Notes

1 The fund was in effect from 2 April 2020 (Bangladesh Bank, 2021).
2 Interest rate was not charged; instead, a 2% one-time service charge was deducted (Bangladesh Bank, 2021).
3 The first lockdown was eased on 31 May 2020, after 66 days of strict lockdown.
4 The dialogue on 31 August 2021, titled 'Bangladesh's RMG Sector and Workers: Anticipating the Future', was hybrid in nature and included eminent discussants, stakeholders, and actors across the RMG value chain.
5 The table shows the proportion of households who undertook individual coping strategies. It needs to be kept in mind that a combination of strategies was used by 14% of households living with a family, and 12.5% living without a family during the first wave and by 18% of the households during the second wave.

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6 Household-Level Adjustments in the Labor Market

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Introduction

For Bangladesh, COVID-19 has been a multidimensional crisis – health, humanitarian, and economic – which has short-term impacts and medium to long-term ramifications at macro, meso, and micro levels. Since the detection of the first COVID-19 case in March 2020, Bangladesh has experienced frequent stoppages and a slowdown in economic activities. These have resulted in the loss of employment and income for many people. The number of people at risk in terms of employment could reach nearly 13 million because of the COVID-19 pandemic, which is approximately 20% of the country's labor force (Citizen's Platform for SDGs, Bangladesh, 2020). Bangladesh's poverty rate (upper) could reach as high as 35.0%, from 24.3% in 2016 because of COVID-19. This would mean that an additional 17.5 million people could have fallen into poverty (Centre for Policy Dialogue, 2020). To what extent the aforementioned two sets of people overlap, however, remains a question.

Undoubtedly, the actual impact of COVID-19 on employment can be best captured through an in-depth study of the adjustment processes of individuals and households in the areas of employment and income. Such an investigation would allow obtaining a deeper understanding of COVID-19-induced vulnerabilities and risks, adjustments and opportunities, and efficacy of delivery of government policies, as far as the employment scenario was concerned. Individual and household-level adjustments in income and expenditure critically hinge on the underlying adjustments that must be made by these actors in terms of employment during pandemic times.

Because COVID-19 is an ongoing phenomenon, an investigation into the employment adjustment processes can give policymakers an informed understanding of policies to help the vulnerable and at risk within the labor force to better adjust and cope with the situation. This will also provide an understanding of how this may affect some of the other relevant development areas in a cross-cutting manner. The chapter intends to offer a set of policy suggestions to enable policymakers to formulate appropriate labor market and macro/sectoral policy interventions to address the COVID-19-related challenges.

The primary objective of the current study was to examine in detail the adjustment processes from the point of view of employment arising from the COVID-19

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pandemic. The focus of the study was primarily set on the adjustment mechanisms at the individual level rather than on investigating the nature of the shock or impact. This is a departure from available literature concentrating mostly on how the pandemic-induced shocks have impacted at macro and household levels (e.g., International Labour Organization [ILO], 2020). Deviating from the consumption-centric focus of similar studies in Bangladesh (e.g., Power and Participation Research Centre & BRAC Institute of Governance and Development, 2020a, 2020b), the present study looks at the adjustment process from the employment angle. Thus, the chapter puts the spotlight not so much on the labor market but on households as units of players in the labor market, which is also a distinct departure. The specific objectives of this chapter are four-fold. First, the chapter seeks to examine the status of employment and income of individuals immediately before and after the pandemic. Second, this chapter identifies channels of COVID-19-induced impact on the employment scenario at the household level. Third, this chapter examines the processes of adjustments at the individual and household levels in terms of employment and income. Finally, this chapter suggests some crucial policy interventions in view of the above three objectives.

Global Trends of Employment in View of COVID-19

The share of employed people has not entirely recovered till 2021, and the slack in the labor market has been pronounced in many countries. Youths, particularly females, have suffered from greater employment deficits when the labor market of middle-income countries continued to lag (ILO, 2021b). The number of unemployed people in the Asia-Pacific region increased by 15 million in 2020, which is 0.8% higher than in 2019. In Asia and the Pacific, youth unemployment was higher, and at some point, they had stopped searching for jobs, indicating the difficulty in getting a job during the pandemic (United Nations Economic and Social Commission for Asia and the Pacific [UNESCAP], 2021). Furthermore, 60% of households in emerging markets and developing economies (EMDEs) have suffered income losses after the pandemic outbreak. The percentage is even higher (70%) in lower-income countries (LICs) and Sub-Saharan African countries (SSACs). Work stoppages have also been prevalent in these regions. While 36% of households have suffered from work stoppages in LICs, 48% have suffered in Latin America and the Caribbean (LAC) region (World Bank, 2022).

The pandemic has disproportionately affected different industries, and hence, it is expected to redistribute workers across industries. As inter-industry reallocation is more time-consuming than within-industry reallocation, this reallocation of labor is expected to lead to greater unemployment for a longer duration. During the peak of the pandemic, such reallocation may increase the unemployment rate by two percentage points (David, 2020). The services sectors experienced higher GDP losses because these sectors were disproportionately affected during the pandemic. A 3.3% larger contraction was experienced by countries with a 10% higher services-GDP ratio than the comparators. Even in less affected sectors, such as agriculture (mostly unaffected) and manufacturing, underutilization of capacity

was observed because of the restrictions to moderate the spread of the pandemic. This potentially lowered total factor productivity and led to intra-sectoral shifts into low-productivity agriculture (World Bank, 2020).

Agricultural workers worldwide have suffered less than the manufacturing and mining sector workers regarding job loss and income loss, by 19% and 13% less, respectively. This has potentially cushioned the poorest group of society from the adverse effects of the pandemic while they were left with little choice (World Bank, 2022).

The pandemic has increased the number of unemployed population and the incidence of underemployment. Policy responses have helped enterprises retain their workers but with fewer working hours and associated income losses. ILO estimates of labor income losses suggest that they have been highest in South and South-West Asia (13.5%) (UNESCAP, 2021). Fiscal stimulus in developing countries, particularly in lower-income countries, remained largely inadequate, although these packages are essential to support recovery (ILO, 2021b).

The global labor market recovery stalled in 2021 due to reduced working hours caused by the pandemic. In 2020, working hour loss was approximately four-fold higher than in 2009 when the global financial crisis occurred (ILO, 2021c).[1] In 2021, working hours continued to decline and were estimated to be significantly lower compared to the last quarter of 2019 (ILO, 2021b). After the pandemic, the loss of working hours was remarkably higher in Southern Asia, Southern Europe, and the LAC region (ILO, 2021c). Vaccination will remain a key factor in deciding the labor market trends in the future. ILO (2021b) estimated a 2% and 1.2% increase in working hours in lower-income and lower-middle-income countries during the last quarter of 2021, in a 'fair vaccination'[2] scenario.

Despite the resumption of economic growth, the recovery in work hours has remained static globally, with a considerable divergence between developing and advanced economies. The updated country-level data and global estimates corroborate this diverging recovery path in the first half of 2021, followed by the unequal impact on employment in 2020 originating from the pandemic (ILO, 2021b). Following a rebound in 2021, the global economy is showing signs of deceleration owing to the new threats from COVID-19 variants and escalation in inflation, income inequality, and debt. This slowdown will coincide with an expanding divergence in growth rates between EMDEs and advanced economies. According to the World Bank (2022), economic growth in advanced economies is estimated to fall to 3.8% in 2022 from 5% in 2021, whereas in EMDEs, it is expected to decline to 4.6% in 2022 from 6.3% in 2021. However, the report (World Bank, 2022) predicts a full output recovery for advanced economies in 2023 but not the EMDEs.

The disproportionate impact of COVID-19 has increased income inequality between and within countries, where the former is considerably higher than the latter (World Bank, 2022). Within-country inequality is largely driven by employment losses of the most vulnerable due to their over-representation in most hard-hit sectors during the pandemic. In the United States and the United Kingdom, a higher number of job losses occurred at the lower end of the labor market distribution, leaving high-paid jobs mostly intact (ILO, 2021c). In LICs, where most of

the population comprises women, youth, and workers with lower human capital, income loss and employment loss were only partially reversed. Within-country income inequality remains considerably high in some EMDEs, such as the LAC region and SSACs, which comprise two-thirds of the global extreme poor (World Bank, 2022).

The pandemic has partially reversed the decline in global income inequality occurring over the last two decades (World Bank, 2022). More significantly, the between-countries income inequality is likely to return to the degree prevalent in the early 2010s. Productivity augmenting reforms and the global rollout of vaccines can lower-income inequality between countries (Kugler et al., 2021; Narayan et al., 2022; World Bank, 2022).

COVID-19 has inflicted an asymmetric global shock, resulting in greater economic divergence between and within countries. There are major concerns that hard-hit businesses and workers would benefit less from improved economic conditions in the coming days. The concept of 'K-shaped recovery' has captured these concerns, where some parts of the economy and labor market benefit strongly from the upturn while others are left behind (UNESCAP, Asian Development Bank, & United Nations Development Programme, 2021). The uneven recovery is evident both between industries and among different groups of individuals in the labor market. For instance, the information and communication technology (ICT) sector has benefited substantially during the pandemic, whereas services, travel, and tourism have suffered tremendously. Furthermore, while overall employment has nearly recovered, the youths, women, and people with lower human capital have suffered employment losses (Claeys et al., 2021). Employment opportunities continued to decline in the construction, retail, and manufacturing sectors in the third quarter of 2020. In contrast, employment in the ICT and financial sectors rose by 5% and 3.4% during the second quarter of 2020 (ILO, 2021c).

In general, such diverging sectoral patterns can be observed across many countries. There have been considerable variations in the magnitude of intersectoral differences between countries. Some countries have experienced greater intersectoral divergence than others, either due to strong policy support to stimulate the labor market or because the sectors were relatively less affected by the pandemic. For instance, Brazil, Costa Rica, Spain, and the United States have experienced greater intersectoral divergence than other countries (ILO, 2021c).

Conceptual Framework

In any crisis, such as the ongoing COVID-19 pandemic, questions regarding how economies and economic agents respond to the changed scenario arise immediately. Generally, responses to shocks can be associated with consumption smoothing. However, these may vary depending on the nature and source of shocks. For example, shocks may be idiosyncratic or covariate in nature. Moreover, other factors can exacerbate them, making the attribution to a particular shock problematic. The uncertainties associated with shocks create the need to address longer-term issues beyond immediate arrangements (Chapter 2).

Several concepts on response to shocks are overwhelmingly present in the existing literature. For instance, *coping* strategies generally refer to reactive, rapid, and ad hoc or temporary responses or remedial actions. Typically, these entail a short-term vision on the part of affected actors in view of an emergent shock in order to survive and mitigate its impact (CARE International, 2009; Davies, 1993; United Nations Office for the Coordination of Humanitarian Affairs, 2012; World Health Organization, 1998). The term *adaptation* is mostly used in cases related to climate change and natural disasters (Ayers & Dodman, 2010; Huq & Reid, 2004; Schipper, 2007). The major difference between *coping* and *adaptation* emerges from the relevant timeframe since the latter is usually associated with a longer-term vision of adjustment. *Resilience* is often differentiated from *adaptation* because the former involves acquiring new capabilities and emerging stronger, whereas the latter entails changes to fit new circumstances (Wong-Parodi et al., 2015). More precisely, *resilience* can be linked to the attainment of capacities to absorb shocks, adapt to the difficulties of shocks, and anticipate shocks (Chapter 2). While each of these concepts is highly context-specific and has a particular scope of definition, they are often used in a conterminous manner that blurs the lines between them.

Instead of resorting to the aforementioned jargon, the current study applied the term *adjustment* to the responses taken by individuals in the areas of employment and income in the context of COVID-19. In this case, the *adjustment* process refers to the short-term changes in employment status (e.g., occupation, economic sector, type, and working hours) to return to the earlier situation, and process or feature change to fit with the new situation. The *adjustment* process can be considered conceptually different from *coping* or *resilience*. While *coping* deals with the measures taken in response to a shock, *resilience* relates to the capacity to recover from a shock and return to the benchmark situation. Broadly, *adjustment* can be considered a hybrid of the *coping* and *adaptation* processes.

This chapter primarily examined the employment-related adjustment process using five major trends. These can be categorized under two broad clusters, namely, transition and reaction. The transition cluster includes two trends: change in labor force status (e.g., from employed to unemployed) and change in the sector of employment (e.g., from agriculture to industry). The reaction cluster involves the individuals' adjustments while facing the adversities of the pandemic, namely, loss of employment, working hours, or income. However, it must be noted that the overall adjustment process in the areas of income and employment is by no means limited to these five trends. Alongside the individual-level adjustments, the current study also investigated household-level adjustments, although at a limited scale.

For this study, individual income/income was categorized as wages of day laborers, partial wage earnings of self-employed workers, salary earnings of employed workers, partial earnings/draw of business owners, dividend of shareholders, and all other forms of total compensation received by an individual for their productive activities in the respective sources.[3]

The present study employed an integrated research approach that involves both quantitative and qualitative tools and techniques. As part of the quantitative

tools, a nationally representative household survey was conducted in 16 districts of Bangladesh,[4] selecting 2,600 households. Data collected through the household survey was analyzed to generate descriptive statistics. Fieldwork for the survey was conducted from late January to early February 2021, which is denoted as the survey period throughout the chapter. Focus group discussions (FGDs) were carried out as part of the qualitative tools.[5]

Impact of COVID-19 on the Labor Market of Bangladesh

Employment Scenario

A large segment of people who were employed in February 2020, became unemployed due to the pandemic. Of the individuals who were employed in February 2020, 61.57% reported that they had become unemployed because of the pandemic, at least temporarily after the outbreak. However, the majority of them remained unemployed for 31–60 days and did not pursue any adjustment strategies.

Overall, approximately 85% of the people who were employed in the pre-COVID period but lost their jobs due to the pandemic remained unemployed for more than one month. On a positive note, almost all of these people were able to find jobs by January–February 2021, when the most acute impacts of COVID-19 had started to recede, although at the cost of various degrees of income erosion.

Reallocation of Jobs

The share of the employed population has increased in agriculture, decreased in services, and remained nearly stagnant in the industry sector after the COVID-19 outbreak. The overall growth in employment between February 2020 and the survey period appears to be driven by the increase in agricultural employment at both the national and disaggregated levels. This is evident from the sector's considerable share in employment and the substantial growth of the employed population in the sector (Figure 6.1). These findings are consistent with the labor force estimation of Bangladesh Bank (2021) in the cases of industry and services sectors, even though the labor force scenario only partially reflects the overall employment scenario.[6] Despite the overall share of employment being much higher in the services sector, the growth at the national level is negative (–1.54%).

This negative trend is also confirmed by Annex Table A6.1, which shows that the net transition to modern sectors decreased between February 2020 and February 2021. This implies that there has been a negative structural change in Bangladesh after the pandemic. Occupational mobility in 2020 was also investigated by Raihan et al. (2021). They found that the share of households relying on agriculture increased to 29.4% in 2020 from 26% in 2018, whereas the reliance on the service sector declined to 44.7% in 2020 from 46.4% in 2018.

The majority of the increased employment came from people engaged as self-employed, contributing family members, or day laborers (Table 6.1). Even though

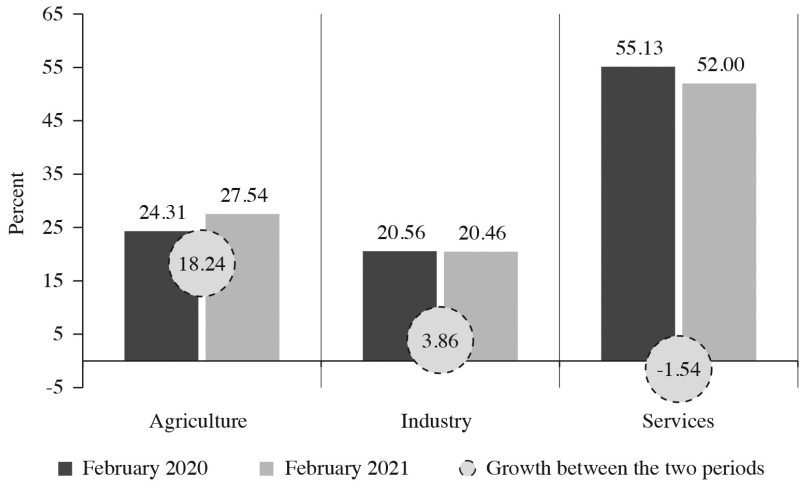

Figure 6.1 Share and Growth of Employed Population Aged 15 Years or Above According to Broad Economic Sectors (%)

Source: Calculated from the household survey data.

self-employment represents a large part of employment opportunities in Bangladesh, approximately 52% of the population have started working as contributing family members or day laborers after the outbreak of COVID-19 (Table 6.1). This potentially resulted in an increase in the informal sector's employment. Because the informal sector exhibits lower productivity, this shift may threaten the country's overall economic potential in the long run.

Women who are working as self-employed and contributing family members show incremental shares of 24.44% and 17.46%, respectively. The negative incremental share of urban males involved as employees (–0.47%) implies that the number of urban male employees reduced between February 2020 and the survey period.

Change in Working Hours

A decline in average weekly working hours was observed in the agriculture and industry sectors, with working hours in services being mostly unaffected at the national level[7] (Table 6.2). Average weekly working hours in agriculture decreased from 37 hours in February 2020 to 34 hours during the survey period. Similarly, there was a decrease from 55 hours to 53 hours over the same timeframe in the industry sector.[8] The overall negative growth in average weekly working hours between February 2020 and the survey period was mostly driven by agriculture.[9] Curiously, at the aggregate level, the decline in average working hours coincides with the increase in employment between the two periods in the case of agriculture (Figure 6.1 and Table 6.2). Hence, it may be inferred that the rise in employment in agriculture also produced increased underemployment and hidden unemployment in Bangladesh due to the COVID-19 pandemic.

Table 6.1 Incremental Share of the Employed Population Aged 15 or Older, between February 2020 and the Survey Period, According to Employment Status, Gender, and Area (in Percent)

Status in employment	*Rural*			*Urban*			*National*		
	Male	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*
Employer	−0.22	1.66	1.44	1.61	0.00	1.61	1.39	1.66	3.05
Self-employed	7.20	17.44	24.64	5.02	7.00	12.02	12.21	24.44	36.66
Contributing family member	5.39	15.34	20.73	2.01	2.12	4.13	7.40	17.46	24.86
Employee	7.99	1.59	9.58	−0.47	1.49	1.02	7.52	3.08	10.61
Day laborer	14.73	6.93	21.67	4.30	1.01	5.30	19.03	7.94	26.97
Apprentice/intern/trainee	1.20	0.15	1.35	−0.08	0.00	−0.08	1.12	0.15	1.28
Domestic worker	N/A	−0.10	−0.10	N/A	1.24	1.24	0.00	1.14	1.14
Others	−0.87	−2.51	−3.39	−1.60	0.42	−1.18	−2.47	−2.09	−4.56
Total	35.42	40.50	75.93	10.79	13.29	24.07	46.21	53.79	100.00

Source: Calculated from the household survey data.

Table 6.2 Average Weekly Working Hours per Employed Person According to Broad Economic Sector

Broad economic sector	*Average weekly working hours*						*Growth*		
	February 2020			*Survey period*			*Between February 2020 and the survey period*		
	Rural	*Urban*	*National*	*Rural*	*Urban*	*National*	*Rural*	*Urban*	*National*
Agriculture	37	34	37	35	29	34	−5.41	−14.71	−8.11
Industry	56	53	55	54	50	53	−3.57	−5.66	−3.64
Services	54	52	54	54	53	54	0.00	1.92	0.00
Total	49	51	50	48	50	48	−2.04	−1.96	−4.00

Source: Calculated from the household survey data.

Restoration of Income to the Pre-COVID Level

A higher number of jobs did not translate into the restoration of pre-COVID-level income, let alone higher income. There was income erosion of various extents. Even though the pandemic affected people's income more in urban areas compared to rural areas, a fall in income is discernible across all locations and occupations (Table 6.3). Among the sectors, agriculture has suffered the most in terms of reduced income at both national and disaggregated levels (Table 6.3). Apart from agriculture, the manufacturing, transport, and construction sectors have suffered the most in terms of reduced income. LightCastle (2020) also found the agriculture, manufacturing, transport, and construction sectors to be the most affected occupational sectors with the highest number of job losses.

People's Perceptions of Their Present Employment Status

A substantial number of people feel that their employment situation has worsened because of the COVID-19 pandemic. Approximately 43% of the employed population stated that the pandemic has worsened their employment situation than the pre-COVID-19 period. However, about 48.91% of people reported that their employment situation has been similar both before and after the outbreak.

Coping Strategies of Households

If the household-level coping strategies of the aforementioned three categories of individuals, namely, those who became unemployed, whose working hours declined, and whose income decreased as a result of COVID-19, are taken into cognizance, it becomes apparent that the most pursued coping strategies include obtaining credit, changing dietary patterns, relying on savings, and taking help from relatives or friends. Among these, the majority of households relied on obtaining credit. Households of 60.91% of individuals who lost their jobs because of COVID-19 have obtained credit as a coping strategy. The relevant shares for individuals who lost working hours or lost partial income were 59.17% and 61.69%,

Table 6.3 Growth Rate of the Average Monthly Income of Individuals, between February 2020 and the Survey Period, According to Sector of Occupation and Location

Sector of occupation	*Rural*	*Urban*	*National*
Agriculture, forestry, and fishing	−15.20	−29.07	−16.50
Manufacturing	−13.83	−10.68	−12.75
Construction	−5.54	−12.94	−8.39
Other industries	2.06	4.70	2.09
Wholesale and retail trade, motor vehicle repair	−12.73	−15.57	−13.86
Transportation and storage	−7.39	−11.02	−8.66
Accommodation and food services	12.65	−19.17	−4.06
Other services	−5.97	−11.24	−7.87
Total	−11.31	−12.97	−11.92

Source: Calculated from the household survey data.

respectively. The aforementioned coping strategies were also reported as most commonly pursued in other studies, including Raihan et al. (2021) and Genoni et al. (2020).[10] A moderate percentage of respondents considered government assistance as a form of household-level coping strategy (about 20% of all households).

Income Inequality

The share of income by the lower five decile households, representing 50% of the population, decreased between February 2020 and the survey period. Consequently, inequality increased during the aforementioned period. For households belonging to the first decile, the income share was 3.35% in February 2020, which decreased to 3.04% in the survey period at the national level. Similarly, the income share reduced from 8.32% in February 2020 to 8.13% for households in the fifth decile after the pandemic (Table 6.4).[11] This trend is similar across the national and disaggregated deciles except for a few discrepancies. For instance, in rural areas, the income share increased for people from the fourth decile during the aforementioned period (Table 6.4).

Adjustment of the Labor Market and Employment in Bangladesh

How Did the Pandemic Impact the Employment Scenario?

The chapter reports that a large section of the employed population, i.e., more than 60%, lost their jobs at some point due to the pandemic (mostly in April and May 2020 when the 'general holiday/lockdown' was in place). On a positive note, almost all of these people were able to find a job by January–February 2021, when the adverse impact of COVID-19 started to recede. However, over 85% of the pre-COVID-employed people who lost their jobs due to the pandemic remained

Table 6.4 Percentage Distribution of Income Accruing to Households in Groups (Deciles) and Gini Coefficient in February 2020 and the Survey Period

Decile group	*February 2020*			*Survey period*		
	Rural	*Urban*	*National*	*Rural*	*Urban*	*National*
Decile 1	4.47	2.33	3.35	3.91	2.24	3.04
Decile 2	6.73	4.19	5.40	6.28	4.13	5.17
Decile 3	7.77	5.30	6.48	7.32	5.43	6.34
Decile 4	7.88	6.89	7.36	8.41	6.17	7.25
Decile 5	8.56	8.09	8.32	8.07	8.19	8.13
Decile 6	10.66	7.60	9.07	9.25	9.35	9.30
Decile 7	10.68	10.54	10.61	10.82	9.66	10.22
Decile 8	12.14	11.60	11.86	13.21	11.26	12.20
Decile 9	13.51	15.62	14.61	15.31	14.40	14.84
Decile 10	17.60	27.85	22.94	17.42	29.18	23.53
Total	100.00	100.00	100.00	100.00	100.00	100.00
Gini coefficient	0.271	0.287	0.284	0.279	0.302	0.298

Source: Calculated from the household survey data.

unemployed for over a month. This was most evident in the services sector and, to a large extent, the industrial sector.

Where Did the Jobs Get Relocated?

A large part of the incremental employment was generated in the agriculture sector, mostly being relocated from the services sector. This job substitution favoring agriculture was indicative of regressing structural transformation. More precisely, self-employed, contributing family members, and day laborers constituted approximately 90% of the additional jobs, indicating increased employment in the informal sector. The average income for all such categories of jobs has declined despite the rise in job numbers. Thus, the substitution in the job market was of a regressive nature: substitution to structurally backward sectors and substitution to low-paying jobs.

What Happened to Working Hours?

Although people could find employment, they worked for a lesser number of hours on average. This was particularly evident in the agriculture sector and, to some degree, the industry sector. It was found that despite absorbing a substantially higher number of jobs, workers in the agriculture sector experienced the largest decline in income.

Are Incomes Being Restored to the Pre-COVID Level?

On average, income loss was evident both at individual and household levels. Approximately 45% of households were earning lower income compared to the pre-COVID-19 period. A negative impact on income levels was not merely an urban phenomenon. Indeed, income loss was observed in both urban and rural areas. While the decline in income was higher in the urban areas, the difference was not found to be significantly high.

Are People Satisfied with Their Present Employment Status?

More than 40% of the employed people experienced worsened employment situations in the post-pandemic period compared to the pre-pandemic period. About 86% of individuals felt that they were not earning enough to meet their daily necessities.

How Did the Households Try to Cope with Lower Income?

An increasing number of people are on the lookout for jobs. There was a considerable surge in labor force participation, including on the part of women. A lower income likely forced a higher number of household members to seek employment. The higher number of female and youth cohorts in the labor force confirms this phenomenon. As noted, many found their way to the agriculture sector, which is characterized by lower pay and working hours. The decline in income led to the

households cutting down on their expenditure. Approximately 78% of the surveyed individuals had to bring down expenditures to cope with income erosion. Furthermore, 52% of the households opted for an involuntary change in dietary patterns. Approximately half of the households experienced a decline in savings, and more than half of the households had to take credit. The average amount of loans taken by households doubled in 2020. This implies that the pandemic will leave medium-term negative footprints on the financial status of households even when the economy is on a recovery path. Regrettably, support from the government was limited. Only 20% of the households were able to receive some form of government support, as revealed by the survey. A higher percentage of households received support from private sources, i.e., friends, family, neighbors, and private charities.

What Does the Impact of COVID-19 Mean for Income Inequality?

Income erosion pushed a considerable number of people into lower-income groups – the number of individuals with monthly income below BDT 7,500 increased by over 20%. This is indicative of a higher incidence of poverty. The income inequality scenario also worsened in tandem, as manifested by the decreased income share of the bottom half of the population. Because many households experienced reduced expenditure on food, education, and health, Bangladesh's progress in terms of concerned development indicators also faced challenges.

The above findings underscore the need for targeted steps to recover and rebound from the ongoing pandemic. At the same time, the findings of this chapter indicate the need for better preparedness for any likely future wave(s) of the COVID-19 pandemic in Bangladesh.

Conclusion

COVID-19 emerged as a global public health concern, which subsequently turned into an economic crisis of substantial scale and scope. The crisis has amplified embedded challenges in the delivery of various public services, including those with implications for the job market. The pandemic negatively impacted job creation and self-employment opportunities in the private sector. Moreover, the pandemic has accentuated the situation of pre-existing vulnerable groups such as informal workers, women, youth, the elderly, and those employed in MSME sectors. These groups were joined by an influx of 'new poor' who emerged due to the COVID-19 pandemic.

As a policy initiative to address the pandemic-induced vulnerabilities, the stimulus packages announced by the Bangladeshi government proved to be inadequate. These packages were designed primarily as credit support. In comparison, budgetary allocations for transfers in the form of cash and expanded social safety net programs were very low. Indeed, only a small number of households were able to obtain support from the credit-focused stimulus packages. The government's overall policy stance was designed with the assumption that the pandemic would be a short-term phenomenon and that negative impacts on employment and the

labor market would be limited. The intensity demonstrated by the second wave of COVID-19 in April 2021 and the quick spread of the Omicron variant in January 2022 suggest that the battle with the pandemic will continue even over the medium term. The impacts also confirm that the recovery in terms of attaining the target of decent employment will take time and effort. Regrettably, despite recognizing the COVID-19 challenges, the Eighth Five-Year Plan was unable to propose a tailor-made approach.

Given this context, the policy response toward employment and the labor market must consider immediate, short-term, and medium-term challenges. In view of the immediate challenges, there is a critical need to enhance cash transfers to marginalized and affected households. Urban and rural households must be helped to adjust for immediate loss of income and reduced expenditure. Higher consumption expenditure will also help boost domestic demand, trigger supply-side response, and create employment opportunities. Higher coverage and budgetary allocation are required for social safety net programs. Investment in labor-intensive rural roads and infrastructure would be beneficial to stimulate the rural economy. Public investment projects must be prioritized to address the vulnerabilities of the labor market and prepare for sustainable recovery. Support must be geared toward reducing vulnerabilities arising from debt distress. In the absence of urgent support, many affected people could be debt-distressed and fall into a debt trap.

Over the short term, the stimulus packages will need to be redesigned, considering the experience of the past years. Large industries were better equipped to receive these given their more organized nature and enhanced institutional capacity. Undoubtedly, loans from stimulus packages to large enterprises helped retain many workers who otherwise would have lost their jobs. However, the overwhelming majority of employed in Bangladesh are engaged in MSMEs and informal sectors. And it is here that many fault lines have emerged. Slow implementation of stimulus packages for MSMEs and the agriculture sector has impeded public policy support from generating the expected results in terms of employment protection, retention, and creation. The relative inexperience of lenders and process complexities have led to slower and lower disbursement of the stimulus package for these sectors. More specifically, the country's commercial banks, barring the Bangladesh Krishi Bank, did not have the required experience in providing agriculture loans. Smaller firms had a general lack of awareness as regards stimulus packages. Their capacity and banking track record proved to be inadequate in accessing loans. The design of the stimulus packages should have taken the realities on the ground into cognizance. Commercial banks also followed a cautious approach while disbursing the stimulus support to MSMEs. There was also confusion regarding the collateral requirement for loans earmarked for MSMEs. In view of the above, more importance should be given to extending these supports through non-government organizations and microfinance institutions.

Over the medium term, the aspiration to 'build back better' (United Nations Bangladesh, 2020) should guide the path to economic recovery. Existing weaknesses in the labor market governance and employment-related areas should be acknowledged as an important component of this roadmap. The present study found

that despite improvements in the number of jobs, households continue to suffer from informalization and lack of decent work conditions. Accordingly, the private sector must be more productive to sustainably enhance decent job opportunities. For this to happen, investment in infrastructure, strengthening of labor market institutions, and reforms to improve the business climate will be called for to attract both domestic and foreign private investment. Enhancing the proficiency of labor market institutions will be critical for improving the quality of employment, ensuring workers' rights, guaranteeing a safe working environment, and generating capacities to pay better wages. Support for MSMEs to get back on their feet must be seen as integral to the strategy of building back better. Agricultural MSMEs, which have the capacity to bounce back quickly and are one of the major sources of employment for the working poor, should be given the necessary support, particularly credit-related ones. Promoting ICT-enabled technologies would improve the performance of MSMEs and be beneficial for creating sustainable, competitive, and productive enterprises. Promoting financial literacy and digital literacy as part of gender-responsive measures for the most marginalized micro and cottage industries, particularly those run by women, could be an effective way to extend support in this regard.

New drivers of employment creation will need to be identified as Bangladesh's economy gets on the path to recovery. These will need to be supported through proactive initiatives in the areas of fiscal support, monetary and credit policies, and labor market reforms particularly aimed at creating new opportunities in the employment sector. The pandemic has revealed where the opportunities of the 'new economy' are. Steps need to be taken to help marginalized groups access these windows of opportunity.

Going beyond the unemployment rate, the overall employment scenario should be a critical metric to assess the level, nature, trend, and success of recovery from the COVID-19 crisis. Employment is directly linked to many key development areas, including income, consumption, and inequality. The pandemic and its impacts are still unfolding as Bangladesh faces the third wave of the pandemic. There is a heightened need to monitor the attendant developments in the labor market. The government will need to pursue policies and take measures to mitigate risks and create opportunities that will benefit individuals and households affected by the ongoing pandemic, keeping the aspiration of *leaving no one behind* at the center of both concern and aspiration/ambition.

Notes

1 8.8% of global working hours was lost in 2020, which is equivalent to 255 million full-time jobs.
2 'Fair vaccination' stands on the principle of equitable distribution of vaccines globally (ILO, 2021c).
3 The standard concepts and definitions related to employment were followed from Bangladesh Bureau of Statistics (2018). However, for unemployment-related queries, the present chapter considered a reference period of seven days instead of following the usual practice (i.e., reference period of 30 days).

4 These districts are Barishal, Chattogram, Dhaka, Dinajpur, Feni, Gazipur, Jamalpur, Khulna, Mymensingh, Pirojpur, Rajshahi, Rangpur, Satkhira, Sirajganj, Sunamganj, and Sylhet.
5 These FGDs were conducted in Dhaka, Chattogram, Rajshahi, and Khulna. These were carried out with the participation of eight predefined groups, viz. RMG workers, returnee migrants, retail or sales workers, construction workers, transport workers, micro, small, and medium enterprise (MSME) entrepreneurs, hotel and restaurant workers, and domestic help (cleaning or housemaid).
6 Bangladesh Bank (2021) found a near stagnation in the industry sector and decreased share of services sector in the labor force (from 27.2% in 2019 to 26.1% in 2020), after the pandemic outbreak. The share of the employed population by broad economic sectors in this chapter is consistent with the findings of Hossain (2021). For 2020, Hossain (2021) estimated the shares of agriculture, industry, and services sectors in total employment to be 39%, 21%, and 40%, respectively. However, the growth of employment in the same timeframe is not available.
7 Raihan et al. (2021) also reported a working hours loss of approximately 7% in 2020. The loss of working hours estimated by national and international studies is much higher; for instance, Bangladesh Bank (2021) estimated approximately 13% loss of working hours in Bangladesh for 2020. This is in line with the estimates of ILO (2021a), which estimated approximately 11.9% annual working hours loss in Bangladesh for 2020, using the nowcasting model. The nowcasting model uses real-time data to estimate aggregate working hours that are usually published with considerable delay (ILO, 2021a).
8 While this chapter found a 3.64% reduction in working hours in the industry sector, this figure is more pronounced in other studies; for instance, Bangladesh Bank (2021) estimated an 11.5% reduction in working hours in the industry sector of Bangladesh for 2020.
9 This estimation is in contrast with the findings of Bangladesh Bank (2021), which found the agriculture sector to be minimally affected and the services sector to be most affected in terms of working hours.
10 For instance, Raihan et al. (2021) found that 48.7% of households resorted to borrowing, 32.4% relied on savings, 27% changed dietary pattern involuntarily, and 16.7% received help from relatives/friends as part of their coping strategies during the pandemic.
11 This is in line with Raihan et al. (2021) who also found evidence regarding increased income inequality in Bangladesh after the pandemic outbreak. For instance, the ratio of income between the poorest 20% of the households and richest 5% of households increased from 2.05 in February 2020 to 2.45 in November 2020. Such increased income inequality originated from a steeper decline in income for the poorer population compared to the richer ones. For instance, the average income fell by 43.2 percent for households in decile 1 and by 33.3% for households in decile 9 (Raihan et al., 2021).

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Annex

Annex Table 6.1 Sectoral Transition of Employment between February 2020 and the Survey Period (in Percent)

Change in the broad economic sector	*Share*
Remained in Agriculture	23.90
Remained in Industry	18.73
Remained in Services	50.69
Agriculture to Industry	0.00
Industry to Agriculture	0.29
Net transition: Agriculture to Industry	**−0.28**
Agriculture to Services	0.61
Services to Agriculture	2.46
Net transition: Agriculture to Services	**−1.85**
Industry to Services	1.50
Services to Industry	1.82
Net transition: Industry to Services	**−0.32**

Source: Calculated from the household survey data.

7 Approaches Adopted by Disadvantaged Groups to Cope with the Pandemic Fallout

Debapriya Bhattacharya, Estiaque Bari, Towfiqul Islam Khan and Afra Tahsin Chowdhury

Introduction

The health hazards induced by the COVID-19 pandemic have necessitated the widespread adoption of containment measures, such as complete or partial lockdown, closure of territorial or international borders, and mandatory social distancing, which in turn have caused substantial income erosion for individuals and businesses (Lacey et al., 2021). A downturn in global economic activity has led to a sharp increase in the unemployment rate, remittance losses, food insecurity, and disruptions to education and healthcare services. However, the impact has been disproportionately severe on disadvantaged and vulnerable communities (Chapter 4).

The disadvantaged communities of Bangladesh, as identified in Chapter 2, fall into two categories: those traditionally left behind and those recently pushed to the margins by the COVID-19 pandemic. Since more than 85% of the labor force in Bangladesh is employed in the informal sector, job losses have not only aggravated working poverty but may also have pushed many vulnerable people living around the poverty line before the pandemic into poverty (Chapter 2).

Given the threat to livelihoods, national government responses initially comprised both financial and non-financial support for businesses and households. The magnitude of fiscal support and types of instruments differed across countries, based primarily on their economic strength. Advanced economies provided fiscal support (e.g., fiscal stimulus and relief) equivalent to 20% of their gross domestic product (GDP), whereas on average, the support measures among emerging economies account for nearly 3.4% of their GDP (Lacey et al., 2021). The Government of Bangladesh announced approximately USD 14.3 billion (BDT 1,213 billion) worth of stimulus packages, equivalent to 4.3% of Bangladesh's GDP (Ministry of Finance, 2020). The stimulus packages primarily focused on export-oriented industries, service sector organizations, micro, small, and medium enterprises (MSMEs), and later on, poor households. A portion of the liquidity support was allocated for refinancing schemes in the agricultural sector, low-income farmers, small traders, and loans for employment generation. The remainder of the fiscal support was deployed to health sector professionals (doctors, nurses, and health workers) and the distribution of food and cash among the poorest.

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In addition, the private sector's individual and voluntary efforts supported many people in distress. However, given the depth of the crisis, neither governmental support nor private initiatives were sufficient to facilitate a full recovery. Predominantly, households that experienced or were experiencing financial or health crises, or both, utilized the best possible combinations of coping strategies to recover from crises.

Objective and Scope

Given this background, the core objectives of this study are: (i) to determine the coping mechanisms adopted by disadvantaged communities in tackling pandemic-induced additional vulnerability and (ii) to identify alternative options to improve recovery opportunities. This chapter provides a deeper understanding of the means of coping resorted to by different communities when hit by a crisis. Thus, understanding the differences in coping approaches undertaken from a household perspective may help policymakers support the right communities.

Sample and Data

This study analyzed data from a 1600-household survey conducted face-to-face in February 2021, capturing the first wave of COVID-19 in Bangladesh.[1] The households (HHs) belonged to nine disadvantaged groups – seven traditionally disadvantaged and two newly disadvantaged – from eight districts of the country[2]. Additionally, focus group discussions (FGDs) with four other disadvantaged communities further enriched this research. This work elaborates on the survey findings and further estimates the likelihood and anticipated time of recovery for households from the pandemic using empirical models.

Review of Literature on Coping Approaches

Globally, several studies have indicated that poor and marginally non-poor households underwent major adjustments and adaptations because of COVID-19-induced vulnerabilities (Baker et al., 2020; Egger et al., 2021; Kraus et al., 2020; Martin et al., 2020; O'Donoghue et al., 2020). These studies also found a trend that public policies and stimulus packages were inadequate in supporting underprivileged households during the COVID-19 crisis.

Studies have shown that coping approaches[3] undertaken during COVID-19 correspond to traditional ones (e.g., curtailing food consumption, obtaining loans, and asset stripping [Heltberg et al., 2012; Raihan et al., 2021]). Heltberg and Lund (2009) broadly categorized the coping responses into behavior-based (related to consumption and expenditure), asset-based (related to dissaving and indebtedness), and assistance-based (related to social and institutional support).

Households adopt different personal coping approaches in the absence of timely social protection, which commonly include reducing consumption, taking high-interest loans, spending from personal savings, and liquidating productive assets

(Koos et al., 2020; MicroSave Consulting, 2020; Palma & Araos, 2021; United Nations et al., 2021). Numerous household surveys in Bangladesh have found that reduction in food consumption and borrowing money are the most dominant coping strategies after dissaving (Barkat et al., 2020; Rahman et al., 2020). Households also sell valuable items and productive assets (Barkat et al., 2020; MicroSave Consulting, 2020; Palma & Araos, 2021; Rahman et al., 2020). However, institutional and social support do contribute to household coping to some degree.[4] Bangladesh introduced liquidity support and fiscal stimulus in the initial phase of the crisis. However, a relatively smaller portion was deployed towards vulnerable sections. Only 5.6% of the total allocation was dedicated to direct cash and in-kind support.[5] At the same time, community support was the most cited source of support followed by support from the government and non-governmental organizations (NGOs) (Islam & Mostafa, 2021). Therefore, the predictability and size of government-led public support were difficult to gauge, forcing these groups to try different combinations of coping strategies.

Coping Approaches Adopted by the Disadvantaged Groups

Because the stimulus packages released by the government barely reached the disadvantaged groups, several coping strategies were adopted by the overlooked communities themselves to mitigate the adversity brought by COVID-19. This section analyzes eight coping mechanisms that were mentioned during the survey: (i) cutting down on food expenses; (ii) cutting down on non-food expenses; (iii) borrowing (loans); (iv) withdrawal of savings; (v) private support (aids); (vi) government support (cash, in-kind, or both); (vii) selling of productive assets (e.g., livestock); and (viii) distress selling of other assets (e.g., land).

Most of the surveyed households that faced financial hardship due to COVID-19 utilized multiple coping strategies in an attempt to recover from the crisis. On average, more than two-thirds of households adopted three or more coping strategies. To deal with the crisis, disadvantaged households in the sample adopted at least 31 combinations of coping strategies. Borrowing and side cutting down on food and non-food expenses were the most critical coping strategies. It was observed that combining coping strategies worked better than using them independently.

Households' Behavior-Based Coping Response

Behavior-based coping approaches are strategies adopted by disadvantaged groups to constrain their immediate individual or household demands or needs. To deal with the income impact of the pandemic, disadvantaged groups regulated their consumption and expenditure, which was the most prevalent adjustment made. Given that these households can barely afford necessary food items, a reduction in food expenses would have exacerbated existing malnutrition. The following outcomes were derived based on further analysis:

Nearly 80% of households cut down on food expenses, whereas 60% reduced non-food expenses during the COVID-19 pandemic.

Among the traditionally disadvantaged groups, indigenous communities constituted the highest percentage of households that curtailed both food and non-food expenses. The lowest cost adjustments were observed among the Dalit community. Among the newly disadvantaged groups, six out of every seven MSME households reduced food expenses, and three-fourths reduced non-food expenses. Within migrant households, four of every five households decreased food expenses, whereas at least three of every five households reduced non-food expenses.

According to the survey results, most households reduced the number of protein-rich items consumed (i.e., meat and fish), followed by a reduction in the number of items in their meals or the number of meals per day. In terms of non-food expenses, households reduced their spending on recreational activities and health, among others (Chapter 4).

Households' Asset-Based Coping Response

Asset-based coping is the ability to deal with unforeseen adversity by mobilizing existing assets, allowing for the compensation of income losses and increased expenditures (Ferreira, 2013). The financial distress due to lost employment opportunities and income caused by the pandemic compelled vulnerable households to procure loans and withdraw their savings. In general, these households have minimal savings and poor access to formal financial channels. The savings they salvage over the years are usually invested in assets, such as livestock, land, or gold, which provide them with economic security. However, as part of their asset-based coping response, households often tend to sell their assets at below-market prices. A prolonged crisis will leave these households with barely any assets to safeguard themselves in the next phase.

Nearly 60% of households took out loans to cope with the crisis, whereas 25% were compelled to withdraw their savings.

Among the traditionally disadvantaged communities, more than three-fourths of the households from haor, coastal, and Dalit communities had to take out loans to withstand pandemic-induced financial difficulties. Among the newly disadvantaged groups, one in two migrant households and five in six MSME households procured loans. A significant number of MSMEs also borrowed for investment purposes, to offset some of the losses incurred during the first lockdown in Bangladesh. Migrants, MSMEs, and slum-dwelling households were among the highest numbers who withdrew savings (Figure 7.1).

More than 95% of disadvantaged households lacked access to banks and non-banking financial institutes (NBFIs) and, therefore, took loans from risky and expensive sources.

Although the disadvantaged groups took loans from multiple sources, they mostly relied on informal sources for financing. Only 2.9% of traditionally disadvantaged households and 5% of newly disadvantaged households took loans from banks or NBFIs. However, nearly two-thirds of these households took loans from informal sources, such as friends and relatives. A significant majority also borrowed from NGOs, local moneylenders, or both. As informal moneylenders and

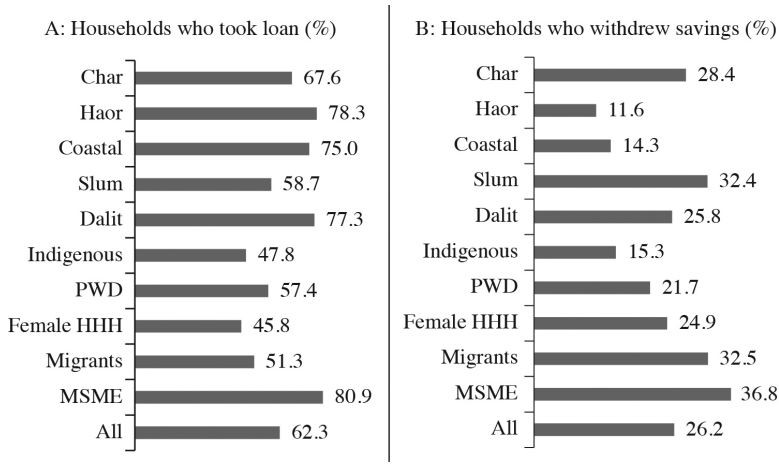

Figure 7.1 Households That Took Loans and Withdrew Savings (%)

Source: Citizen's Platform Household Survey 2021

NGOs often charge higher interest rates than banks and NBFIs, the recovery process post-crisis usually becomes costlier for these households than for other social groups.

Apart from consumption smoothing, loans, and savings were used for investment purposes and loan repayment.

Nearly 96% of traditionally disadvantaged households opted for external financing for consumption smoothing, whereas 15.4% and 22.5% used it for investment and loan repayment, respectively. However, more than 50% of newly disadvantaged households borrowed and withdrew money for investment purposes.

One in seven households engaged in distressed selling of assets.

Nearly 8.5% of households sold livestock to overcome their financial burden. Households belonging to char, haor, coastal, and Dalit communities (20%) reported selling livestock the most. Financial stress not only resulted in selling livestock, but the shortage of animal food supply and increase in input prices forced many to release their livestock. Conversely, about 6.4% of the households made distress sales of other assets, including land, gold, harvest, and labor in advance. Coastal, slum, and persons with disabilities (PWD) households sold more assets than the average household.

Households' Assistance-Based Coping Response

Assistance-based coping approaches are related to the social and institutional support that is usually extended during the crisis. However, access to social safety networks was limited in the study population. During the lockdown, disadvantaged households desperately needed financial and food assistance. Approximately 75% of households, on average, confirmed their need for assistance-based approaches.

However, these households received better support from NGOs, family, friends, and neighbors than from the government. Some key assistance-based approaches accessed by the households are discussed below.

Private support is provided to three in ten disadvantaged households.

Nearly two in five slum-dwelling households received either cash or in-kind private support. Approximately one-third of households with PWD and three of eight female-headed households received private aid. Char communities received the lowest private support among all the selected traditionally disadvantaged groups. Among the newly disadvantaged, two of seven migrant households and one of five MSME households received private support.

One in four households received government support or relief.

Government support penetrated better among households on the urban periphery, such as slum dwellers and the Dalit community, whereas delivery of such support was weaker in remote areas. Primarily, it was assumed that restrictions on mobility due to the pandemic would impact the most disadvantaged urban groups. Nearly half of the Dalit households received government support. One in three households of slum dwellers also received government relief. However, a significantly lower number of char, haor, and coastal households received government support. Among newly disadvantaged households, 11.1% of migrant households and 16.4% of MSME households received government support.

Government support was primarily in the form of food assistance rather than cash and other in-kind forms.

On average, more traditionally disadvantaged households received government support than newly disadvantaged households (almost three times more). Among traditionally and newly disadvantaged households, 53.6% and 60.8%, respectively, received only food assistance from the government. However, households that received cash support from the government were regrettably very scarce (Table 7.1). This suggests that even while some households received several government benefits, a sizable number of eligible vulnerable households

Table 7.1 Types of Government Support Received by the Disadvantaged Households (% of HHs)

Types of government supports	*Traditionally disadvantaged (%)*	*Newly disadvantaged (%)*	*All (%)*
Food Assistance only	53.6	60.8	54.2
Food + Other in-kind support	20.9	11.8	20.1
Cash + Food + Other in-kind support	9.9	9.8	9.9
Cash + Food Assistance	9.9	15.7	10.4
Cash only	3.9	2.0	3.7
Other in-kind support only	1.3	-	1.2
Cash + Other in-kind support	0.5	-	0.5
Number of HHs received support (in total)	545	51	596
% of HHs received support	43.6	14.5	37.3

Source: Citizen's Platform Household Survey 2021

were overlooked, indicating overlap concerns and mistargeting in the creation of the beneficiary list.

All the households adopted various approaches to overcome the overwhelming impact of the pandemic. Some were more prominent among certain groups (i.e., many indigenous households reduced their food and non-food expenditures but seldom liquidated their assets). Given the paucity of external support, alternative coping approaches were necessary, but repercussions would be felt in the long run. Considerable curtailing of food consumption results in long-term food poverty, impeding progress on Goal 2 of the Sustainable Development Goals (SDGs) (Bidisha et al., 2021). Moreover, the loss of assets and savings increases asset poverty, thereby reducing economic security. An increase in indebtedness further reduces the scope of recovery from the present crisis and makes disadvantaged communities vulnerable to other economic hardships in the future. This will be discussed further in the following sections.

Households' State of Recovery

Although the impact of the pandemic was multifaceted, the households' coping attempts were helpful at the time. However, most could not recover from the fallout. This section discusses the households' state of recovery at the time of the survey.

Nine of ten households could not recover from COVID-19-induced financial hardship; those that recovered took five months to overcome the crisis in the early phase, while others may take another 12 months or more.

Among the 78% of households that experienced additional financial hardships, 20% recovered within the initial five months of the pandemic. However, the remaining 80% of households had not recovered by February 2021 (within the first eight months of the pandemic period). Moreover, the latter perceived that it might take them at least 12 more months. However, this survey only captured the household recovery process (or anticipated recovery) until the first wave, and the most recent waves of the pandemic have likely changed the course of recovery. Recovery from financial hardship was slightly better for households from indigenous (38.4%) and coastal communities (27.9%) than for other traditionally disadvantaged groups.[6] Among the newly disadvantaged households, the recovery rate of migrant-worker households (25%) was better than that of MSME households (14%).

Although some households may recover within seven months, others may require another two and a half years from April 2020.

According to the findings (Table 7.2), the Dalit community may need approximately two years to fully recover, while char, haor, coastal, and slum communities may take one and a half to two years. A high standard deviation within groups indicates that recovery times may vary significantly, given their initial income and wealth endowment levels. The coefficient of variation was greater than 50% for all households, implying that within communities, families were exposed to COVID-19-related vulnerabilities of different magnitudes, and thus, their prospective recovery and transition from the crisis may occur at different intervals.

Table 7.2 Households' Anticipated Recovery Time (in Months)

Groups	*Average recovery time (in months)*	*Standard Deviation (in months)*	*Coefficient of variation (%)*
Char	20.0	10.4	52.0
Haor	20.1	10.3	51.4
Coastal	18.0	10.0	55.8
Slum	17.4	10.8	62.0
Dalit	22.3	11.6	51.9
Indigenous	12.3	7.1	57.7
PWD	20.1	11.1	55.3
Female HHH	15.8	10.7	67.4
Migrant	15.4	10.1	65.7
MSME	20.1	11.1	55.3
All	17.3	10.2	59.2

Source: Citizen's Platform Household Survey 2021

Households that withdrew more savings and/or borrowed more money recovered less.

On average, households that recovered during the first phase of the pandemic withdrew significantly less from their savings. This is also true for households that procured higher amounts of loans. In particular, households from the migrant community that could not recover from the crisis withdrew twice as much savings and borrowed nearly 2.5 times more than households that recovered (Table 7.3).

Therefore, it can be inferred that households with higher economic strength or resilience managed to recover in the first phase of the pandemic. Here, economic strength refers to their capacity for income diversification, adjustment in expenses, and mitigation of crises without savings withdrawal and borrowing.

Results of Empirical Models

Two empirical econometric models were applied to the available survey data (Annex 7.1). A probit regression assessed the specific coping strategies that contributed to the recovery of disadvantaged households in the first phase of the pandemic. An ordinary least squares (OLS) regression estimated the anticipated amount of time (in months) required by these households to recover from the financial hardships caused by the pandemic. Only households that experienced financial hardship induced by COVID-19 were included in the analysis (Annex Tables 7.a.1 and 7.a.2).

Only 7.6% of the studied households maintained an income level equivalent to pre-COVID or managed to improve it despite containment measures. The probit model shows that the likelihood of recovery from financial hardship significantly increased for households from the char, slum, and PWD communities if they managed to improve or maintain their pre-existing level of household income. Furthermore, the coefficient value from the OLS model confirms that a

Table 7.3 Change in Economic Indicators by Recovery Status

Groups	*Drop in income (%)*		*Drop in expenses (%)*		*Withdrawal of savings (in taka)*		*Loan taken (in taka)*	
	HH recovered	*HH did not recover*	*HH recovered*	*HH did not recover*	*HH recovered*	*HH did not recover*	*HH recovered*	*HH did not recover*
Char	9	26	11	16	-	9,476	20,000	41,234***
Haor	16	19	19	14	-	24,125	36,667	53,604***
Coastal	20	13	10	4	-	39,273	27,125	63,705***
Slum	9	18	3	8	16,636	24,170***	27,950	52,929***
Dalit	17	18	3	12	-	11,286	17,000	34,078***
Indigenous	8	10	3	0	17,636	24,750***	41,400	36,422
PWD	8	15	6	6	18,000	24,438***	38,692	60,762***
Female HHH	12	20	4	9	41,889	41,329	25,929	58,679***
Migrant	14	25	4	9	48,818	97,278***	46,364	112,457***
MSME	13	15	9	8	27,833	36,601**	54,350	68,866***

Source: Citizen's Platform Household Survey 2021
*Note: Standard errors in parenthesis *** p<0.01, ** p<0.05, * p<0.1*

10% increase in monthly income in the initial months of the pandemic helped char households recover at least two months earlier, and slum dwellers by a month.[7] Alongside higher income, households with significantly higher wealth endowments (i.e., in terms of ownership of agricultural or dwelling land) also managed to recover faster.

The probit analysis further suggests that having an additional household member significantly reduces the likelihood of recovery in char, coastal, and slum communities. This is also true of migrant households. Given that the average household size for these disadvantaged groups was higher than the national average and the majority of these households suffered from job loss in the first phase of the pandemic, an additional member was a burden.

The recovery process was also delayed by nine to ten months for PWD households if they faced natural disasters, such as floods, for the first time. As PWD households incur significantly higher out-of-pocket health expenditures than other disadvantaged groups, their scope for trade-offs between different segments of non-food expenses is rather limited. Hence, the possibility of their recovering from COVID-19 could decrease if they simultaneously suffer other natural shocks, such as floods or cyclones, without prior experience.

Approximately 64% of households curtailed food expenses in addition to other coping strategies. According to probit estimates, limiting only food expenses significantly improved the likelihood of household recovery by 9.5 percentage points for slum dwellers and 18.5 percentage points for MSMEs (Annex Table 7.a.1). Further, OLS estimates suggest that Haor households that reduced food expenses in the early phase may recover ten months earlier than their group's average (Annex Table 7.a.2). Recall that on average, surveyed haor households anticipated full recovery within 20 months.

In addition, approximately half of all households reduced their non-food household expenditures as a coping mechanism. However, the implications of such non-food adjustments differ across communities, as their initial endowment differs (i.e., some households may reduce spending on education, while others may forgo health necessities). Therefore, the opportunity cost of adjusting non-food expenses might cause a significant deterioration in living standards in the short term and impede the long-term social development of future generations. From the analysis, adjustment in non-food expenses as an independent coping strategy improved the likelihood of the char community by 27.4 percentage points, whereas it deteriorated the likelihood of the recovery of households from slum, PWD, and MSME communities (Annex Table 7.a.1).

Private support, as a coping measure, independently increased the likelihood of recovery for char households by 27.2 percentage points, while the possibility of recovery from the crisis was reduced by 20.5% and 10.4 percentage points for migrant and MSME households, respectively. Notably, household members who migrated immediately before the pandemic with prior loan repayment commitments suffered more financial distress. Moreover, migrants and MSME households that received private support were exposed to a higher degree of vulnerability, and

their immediate recovery was not feasible because of their limited access to other resources.

Among the coastal communities, households that withdrew savings became twice as vulnerable as their pre-COVID state, and OLS estimates anticipate that they may take six months longer than the average anticipated recovery period of 18 months. Moreover, the likelihood of PWD households recovering from the crisis is nearly 10.4 percentage points lower if they withdrew savings. Similarly, the likelihood of char households recovering from the crisis is 40.6 percentage points lower if they procure loans to cope with COVID-19-induced vulnerabilities. This result is also true for indigenous, slum, migrant, and MSME households. The OLS estimates indicate that households across the aforementioned communities may require an additional five to nine months to recover. The prevailing results suggest that most households needed money to cope with the crisis and had poor access to formal financial sources. As they mostly borrowed money from NGOs and money lenders, their means of coping became more challenging with an incrementally higher interest rate burden. It further emphasizes the need to design conditional cash transfer programs under the government's project-based initiative to safeguard marginalized communities from crisis-induced vulnerabilities.

The likelihood of households from coastal areas recovering from the crisis drops by 28.9 percentage points when they engage in distress selling of livestock and could delay recovery by nine to ten months, compared to their group average. During distress selling, households usually receive less than the regular market price for livestock. Although the money from selling their livestock helped them smooth their consumption.

The likelihood of recovery from financial hardship increases by 60.9% for coastal households if they receive cash support from the government and their anticipated average recovery time is advanced by a year. Similarly, government cash support alone improved the likelihood of recovery by 56.4% for slum dwellers and made their anticipated length of recovery six months faster than the group average. Similarly, government cash support significantly helped PWDs and MSMEs recover within the first six months of the crisis, approximately 14 months earlier than their group's anticipated average recovery time. For the rest of the disadvantaged communities in the survey, government cash support alone was largely absent, or coverage was lower.

In addition, government food assistance increased the likelihood of recovery for char households by 41.7 percentage points in terms of probit estimates, and the OLS estimates show that, upon receiving government cash support, char households are expected to recover ten months earlier than the group average. Additionally, migrant households are anticipated to recover nearly seven months earlier than the average upon receiving direct cash support from the government. In contrast, government food assistance programs significantly reduced the likelihood of recovery by 19.2 percentage points and 12.3 percentage points for coastal and MSME households, respectively. This contrasting result suggests that the government's food assistance program was inadequate to support these communities and left them feeling that they had been deprived of their dues and more vulnerable

to the crisis. Additionally, the likelihood of recovery dropped by 12.9 percentage points for MSMEs when they received support from multiple government programs. One reason could be that, although MSMEs needed cash or support in terms of working capital, the government provided in-kind support, such as agricultural inputs, hygiene products, and operational support (e.g., open market sales), to all communities indiscriminately.

Conclusion

In summary, four in five households faced additional vulnerabilities induced by COVID-19. Of these, only one-fifth of disadvantaged households (roughly 16% of all surveyed households) recovered in the first eight months of the pandemic. Approximately 31 different combinations of coping strategies were adopted by these vulnerable groups to scale up their recovery processes. Although a significant number of households were eventually compelled to borrow money and withdraw their savings, at the onset of the crisis, they primarily reduced food and non-food expenses to cope. Additionally, relatively fewer sections of disadvantaged households received government and private assistance. Although government support alone was inadequate, it was effective when combined with other coping strategies. Regarding public support, cash transfers contributed significantly more to the recovery process than other in-kind support. Given that the pandemic may persist, options for coping for disadvantaged communities will diminish. In addition to increased debt, reduced savings, and asset auctions, private and public support would dry up; therefore, the government should implement a project-based conditional cash transfer program at a national level to support marginalized communities by addressing their needs at this challenging time.

Technical Appendix: Methodology for Probit and OLS Regression Models

Probit Regression Model

A primary objective of this chapter is to assess which coping mechanisms supported traditionally disadvantaged and newly disadvantaged households significantly in recovering from the financial crisis induced by the early phases of the COVID-19 pandemic. Recovery refers to households' self-reported claim that they have completely recovered from the financial crisis caused by COVID-19. As opposed to households (i =1, … n) that recovered (=1), others are still experiencing financial hardships (=0). Given the dichotomous nature of the dependent variable, a quality response model such as logit or probit is well-suited. However, a probit analysis was chosen for this study since the data are distributed normally across all possible outcomes. Marginalized households that managed to recover from the crisis are assumed to have adopted coping mechanisms better than others, given their initial endowment within the same community.

The probability, P_i, for a household to recover from the financial hardship induced by the COVID-19 crisis can be expressed as in Equation (i), where φ represents the cumulative distribution of a standard normal random variable.

$$P_i = prob\left[Y_i = 1|X\right] = \int_{-\infty}^{x_i'\beta} 2\pi^{-1/2}\exp(-\frac{t^2}{2})dt = \varphi\left(x_i'\beta\right) \quad \text{(i)}$$

The dependent variable, whether or not a household fully recovered from the financial crisis induced by the COVID-19 pandemic, is usually subject to the household's demographic characteristics, the initial level of endowment, and their adoption of coping strategies to mitigate the crisis. The relationship between a specific variable and the probability outcome is interpreted using the marginal effect, which accounts for the partial change in probability. The marginal effect associated with the continuous explanatory variable, X_k, on probability, P (Yi = 1 | X), holding the other variables constant, can be derived as follows:

$$\frac{\partial P_i}{\partial x} = \gamma\left(x_i'\beta\right)\beta_K$$

where γ represents the probability density function of a standard normal variable.

On the other hand, the marginal effect of the dummy variables refers to discrete changes in the predicted probabilities and it can be derived as follows:

$$\Delta = \varphi\left(\bar{x}\beta, d = 1\right) - \varphi\left(\bar{x}\beta, d = 0\right)$$

The marginal effects provide insights into how the explanatory variables shift the probability of a household self-declaring itself as fully recovered or not from the financial crisis it faced or is facing due to COVID-19. Using the econometric

software STATA, average marginal effects were calculated for each variable while holding the other variables constant at their sample mean.

The specific probit model estimated is as follows:

$$\begin{aligned}\Pr ob\left(Y_i = 1\right) = \varphi(&\alpha_1 * monthly\ HH\ income\ growth\ between\ pre\ and\ during\ COVID-19\\ &+\alpha_2 * household\ size + \alpha_3 * location\ of\ household\\ &+\alpha_4 * Female\ Headed\ HH)\\ &+\alpha_5 * HH's\ exposure\ to\ new\ shock\left(s\right) or\ flood +\\ &\alpha_6 * HH\ cut\ down\ food\ expenses\\ &+\alpha_7 * HH\ received\ government\ cash\ support +\\ &\alpha_{10} * HH\ received\ government\ food\ support\\ &+\alpha_{11} * HH\ received\ government's\ other\ in-kind\ support +\\ &\alpha_{12} * HH\ withdraw\ savings\\ &+\alpha_{13} * HH\ borrowed\left(loan\right) +\\ &\alpha_{14} * HH\ sold\ livestock\\ &+\alpha_{15} * Number\ of\ total\ coping\ mechanism\ adopted\ by\ HH + \varepsilon\end{aligned} \quad \text{(ii)}$$

where Y_i is the household's state of recovery from the financial hardship; $\alpha_{i=1to15}$ are the coefficients of $X_{i-1to15}$ explanatory variables.

OLS Regression Models

Ordinary least square (OLS) models capture the extent to which the different coping mechanisms independently contributed to expediting the length of the recovery process. The dependent variable was either the actual or the anticipated total length of recovery, in months, mentioned by the sample households. As explanatory variables, the percentage change in monthly household income (in taka) between pre- and during-COVID-19 periods was included to capture the change in income endowment. In addition, ownership of cultivable land (in decimals) and residences (in decimals) are added to control wealth endowment. Household demographic characteristics are captured by including household size and a location dummy based on whether the household is in an urban (=1) or rural area (=0). To decouple the impact of other natural calamities from the COVID-19-induced effect, we introduced the dichotomous 'new-shock (=1)' variable to denote additional exposure to natural disasters, such as a flood or cyclone (Amphan) for the first time. In addition, six coping measures were included in the model as dummy variables with values of 1, if: (i) HH cut down food expenses; (ii) HH cut down non-food expenses; (iii) HH withdrew savings; (iv) HH procured a loan; (v) HH received private support; (vi) HH sold livestock and, if not, a value of 0 in all cases. Finally, a categorical

variable of government support received by HHs was added, with a base value of 0 if the household did not receive any support from government initiatives, and 1 if the household received cash support only; 2 for food assistance only, and 3 if the household received support from multiple programs.

A specific OLS equation was estimated as follows:

$$
\begin{aligned}
&\textbf{\textit{Recovery Time}}\left(\textbf{\textit{in months}}\right) = \\
&A + \beta_1 * \textbf{\textit{percentage chnage in monthly HH income between pre and during COVID}} \\
&-19 + \beta_2 * \textbf{\textit{amount of ownership of agricultural cultivable land}}\left(\textbf{\textit{in decimal}}\right) \\
&+\beta_3 * \textbf{\textit{amount of ownership of dwelling house}}\left(\textbf{\textit{in decimal}}\right) \\
&+\beta_4 * \textbf{\textit{houseohold size}}\left(\textbf{\textit{in person}}\right) + \beta_5 * \textbf{\textit{Urban}}\left(=1\right) \\
&+\beta_6 * \textbf{\textit{HH's exposure to new shock or flood}}\left(=1\right) \\
&+\beta_7 * \textbf{\textit{HH cut down food expenses}}\left(=1\right) \\
&+\beta_8 * \textbf{\textit{HH cut down non}} - \textbf{\textit{food expenses}}\left(=1\right) \\
&+\beta_9 * \textbf{\textit{HH received private support}} + \beta_{10} * \textbf{\textit{HH made withdraw of savings}}\left(=1\right) \\
&+\beta_{11} * \textbf{\textit{HH borrowed}}\left(\textbf{\textit{loan}}\right) + \beta_{12} * \textbf{\textit{HH sold livestock}} \\
&+\beta_{13} * \textbf{\textit{HH received government cash support only}} \\
&+\beta_{14} * \textbf{\textit{HH received government food assitance only}} \\
&+\beta_{15} * \textbf{\textit{HH received government's other in}} - \textbf{\textit{kind support only}} \\
&+\beta_{16} * \textbf{\textit{HH received multiple government supports}} + \varepsilon
\end{aligned}
\tag{iii}
$$

where Y_i is the anticipated time required by HHs to make a full recovery from financial hardship; $\beta_{i=1to16}$ are the coefficients of $X_{i-1to16}$ explanatory variables. Missing values in the group estimation of coefficients were largely because of insufficient data.

Annex

Table 7.a.1 Probit Marginal Effects by Traditionally Disadvantaged and Newly Disadvantaged Groups

Explanatory Variables	*Traditionally Disadvantaged*							*Newly Disadvantaged*	
	Char	*Haor*	*Costal*	*Slum*	*Dalit*	*Indigenous*	*PWD*	*Migrants*	*MSMEs*
	(i)	*(ii)*	*(iii)*	*(iv)*	*(v)*	*(vi)*	*(vii)*	*(viii)*	*(ix)*
% change in income	0.0110***	0.000464	−0.00342	0.00326***	−0.00176	0.000786	0.00156*	0.00810***	0.00309***
	(0.00255)	(0.00460)	(0.00181)	(0.00101)	(0.00308)	(0.00221)	(0.000923)	(0.00255)	(0.00110)
Household size	0.0399	−0.143***	−0.0935**	−0.0265*	−0.0320	−0.0161	−0.00581	−0.0280*	−0.00734
	(0.0281)	(0.0482)	(0.0364)	(0.0141)	(0.0482)	(0.0183)	(0.0133)	(0.0170)	(0.0153)
Urban (=1)	-	-	−0.0200	−0.000126	−0.133	-	−0.0804	−0.0413	0.0243
	-	-	(0.159)	(0.0530)	(0.0893)	-	(0.0546)	(0.105)	(0.0468)
Female-Headed	-	-	-	−0.0215	-	−0.107	0.0147	-	-
HH (=1)	-	-	-	(0.0578)	-	(0.0874)	(0.0556)	-	-
HH exposed to new	−0.0549	-	−0.109	0.0132	0.229	0.0777	−0.154***	0.102	−0.0507
shock (=1)	(0.0946)	-	(0.137)	(0.0442)	(0.148)	(0.0855)	(0.0538)	(0.0988)	(0.0479)
HH cut down food	0.0583	-	−0.0336	0.0946*	−0.211	−0.119	0.104	0.00790	0.187**
expenses (=1)	(0.136)	-	(0.123)	(0.0526)	(0.135)	(0.151)	(0.0640)	(0.132)	(0.0853)
HH cut down non-food	0.274***	−0.142	0.00925	−0.105**	0.0775	0.0933	−0.0820*	0.189*	−0.191**
expenses (=1)	(0.0927)	(0.172)	(0.123)	(0.0430)	(0.100)	(0.125)	(0.0498)	(0.102)	(0.0767)
HH received private	0.0554	0.272*	−0.130	−0.0296	−0.0148	−0.0771	−0.0447	−0.205**	−0.104*
support (=1)	(0.0741)	(0.148)	(0.134)	(0.0442)	(0.0992)	(0.0828)	(0.0463)	(0.0943)	(0.0580)
HH withdraw			−1.308***	−0.0354	0.152	−0.0773	−0.104*	−0.0222	−0.0729
savings (=1)			(0.156)	(0.0423)	(0.108)	(0.0987)	(0.0557)	(0.101)	(0.0494)
HH took loan (=1)	−0.406***	−0.116	−0.0608	−0.227***	0.0301	−0.186***	−0.0666	−0.206**	−0.175***
	(0.128)	(0.133)	(0.124)	(0.0409)	(0.0929)	(0.0681)	(0.0422)	(0.0853)	(0.0529)
HH sold livestock (=1)	−0.114		−0.289**	0.0259	-	0.184	0.0204	0.0501	−0.0533
	(0.113)		(0.116)	(0.0988)	-	(0.124)	(0.0728)	(0.158)	(0.128)

(*Continued*)

Explanatory Variables	*Traditionally Disadvantaged*							*Newly Disadvantaged*	
	Char	*Haor*	*Costal*	*Slum*	*Dalit*	*Indigenous*	*PWD*	*Migrants*	*MSMEs*
	(i)	*(ii)*	*(iii)*	*(iv)*	*(v)*	*(vi)*	*(vii)*	*(viii)*	*(ix)*
Received cash	-	-	0.609***	0.564***	-	-0.0719	-	-	-
support only from government (=1)	-	-	(0.0657)	(0.148)	-	(0.176)	-	-	-
Received food	0.417***	-	−0.192*	0.0403	−0.0203	−0.0587	−0.0345	−0.0365	−0.123***
assistance only from government (=2)	(0.0741)	-	(0.108)	(0.0480)	(0.218)	(0.0873)	(0.0440)	(0.133)	(0.0431)
Received other in-kind	-	-		0.361	-	0.131	-	-	-
support only from government (=3)	-	-		(0.275)	-	(0.214)	-	-	-
Received mixed/multiple	-	-	−0.00495	−0.0592	−0.226	−0.128	−0.00514	-	−0.129***
supports from government (=4)	-	-	(0.161)	(0.0481)	(0.163)	(0.0821)	(0.0600)	-	(0.0469)
Observations	48	38	78	346	52	203	239	109	209

*Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1;* Dependent Variable: HH made a full recovery from the financial crisis induced by COVID-19 (=1), otherwise (=0)

Table 7.a.2 Results of Ordinary Least Squares Regressions by Groups

Explanatory Variables	*Traditionally Disadvantaged*							*Newly Disadvantaged*	
	Char	*Haor*	*Coastal*	*Slum*	*Dalit*	*Indigenous*	*PWD*	*Migrants*	*MSMEs*
	(i)	*(ii)*	*(iii)*	*(iv)*	*(v)*	*(vi)*	*(vii)*	*(viii)*	*(ix)*
% Change in income	−0.206***	−0.0641	0.0731	−0.100***	0.0880	−0.0103	−0.0363	−0.114	−0.0675*
	(0.0590)	(0.0915)	(0.0329)	(0.0364)	(0.138)	(0.0403)	(0.0502)	(0.0717)	(0.0366)
Ownership of cultivable land (in decimal)	-	−0.00491	−0.00183	0.0651	−0.00313	0.00762	−0.00542	0.0111	0.0204
	-	(0.00771)	(0.0210)	(0.168)	(0.103)	(0.00767)	(0.0160)	(0.00716)	(0.0249)
Land ownership of dwelling-house (in decimal)	−0.154	0.193	−0.00481	−0.234	−0.869	−0.0450	−0.0644	−0.0942	0.160
	(0.247)	(0.123)	(0.0703)	(0.405)	(0.594)	(0.0509)	(0.0795)	(0.145)	(0.0887)
Household Size (in members)	−1.310	0.107	1.219	0.789*	2.369	0.256	−0.395	0.194	−0.122
	(1.016)	(0.804)	(0.745)	(0.449)	(2.360)	(0.319)	(0.458)	(0.497)	(0.521)
Urban (=1)	-	-	−4.828	0.0213	1.827	-	1.281	−4.206	1.725
	-	-	(3.731)	(1.728)	(3.220)	-	(2.122)	(2.862)	(1.573)
HH exposed to new shock (=1)	-	-	2.619	0.827	−6.479	−0.172	9.331***	−4.635	2.271
	-	-	(3.161)	(1.402)	(6.085)	(1.501)	(2.023)	(3.043)	(1.527)
HH exposed to Flood (=1)	3.159	-	-	-	-	-	-	-	-
	(4.456)	-	-	-	-	-	-	-	-
HH cut down food expenses (=1)	−8.474	−10.91**	2.661	−2.038	4.654	−0.824	−2.715	1.170	−3.170
	(5.706)	(4.353)	(3.532)	(1.685)	(6.060)	(2.779)	(2.384)	(3.515)	(2.719)
HH cut down non-food expenses (=1)	4.445	−1.370	−3.157	2.364	−4.795	0.462	2.238	−3.146	4.451*
	(3.917)	(3.887)	(3.041)	(1.543)	(4.946)	(2.313)	(1.943)	(3.225)	(2.441)
HH received private support (=1)	−0.388	−1.603	2.119	−0.238	2.103	1.745	3.228*	6.554***	1.808
	(4.649)	(3.537)	(2.649)	(1.424)	(4.634)	(1.284)	(1.881)	(2.228)	(2.024)

(*Continued*)

Explanatory Variables	*Traditionally Disadvantaged*							*Newly Disadvantaged*	
	Char	*Haor*	*Coastal*	*Slum*	*Dalit*	*Indigenous*	*PWD*	*Migrants*	*MSMEs*
	(i)	*(ii)*	*(iii)*	*(iv)*	*(v)*	*(vi)*	*(vii)*	*(viii)*	*(ix)*
HH made savings withdrawal (=1)	3.494	2.368	5.855**	0.496	−6.439	0.414	2.137	−1.489	1.938
	(2.765)	(4.097)	(2.736)	(1.383)	(4.294)	(1.410)	(1.855)	(2.564)	(1.696)
HH made borrowing (=1)	9.153**	4.504	−0.296	8.085***	−2.214	4.498***	5.290***	6.499***	5.793**
	(3.559)	(3.169)	(2.906)	(1.383)	(5.151)	(1.109)	(1.843)	(2.399)	(2.238)
HH sold livestock (=1)	1.261	9.308**	−0.395	−2.734	10.09*	−2.458	−3.918*	2.466	−1.982
	(2.909)	(3.676)	(2.624)	(2.570)	(5.414)	(1.767)	(2.038)	(3.822)	(2.835)
Received cash support only from government (=1)	-	-	−12.12**	−6.535*	-	1.809	−14.13***	6.164	−14.66***
	-	-	(5.890)	(3.503)	-	(2.593)	(2.128)	(6.096)	(2.660)
Received food assistance only from government (=2)	−10.31***	−0.458	4.451	−0.165	−0.654	2.067	1.311	−6.961**	0.688
	(3.519)	(3.712)	(3.781)	(1.498)	(7.717)	(1.406)	(1.972)	(3.381)	(2.277)
Received other in-kind support only from government (=3)	-	-	-	−8.728	-	-1.737	-	-	-
	-	-	-	(6.162)	-	(3.544)	-	-	-
Received mixed/ multiple supports from government (=4)	22.12	4.630	0.882	1.725	5.495	2.296	-0.0445	4.927	2.675
	(2.626)	(2.296)	(3.401)	(1.785)	(7.218)	(1.208)	(2.040)	(3.323)	(2.728)
Constant	16.08*	21.87***	10.71*	8.121***	17.26	8.254***	13.54***	11.98**	9.026**
	(8.529)	(5.282)	(5.472)	(2.590)	(11.02)	(2.335)	(3.462)	(4.819)	(3.609)
Observations	40	54	78	247	49	187	183	89	160
R-squared	0.687	0.492	0.303	0.247	0.242	0.123	0.256	0.296	0.169

*Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1;* Dependent Variable: Anticipated amount of time in months required to make a full recovery from financial crisis induced by COVID-19

Notes

1 Details of the survey were discussed in Chapter 4.
2 As identified in Chapter 2.
3 Coping approaches refer to measures taken by households to survive during a crisis and minimize the impacts of it which are often undertaken simultaneously.
4 The survey was conducted in April 2020 when these types of support were not provided very prominently.
5 Jointly, the public measures targeted towards disadvantaged communities accounted for only 20.6% of the total original government support (Ministry of Finance, 2020).
6 Only 12% of households recovered from the early phase of financial hardship (till February 2021) from the char areas, 12.7% from haor areas, 13.4% from Dalit communities, and 13.9% of PWD households.
7 It is important to note that percentage change in income is used in both probit and OLS regression as a control variable to capture the variation of income effect and decouple how other coping strategies supported households to recover from the crisis.

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8 Vaccinations, Food Consumption, and Access to Health Services

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Introduction

The coronavirus disease pandemic of 2019 (COVID-19), a global public health crisis, has claimed millions of lives worldwide. As of November 21, 2021, the number of global COVID-19 deaths stood at 5.1 million. Bangladesh has been moderately affected, peaking in July 2021 with a record of 6,182 deaths. Health repercussions have not only been confined to COVID-19 infections but have also manifested as medium-term risks to nutrition and maternal and child health. These indirect implications could be more severe than the direct effects and are a growing public health concern, especially for disadvantaged communities in resource-poor countries (United Nations Children's Fund [UNICEF], 2021a).

Bangladesh has made commendable progress in health and nutrition. Between 2015 and 2019, the under-five and neonatal mortality rates declined, achieving the 2025 SDG targets. Considerable progress has also been made in reducing malnutrition, stunting, and wasting in children (General Economics Division [GED], 2020). Health and nutrition are priority areas for which the Eighth Five-Year Plan strategized for human capital development (GED, 2020).

However, healthcare has been persistently plagued by high inequity experienced by disadvantaged populations because of insufficient infrastructure, inaccessibility, and the prevalence of unethical behavior toward the poor. This is evidenced by the reliance of the urban poor on informal healthcare, increasing their out-of-pocket health expenditures (Shafique et al., 2018).

Inequalities are also apparent in the access to maternal and childcare services, wherein deprivations of the disadvantaged have resulted in socioeconomic and district-wise disparities (Rose et al., 2018). In the 2017–18 year, less than 18% of pregnant women received quality care, and among those with non-institutional deliveries, only 7% of mothers received postnatal care within two days of delivery, with the same proportion of newborns receiving comprehensive essential care (National Institute of Population Research and Training [NIPORT] & ICF, 2019).

Additionally, food insecurity is prevalent among disadvantaged communities. Bangladesh Demographic and Health Survey 2017–18 estimated that 31% of under-five children were stunted, whereas 9% were severely stunted, the proportions being higher in rural areas with regional variations.[1] Amidst COVID-19

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and its direct health challenges, prevailing socioeconomic difficulties are likely to compound, particularly given the health-related inequalities.

Objectives, Hypotheses, and Scope

Considering the above context, this study assesses the direct and indirect health implications for disadvantaged communities. Direct health impact refers to COVID-19 testing, infections, and hospitalizations, whereas indirect implications include food security, and maternal and child health. Indirect effects include the inevitable consequences of restricted movement, routine health service disruptions, contracted economic activities threatening nutritional deficiencies, and maternal and child deaths, primarily among the disadvantaged.

Although several studies have analyzed the direct and indirect effects, none have conducted in-depth disaggregated analyses focusing on disadvantaged communities. Thus, the present study aims to highlight the direct health impact and medium-term implications for nutrition and maternal and child health from the perspectives of traditionally and newly disadvantaged communities. Accordingly, the three main objectives are to identify the direct and indirect health challenges of COVID-19 and coping approaches adopted by disadvantaged groups and to analyze current public policies to propose more holistic support measures.

The scope of this study is limited to the status of individual disadvantaged communities between the two waves of COVID-19. This study follows the vulnerability classification presented in Chapter 2. The primary evidence captured the first wave based on a household survey covering nine disadvantaged groups,[2] and the consequences of the second wave were based on secondary sources.

The Indirect Health Implications: Review of Literature

The following section reviews literature on food security, and maternal and child health in Bangladesh during the pandemic. The determinants of compromised food intake, food insecurity in disadvantaged households, and coping strategies are highlighted along with pandemic-related maternal and child health repercussions in antenatal care, postnatal care, and institutional births.

Food Security

Rising food inflation has compelled disadvantaged households to reduce their food expenses. Since the first lockdown, food inflation has increased, driven by hikes in protein prices. This survey of poor communities in Dhaka indicated reduced demand for essential food commodities compared to the pre-lockdown. Increase in demand post-lockdown did not recover to pre-COVID levels due to employment and income loss and alterations in consumer purchasing behavior (Food and Agriculture Organization [FAO], 2020). Regarding occupational determinants, farm workers, day laborers, and microcredit program beneficiaries in rural areas were highly vulnerable to food insecurity (F. Ahmed et al., 2021).

Season-adjusted food insecurity rates in April 2020 were twice those in the previous year (Egger et al., 2021). During May and June 2020, more than a third of youth and adolescents faced moderate or severe food insecurity, higher than the pre-pandemic national average (FAO, 2020). A year into the pandemic, 52% of households gave up meat, 72% stopped drinking milk, and 40% eliminated fruits from their weekly diet, although these proportions were slightly lower than in June 2020 (Power and Participation Research Centre & BRAC Institute of Governance and Development, 2021). Post the second wave, a mild elevation in food insecurities persisted from September to October 2021 (International Food Policy Research Institute, 2021). Rural households recovered relatively quickly compared with urban households, as evidenced by coping mechanism changes.

In the early phases, coping approaches to mitigate economic shocks to food consumption included reduction of non-food-and-health expenditures, utility bills, and savings depletion in rural households. Although the dependency on coping approaches was reduced by 2021, the use of savings and credit to purchase food persisted for 18 months because of food scarcity (Ahmed et al., 2021).

Maternal and Child Health

Lockdown measures disrupted the provision of maternal health services at the onset of the pandemic. In April 2020, antenatal care visits were 50% lower than in April 2019. Despite partial recovery in July 2020, visits remained 20-25% lower than in the same period in the preceding year. Negative trends were also observed in postnatal care (Ainul et al., 2020). The most common reasons for constrained service delivery and demand were movement restrictions, inactive health centers, and supply chain delays (Roberton et al., 2020; UNICEF, 2021a).

Moreover, institutional births were 54% lower in April 2020 than pre-pandemic levels (UNICEF, 2021a). Untrained midwives performed deliveries because of financial constraints and fear of COVID-19 infection at hospitals (Bangladesh University of Health Sciences [BUHS] & BRAC Advocacy for Social Change [ASC], 2020). Provision and service uptake was reduced to below the sustainability threshold since a 45% reduction in maternal and child health services for six months could raise maternal deaths by 30% (Reidy, 2021). Additionally, the immunization of children under five years was disrupted during the pandemic due to the temporary unavailability of the Expanded Program on Immunization, unpredictable vaccine timings, and incorrect placement of vaccination points (BUHS & ASC, 2020).

The disruptions persisted for at least eight months from the start of the pandemic. A survey in October–November 2020 found a lower-than-national average uptake of antenatal care (BUHS & ASC, 2020). Although the number of those who did not receive postnatal care and delivered at home was lower than the national average,[3] disruptions were higher in rural areas.

Interruptions in essential health services and food insecurity can increase maternal and child mortality rates. UNICEF (2021a) estimated a 13% and 9% increase in child and maternal mortality, respectively, in 2020 compared to 2019, with

child deaths being higher than in Afghanistan, Nepal, and Sri Lanka. Furthermore, according to the Directorate General of Health Services, childbirth-related deaths increased by 17% from 2019 to 2020.

Thus, a considerable increase in food insecurity and a reduction in the uptake of essential maternal and child health services, particularly during the immediate outbreak, are evident. While rising financial difficulties threatened food security, interruptions in essential services were primarily caused by supply-side disruptions. The severity of the indirect health impacts subsided as the economy reopened, with rural households demonstrating stronger resilience through improvements in food security rather than uptake of essential health services. Nevertheless, the mid-term implications could plausibly persist or recovery could be delayed, given the prevailing food inflation. The following sections present the survey findings on direct and indirect health implications for disadvantaged populations.

Prevalence of COVID-19 and Other Healthcare Challenges

This section presents the findings on the direct health impacts of COVID-19. It also showcases the pandemic-induced challenges of two disadvantaged groups in accessing regular healthcare.

Incidence of COVID-19

Of the 7,379 members surveyed, 36% had experienced COVID-19 symptoms. However, only a few got tested (18.2 per 1000), and nearly 1.5 per 1000 tested positive. Approximately four of five tested in public centers, whereas one in five went to private facilities. Remarkably, only two cases required hospitalization. At the household level, at least one member had symptoms in two of three households. Symptoms were most prevalent among MSME households, followed by haor and migrant households.

However, only 7% of household members underwent testing. Many felt that they would not suffer much or testing was not required. Additionally, nearly 12.3% of individuals with symptoms mentioned that they could not afford testing because of financial constraints. During focus group discussions with the transgender community, a respondent noted that many in the community suffered from COVID-19 but could not afford testing.

Challenges to Receive Regular Healthcare

Since March 2020, one in three people requiring regular medical attention was unable to access it. Of the respondents across age groups, 43.1% experienced interruptions in regular medical check-ups. Additionally, 40% of those aged 51–60 years missed their regular reviews. However, 20% of children aged 0–10 years were reviewed regularly, suggesting that parents tried to ensure uninterrupted child healthcare (Figure 8.1).

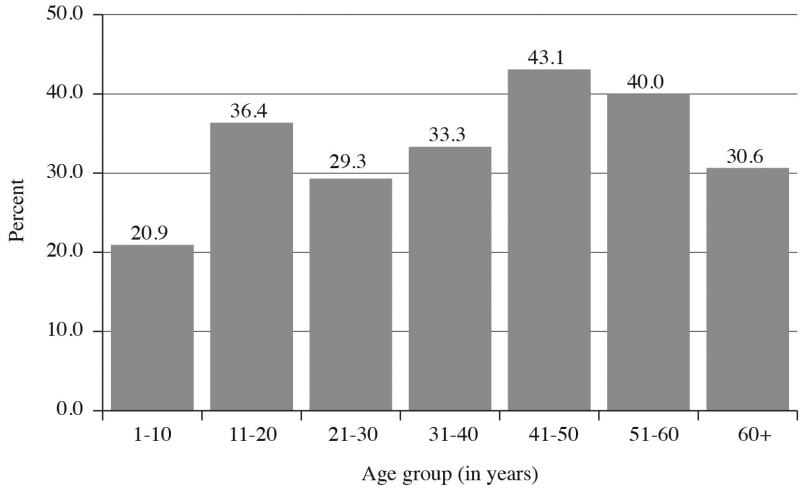

Figure 8.1 People Facing Interrupted Medical Check-Up or Follow-Up as a Share of Total People in Need by Age Groups (%)

Source: Citizen's Platform Household Survey 2021

Thus, the direct impact on disadvantaged groups was relatively moderate. However, testing rates were low because of minimal physical discomfort and finances. Financial difficulties could also explain the challenges in accessing regular treatment, especially for older adults. Indeed, exacerbated economic hardships are the major concern for the disadvantaged over contracting the virus, leading to more severe and protracted indirect health effects than direct impacts.

Implications for Nutrition

Economic downturns, livelihood loss, and high-income inequality together augmented the pandemic's detrimental effects on food security. Between January and April 2021, moderate or severe food insecurity among adolescents in Dhaka increased to 55% from the pre-COVID national average of 31.5%. Moreover, the minimum dietary diversity of female adolescents was reduced by 12% points (Ohly et al., 2022). Food insecurity is expected to increase in disadvantaged communities.

This section presents the COVID-19 impact on nutrition and dietary patterns through (i) changes in food consumption according to average household size and employment status, (ii) determinants of the likelihood of households adjusting their food intake, and (iii) changes in dietary diversity.

Impact on Food Consumption

According to the Household Income and Expenditure Survey 2016–17, coping responses to income shocks are primarily managed with household resources rather than formal response mechanisms (Genoni et al., 2020). Personal coping

approaches were observed during the COVID-19, evidenced by adjustments in food consumption.

Larger disadvantaged households reduced food consumption.

The sample household size (4.6) was larger than the national average (4.06). Larger traditionally disadvantaged households reduced food expenditure amidst COVID-19 more than smaller households. This difference was statistically significant for indigenous communities. A high dependency ratio made these households increasingly vulnerable to food insecurity.

A high proportion of disadvantaged households reduced food consumption irrespective of job losses.

A higher percentage of households wherein at least one member lost a job showed reduced consumption compared to households with no job loss. Of households with job losses, 89.6% reduced food intake. This difference is highly significant for both newly and traditionally disadvantaged groups. Among the traditionally disadvantaged, a large proportion of char, PWD, and slum households reduced consumption. Within the newly disadvantaged, the corresponding proportions were MSMEs.

Nevertheless, 77.5% of households reduced consumption, even without job loss. Furthermore, a higher percentage of traditionally disadvantaged households reduced food intake without losing jobs, suggesting that wage cuts of earning members and limited income-smoothing options increased their susceptibility to shocks.

Likelihood of Reduced Food Consumption: An Econometric Analysis

Numerous studies on COVID-19 implications for food security implicated the negative economic shocks of income loss and financial indebtedness in causing shrinkage in food baskets post-pandemic. This study employs a probit regression model to highlight the financial and non-financial factors that influenced the probability of reducing consumption during COVID-19 (see Annex Table 8.a.1).

Financial Determinants

First, the marginal effects indicated that the likelihood of reduced consumption at the household level increased with income loss. Although economic significance is low due to the small magnitude of the marginal effects of percentage change in income, it is highly statistically significant for traditionally disadvantaged households. However, income variations did not influence the consumption decisions of newly disadvantaged households.

Second, households that reduced food expenditure were 12.5% more likely to reduce consumption. This association was statistically significant only for traditionally disadvantaged households, which were 13.3% more likely to reduce consumption. Additionally, reducing non-food expenditure increased the probability of reduced consumption by 14.7%. The increases in likelihood were 12.2% and 25.7% for traditionally and newly disadvantaged households, respectively. The comparatively

lower probability of traditionally disadvantaged households could signify their limited financial capacity to balance trade-offs between household expenses.

Third, among both types of households, savings depletion and loan procurement increased the probability of reducing consumption. Overall, loans had higher economic and statistical significance than withdrawing savings, with consumption reductions of 8.27% and 5.69%, respectively. Traditionally disadvantaged households that withdrew savings were 5.2% more likely to reduce consumption; those that borrowed showed 8.5% higher probability. However, the marginal effects of savings withdrawal were higher for newly disadvantaged households, increasing the likelihood of reduced consumption by approximately 12.6%. The smaller average marginal effects of savings withdrawal for traditionally disadvantaged households are attributable to their constrained access to formal financial resources.

Fourth, households that sold livestock had a 7.3% higher probability of reducing their consumption across all respondent groups, with a statistically significant effect.

Non-financial Determinants

Urban households were 3.2% more likely to reduce food consumption. This effect is highly significant for traditionally disadvantaged households, which showed a 5.4% higher probability of reducing consumption than their rural counterparts. Since the urban food basket is comparatively larger than the rural, traditionally disadvantaged urban households can feasibly reduce consumption. However, this effect was not significant for newly disadvantaged urban households.

Finally, politically connected households may be better able to manage their regular dietary requirements, at least in terms of daily quantities. However, this effect was only slightly significant for the newly disadvantaged, with an 8.9% lower probability of reducing food intake.

The analysis indicates that financial factors have a substantial influence on inducing households to reconsider their dietary needs. These vulnerability indicators highlight the importance of government support for disadvantaged households to cope and recover sustainably. Nevertheless, the model showed no significant effect of government support on households' food consumption decisions, possibly because of the inadequacy of relief or governance-related inefficiencies that hindered eligible households from accessing food packages.

Adjustment in Food Consumption

Reducing consumption involves compromises on essential nutritional needs and dietary diversity. Disadvantaged households sought to downsize their food baskets by consuming less protein and micronutrients (FAO, 2020). The three most prevalent strategies to adjust for lower consumption were (i) reduction in protein, (ii) reduction in meal items, and (iii) reduction in meal items and protein.

On average, a staggering 85.6% of households reduced food consumption. The majority of households adjusted by lowering the number of meal items and protein intake. This was largely prevalent in haor, MSME, and slums (62%, 61.4%,

and 58.3% of households, respectively). The second most common strategy was to reduce protein intake, undertaken by a higher proportion of newly disadvantaged households than traditionally disadvantaged households, observed in 27.3% of migrants and 23.3% of MSMEs.

Overall, the exacerbation of pre-existing vulnerabilities and financial shocks induced households to reduce their food intake, regardless of their employment status and through hazardous dietary adjustments. The Bangladesh government announced a range of stimulus measures to combat the socioeconomic fallout. However, the distribution was impeded by implementation inefficiencies. Additionally, the expansion of food transfer programs, such as the Food Friendly Program, fell short of delivering the total allocated rice to beneficiaries (Chowdhury et al., 2021). Post-budget packages consisted of an additional Tk. 3200 crore allocation for the disadvantaged; however, fiscal transfers and food support were still inadequate (Chapter 3).

In the absence of support schemes, uncertainty over food affordability poses the threat of malnutrition at the household level and stunting of children. Pre-pandemic, food security improvement was observed in protein and fat energy, and further protein reduction would heighten malnutrition to risky levels. Furthermore, micronutrient deficiency due to poor diet quality impairs psychological and physical development in young adolescents. Food insecurity can adversely affect maternal nutrition and cause intrauterine growth restriction, with long-term consequences for maternal and child mortality.

Implications for Maternal and Child Health

This section presents the survey findings on maternal and child health implications. The impact on maternal health has been assessed as pandemic-induced disruptions in institutional births, and antenatal and postnatal care uptake, whereas the impact on child health has been analyzed through missed essential immunizations.

Incidence of Non-institutional Births

Half of the women surveyed gave birth at home. According to UNICEF, this proportion was higher than the national average of non-institutional births (46.6%) in the pre-pandemic period (BUHS & ASC, 2020). The rural-urban disaggregation found was 62.3% in rural and 41.8% in urban areas, higher than the pre-pandemic national averages of 51% of rural and 32% of urban home births (NIPORT & ICF, 2019).

Home births for traditionally disadvantaged women were approximately 1.5 times higher than the newly disadvantaged across rural and urban settlements.

Within rural, traditionally disadvantaged households, every woman from the Haor and PWD households delivered at home. This was followed by 83% of women from coastal and 58% from indigenous households. However, the lowest proportion of home deliveries was observed in rural slums, although the corresponding ratio in urban areas was considerably high. Nevertheless, among traditionally disadvantaged urban households, the highest proportion of home births was observed

in coastal households. Among rural, newly disadvantaged households, all women from MSME households gave birth at home, although the proportion of urban respondents was lower.

Across all the surveyed groups, migrant households had the lowest proportion of home births, likely due to their higher than national average income during the pre-pandemic period, enabling access to institutional child delivery services.

Although rural and urban home births increased by similar proportions, intra-group analysis reveals that the pandemic has mostly driven urban home births.

Contrary to rural coastal and indigenous households, home births for rural Haor, PWD, female-headed households, and MSME suggested the manifestation of pre-COVID trends. By contrast, home births in PWD, coastal, slum, MSME, and migrant households in urban areas were primarily driven by COVID-19. Studies show that the use of facilities declined due to service disruptions, transportation restrictions, and fear of contracting the virus (UNICEF, 2020).

Missed Antenatal Check-Up

A higher percentage of expecting mothers in both communities undertook all antenatal care visits.

Pregnant women in disadvantaged urban communities were not restricted from visiting antenatal care clinics. No pregnant women from newly disadvantaged communities and only 6.7% from the traditionally disadvantaged missed all antenatal care visits. Furthermore, all pregnant women from urban coastal, Dalit, female-headed households, and MSMEs undertook all required check-ups. This finding contradicts the literature on the limited availability and uptake of antenatal care, likely because the survey was conducted when services had partially resumed. Nevertheless, in rural areas, half of the pregnant slum women in traditionally disadvantaged communities and one-third of migrants in the newly disadvantaged communities did not receive antenatal care.

Missed Postnatal Check-Up

High proportions of new mothers did not miss postnatal check-ups, although some traditionally disadvantaged groups could not attend follow-up visits.

Similarly, all new mothers from urban female-headed households and MSMEs undertook essential postnatal care. However, the rates of new mothers from urban coastal and Dalit households who attended all the postnatal visits decreased drastically by 33.3% and 60% points, respectively, compared to their corresponding attendance for antenatal care. This trend was also observed in their rural counterparts. Likewise, the proportion of new mothers in urban slums who received all postnatal care fell by 31.2% compared to those who completed all antenatal check-ups.

Missed Child Immunization

A higher proportion of the traditionally disadvantaged households missed child immunizations than the newly disadvantaged.

The majority of young children from rural traditionally disadvantaged households were not immunized with essential vaccinations. Among the traditionally disadvantaged communities, Dalit households comprised the highest proportion who missed child immunizations. This proportion was higher than that of the newly disadvantaged community and highest across rural-urban locations.

Relatively large shares of rural PWD and coastal households also missed child immunizations. In contrast, only a small proportion of rural migrant households did not immunize their children. Although migrant households had the highest rate of institutional births, their lower child immunization rates could be attributed to movement restrictions and a halt in essential services.

The preceding section highlighted the implications for maternal and child health. The cases of home births and missed child immunizations were higher among traditionally disadvantaged groups. This study found that a relatively lower proportion of mothers from disadvantaged households missed the required antenatal and postnatal care visits.

Ante- and postpartum hemorrhage, eclampsia, and preeclampsia, the most common causes of maternal death in Bangladesh, are likely to be exacerbated by the increase in home births. In addition, low rates of antenatal care visits could result in maternal malnutrition and low birth weights in children, and the consequences are likely to be severe for poorer households (The World Bank, 2021). In the long term, the undernourishment of children born in poor households hinders human capital accumulation.

COVID-19 Vaccination of Disadvantaged Populations

Bangladesh began administering COVID-19 vaccines on 27 January 2021, prioritizing frontline workers and older adult populations. As of 5 March 2022, 75% of the population had received their first dose, and 67% had their second dose. However, the rates were lower for the third dose, where only 9% of the double dosed were given the booster shot. Nevertheless, these aggregate figures conceal significant inequities in vaccine administration. This section identifies disadvantaged groups with low levels of willingness and vaccine uptake, their socioeconomic traits, and possible factors explaining vaccine hesitancy, low registration, and inoculation rates. Further, the best practices of other South Asian countries are highlighted to design an inclusive vaccination system for Bangladesh.

Vaccination Drive and Inequality

A cross-sectional online survey across nine low- and middle-income countries found less willingness to vaccinate among people with low educational attainment and limited knowledge of COVID-19, low income, and women and youth because

of misconceptions regarding the vaccine (Bono et al., 2021). In Bangladesh, vaccine hesitancy was prevalent among disadvantaged communities during the initial phases of the vaccination drive. A household survey conducted between December 2020 to January 2021 revealed high vaccine refusal rates among agricultural workers, day laborers, slum dwellers, and semi-urban and rural communities, owing to low confidence in the healthcare system, limited awareness, lack of access to digital devices, and digital literacy (Abedin et al., 2021).

Knowledge of COVID-19 and vaccines improved[4] in March and June 2021, although misconceptions about vaccine efficacy and side effects prevailed (CARE Bangladesh, 2021). Despite increased awareness, only 6% of disadvantaged groups registered for vaccination, and only 4% received at least one dose (CARE Bangladesh, 2021). Similarly, an online purposive random sampling study conducted in April 2021 revealed a discrepancy between the vaccination rates of household heads and their domestic help in Dhaka (Goswami & Labiba, 2021). Domestic workers were unvaccinated owing to insufficient awareness stemming from a lack of access to digital devices, the Internet, digital literacy, and national identity cards (NIDs). In the third dose administration, while 66% of eligible men received the booster, only 35% of women did (Directorate General of Health Services, 2022).

More than six months into the vaccination drive, there were marked district-wise disparities in uptake. Because of a centralized public healthcare system, vaccine administration was concentrated in Dhaka. It was recently discovered that almost seven lakh people in Chattogram, including pregnant women, did not receive the first dose due to vaccine shortages. Additionally, transgender people experience humiliation at vaccination centers due to misspecifications of gender identities on their NIDs, the absence of separate gender selections in the registration app, and digital illiteracy.

Policy Response and Cross-country Lessons

The Bangladesh government's policies have, to a certain extent, addressed the hurdles of vaccinating disadvantaged populations. In August 2021, the Directorate General of Health Services planned to inoculate breastfeeding and pregnant women who, upon registration, would be counseled by doctors to receive vaccines at medical centers. A vaccination drive was also conducted in one of the largest slums in Dhaka, where they were provided without prior online registration and NIDs. Nevertheless, these policies did not reach all disadvantaged segments. Therefore, vaccination strategies in other South Asian countries could provide valuable policy guidelines for inclusive and equitable vaccination in Bangladesh.

Bhutan's success story is a classic model for vaccinating people living in hard-to-reach areas. Bhutan successfully vaccinated 90% of the target population within a week through the implementation of a national COVID response plan that included the establishment of cold chain storage facilities in remote health centers, community engagement to raise awareness, and demonstration of strong leadership and governance (UNICEF, 2021b). Bangladesh could adopt Bhutan's policy

of digitizing its vaccine management system. This would provide real-time data on vaccination stocks and which communities are left behind, ensuring quick, equitable, and efficient vaccine administration (United Nations Development Programme 2021).

Strategic approaches targeting disadvantaged communities have been demonstrated in India. Bangladesh could consider similar supervised home-based vaccination of PWD, inoculation of waste workers and rag pickers by considering them as frontline workers, and mobile vaccination facilities like 'Vaccine on Wheels' to vaccinate HIV patients, sex workers, construction workers, and street vendors.

Efficient implementation of these best practices will aid in overcoming low registration rates among disadvantaged communities. Although vaccine hesitancy has reduced and knowledge improved, low registration rates and unwillingness could persist, leading to diminished rates for the second and third doses.

Conclusion

The COVID-19 pandemic has resulted in numerous consequences across countries of varying scope and intensity. The extensive health repercussions can be categorized into direct and indirect impacts. While the direct impact has been moderate, the indirect effects have caused significant adversities for disadvantaged communities that have persisted and affected national development ambitions. The foremost negative indirect effect has been the increasing food insecurity, followed by adverse maternal and child health effects. This chapter outlined the direct and indirect health implications for Bangladesh's traditionally and newly disadvantaged communities and presented secondary findings on COVID-19 vaccination inequality that could compound the aforementioned challenges.

First, food intake was lowered by approximately 86% in disadvantaged households, as observed in indigenous households. Employment loss was the cause in 90% of the cases, especially noticeable in char, PWD, slum, and MSME households. Moreover, 77% of households wherein no members lost their jobs also reported decreased consumption. Changes in household consumption behavior were adjusted by reducing the number of meal items and protein intake, primarily in haor, MSME, and slum households.

Second, home births were high among traditionally disadvantaged households. In rural areas, all women from haors and PWD households gave birth at home; in urban areas, more than 50% of slum and coastal women reported home births. However, unlike rural households, home births among disadvantaged urban households were a consequence of the pandemic. Additionally, the survey indicated no significant disruption in antenatal or postnatal visits. Furthermore, a large proportion of children from rural households belonging to Dalit, PWD, and coastal communities missed immunizations.

Third, the vaccination drive continues to be marked by stark inequalities. As incomplete vaccination of populations leads to destructive mutations in the virus, emerging variants and uneven recovery could compound the socioeconomic adversities, aggravating the direct and indirect health-related challenges.

Fourth, rising food insecurity urgently requires the allocation of adequate and targeted cash transfers and food support to the most disadvantaged groups, belonging to char, haor, indigenous, PWD, slum, and MSME households. Sustained interventions should be widely implemented if financial hardships intensify with uneven recoveries. A robust monitoring mechanism is needed to ensure that support packages do not benefit only the politically affiliated. Demand-side financing schemes could incentivize pregnant women toward institutional deliveries. For example, the resumption of maternal vouchers, wherein mothers who deliver at institutions receive cash allowances. In contrast, supply-side disruptions to health services could be minimized through the involvement of non-governmental organizations.

Concerning COVID-19 vaccine inequality, mass vaccination is best facilitated by local production. Since Bangladesh is prepared to produce vaccines, the much-debated patent waiver will be beneficial, given the technology and knowledge transfers. Active engagement of public representatives in advocating for the waiver will prove valuable, especially after Bangladesh graduates from the group of least developed countries. However, this waiver alone is insufficient; it must be complemented with a targeted approach to locating and vaccinating disadvantaged groups by addressing their digital barriers and building vaccination centers in hard-to-reach areas.

Notes

1 The prevalence was highest in Sylhet division (43%) and lowest in Dhaka and Khulna (26%).
2 Survey methodology is detailed in Chapter 4.
3 The difference between the national averages and the survey figures may be considered to be a result of the small sample size.
4 However, according to the survey conducted by BRAC University, misconceptions and superstitious beliefs about COVID-19 disease and vaccination were observed among urban slum dwellers (Faruk & Al Quddus, 2021).

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Annex

Table 8.a.1 Regression Analysis of Factors Affecting Food Consumption Reduction

	All Groups		*Traditionally Disadvantaged Groups (LNOBs)*		*Newly Disadvantaged Groups (PNOBs)*	
Variables	*Probit coefficient*	*Marginal effects*	*Probit coefficient*	*Marginal effects*	*Probit coefficient*	*Marginal effects*
Change in income	−0.00563**	−0.000832**	−0.00857***	−0.00121***	−0.000247	−3.30E-05
Lost job	−0.0246	−0.00364	0.0104	0.00146	−0.115	−0.0154
Household size	0.136	0.0201	0.258*	0.0364*	−0.381*	−0.0510**
Household size squared	−0.00979	−0.00145	−0.0176	−0.00248	0.0281**	0.00376**
Urban	0.215*	0.0318*	0.383***	0.0541***	−0.421	−0.0562
New shock	−0.0689	−0.0102	−0.106	−0.015	−0.372	−0.0497
Network	−0.0974	−0.0144	−0.0594	−0.00838	−0.663*	−0.0886*
Reduction in food expense	0.849***	0.125***	0.942***	0.133***	0.51	0.0681
Reduction in non- food expense	0.998***	0.147***	0.861***	0.122***	1.921***	0.257***
Private support	0.386**	0.0570**	0.477**	0.0673**	0.118	0.0158
Government support in cash	−0.0772	−0.0119	0.41	0.0506		
Government support in kind	0.0737	0.0109	−0.052	−0.00742	0.433	0.055
Government support in both	0.163	0.0234	0.0395	0.00549	0.422	0.0537
Withdrawal savings	0.385**	0.0569**	0.370*	0.0522*	0.944***	0.126***
Took loan	0.560***	0.0827***	0.602***	0.0850***	0.643**	0.0859**
Sold livestock	0.489*	0.0723*	0.504	0.0712	0.779	0.104
Constant	−0.369		−0.721*		1.204*	
	−0.301		−0.399		−0.654	
Observations	1,522	1,522	1,233	1,233	288	288

Source: Citizen's Platform Household Survey 2021.
Note: ***p < 0.01, **p < 0.05, *p < 0.1

9 New Realities in the Education Sector Confronting the Disadvantaged Communities

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Introduction

Up until the COVID-19 outbreak, Bangladesh's education sector was making commendable progress. In 2018, the student population surpassed 38 million, distributed among pre-primary (9.5%), primary grades 1–5 (47%), and secondary grades 6–10 (34%) (Advocacy for Social Change [ASC], BRAC & BRAC Education Programme [BEP], 2020). Notably, primary school enrolment rates mirrored the global average, while drop-out rates decreased for both boys and girls (General Economics Division [GED], 2020).

Nonetheless, significant challenges persisted. A distressing majority, more than half of primary school students, struggled with reading and basic pattern recognition (GED, 2020). Inadequate learning quality consequently translated into overall lower secondary school enrolment and completion rates, which hovered slightly above 50% and 64% in 2019. To compensate for educational shortcomings, students were forced to rely heavily on coaching centers and private tuition, leading to a surge in out-of-pocket expenses (GED, 2020). Accordingly, the poorest segments of society bore the brunt of this financial burden, with education costs quadrupling for them, while the overall average escalated by 80%. As of 2019, education expenditure in Bangladesh accounted for 3.7% of GDP, surpassing the global and South Asia average (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2021).

Beyond the in-school factors, Bangladesh was confronted with additional obstacles. The prevalence of child marriages surpassed the global average by a staggering 38%, disproportionately affecting young girls, placing Bangladesh among the top ten nations leading in child marriage (GED, 2020; United Nations Children's Fund [UNICEF], 2020). Meanwhile, child labor remains an enduring challenge, as 6.8% of children engage in economic activities surpassing their age-appropriate responsibilities (Bangladesh Bureau of Statistics [BBS] & UNICEF Bangladesh, 2019). These multifaceted barriers have hindered Bangladesh's ability to deliver quality education and ensure universal access for all.

Rationale, Objectives, and Methods

The present chapter aims to establish a baseline of information regarding Bangladesh's education sector during the first wave of the COVID-19 pandemic.

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Earlier surveys and studies have explored the impact and COVID-19 coping dimensions concerning the country's education system, whereas this chapter assesses the individual and household-level impact and coping mechanisms as well as policy support in Bangladesh's education sector during the COVID-19 pandemic from three vantage points: (i) perspectives of the traditionally and newly disadvantaged communities, (ii) level of education, including primary, secondary, and tertiary levels of schooling, and (iii) gender perspective.

This chapter refers to the systematic theoretical assessment presented in Chapter 2 to identify the traditionally left-behind and newly disadvantaged communities in Bangladesh in view of the pandemic. Using this framework to recognize the vulnerable communities given COVID-19, the chapter's empirical analyses were based on a household survey[1] The chapter uses a combination of statistical analyses for evidence-based interpretation[2] and desk research of secondary literature to explore the COVID-19 impact on Bangladesh's education sector, the resultant coping mechanisms, and their implications.

Education in the COVID-19 Era

According to UN Secretary-General Antonio Guterres, COVID-19's impact on the global education sector has been nothing less than a 'generational catastrophe'. Many developing countries in the pre-pandemic world had already been experiencing weakened education systems. UNESCO reported that due to the COVID-19 outbreak, more than 1.2 billion students were out of school, and a staggering 1.38 billion students had their educational pursuits disrupted globally (Li & Lalani, 2020). Undoubtedly, the COVID-19-induced lockdowns and social distancing measures set in motion the spillover effects extending across all corners of socio-economic activity in Bangladesh.

Prolonged School Closures

The greatest impact of COVID-19 on Bangladesh's education system materialized as one of the world's longest school closures. Following the first COVID-19 infection spread and lockdown, schools across Bangladesh rapidly closed their doors on 17 March 2020 (UNESCO Institute for Statistics [UIS], 2022). Remarkably, Bangladesh was the sole South Asian country and one of just 14 worldwide that imposed complete school closures, resulting in one of the longest school closures of 63 weeks (Bhattacharjee & Shiblee, 2021; UIS, 2022).

Initially, the school closure was seen as a mere 'general holiday', leading to a perception of a short break. However, it soon became clear to education authorities and students that this holiday was transforming into a prolonged lockdown. If not addressed, this disruption would create a significant education gap, impacting an entire generation.

In mid-2020, it was revealed that the pandemic had disrupted over 70% of primary schools around Bangladesh (Campaign for Popular Education [CAMPE],

2020). Consequently, this affected approximately 41% of primary school students and over 30% of secondary school students. Notably, girls in both primary and secondary levels suffered disproportionately compared to boys. Dire household economic circumstances resulted in increased malnourishment among girls, a surge in gender-based violence, and a rise in child marriages and early pregnancies (CAMPE, 2020).

The school closures effectively limited the risk of virus exposure among children, but they have also kept them out of the education system indefinitely. The disruption in education had a particularly significant impact on both primary and secondary students. Consequently, families were faced with a critical decision: to pursue an education within their financial limitations and institutional capacities or to drop out of the school system.

Rise in School Drop-Out Rates and Child Marriages

In line with global trends, the COVID-19 pandemic exacerbated pre-existing challenges in Bangladesh's education system. In 2018, drop-out rates in secondary education (37.6%) were higher compared to the primary level (18.6%) (Bangladesh Bureau of Educational Information and Statistics [BANBEIS], 2022; GED, 2020). Moreover, gender dynamics revealed higher primary drop-out rates for boys, while the trend reversed in secondary education (BBS et al., 2017). Commonly cited reasons included a 'lack of interest' and 'working to support their families' for boys, while girls faced challenges of domestic chores and financial constraints within their families (BBS et al., 2017).

The lockdowns during the pandemic had a significant direct impact on school drop-outs. In the first year since the COVID-19 outbreak, a higher percentage of secondary school students (21%) in urban slum and rural households were found to be completely out of school compared to primary school students (14%) (Rahman & Matin, 2021).

Successive school closures also exacerbated the child marriage crisis. According to Manusher Jonno Foundation, Bangladesh witnessed a 60% surge in child marriages in 2020 (Shaheen & Anam, 2021). However, of the reported child marriages, only 20% was estimated to be formally reported, suggesting that the actual number was much higher (Sakib, 2021). Adding to this, married girls were four times more likely to discontinue their education compared to unmarried girls, underscoring the challenge of reintegrating married students into school (UNICEF, 2020).

Interventions for Education Continuity

As physical classes halted worldwide in 2020, countries swiftly transitioned to online learning, using platforms like Google Classroom and Zoom. Some countries even developed tailored e-learning platforms, such as Bangalore's own BYJU 'Think and Learn' app and China's 'Tencent' (Li & Lalani, 2020). Moreover,

unconventional partnerships, such as the collaboration between PBS SoCal and the Los Angeles Unified School District, facilitated the broadcast of localized school programs (Li & Lalani, 2020).

Similarly, in Bangladesh, there was a combination of state-run efforts to effectively mobilize virtual schooling during this period, which can be classified into four clusters. The first involved broadcasting pre-recorded lessons on television through Sangsad TV in partnership with a2i, with a total of 2,100 classes aired out of the targeted 3,500, reaching an estimated 13.6 million students (Bhattacharjee & Shiblee, 2021).

The second approach included airing lessons on online platforms like YouTube and Facebook. The 'Ghore Boshe Shikhi' Facebook page, established by the Directorate of Primary Education and a2i, broadcasted over 2,000 classes, reaching nearly 10 million students. The 'Konnect' Facebook page and YouTube channel accumulated nearly 90,000 subscribers and delivered an estimated total of 90,000 classes during the first wave of the pandemic (Bhattacharjee & Shiblee, 2021).

The third approach involved radio-based classes, reaching approximately half a million students daily in hard-to-reach areas and disadvantaged communities through Bangladesh Betar (the national radio of Bangladesh) and 16 other community-based radio stations (Bhattacharjee & Shiblee, 2021).

And finally, the fourth approach encompassed dedicated e-learning platforms like MuktoPaath. Offering over 180 courses, these platforms catered to students, professionals, and society members. Platforms like Emporia also specifically addressed the education and job application needs of people with disabilities. Other options also involved state-run platforms like Virtualclass.gov.bd for virtual classrooms, assignments, tests, and video-conferencing software. Private institutions utilized third-party platforms such as Google Meet, Google Classroom, and Zoom (Bhattacharjee & Shiblee, 2021).

A BIGD-PPRC survey revealed higher engagement in virtual schooling among secondary school students compared to primary students. And while primary students preferred TV broadcasts, secondary students actively participated in online classes (Rahman et al., 2021). Platforms like YouTube and Facebook emerged as the most popular mode, especially given its accessibility while others relied on the likes of Zoom and Google Classroom to maintain a participative classroom experience (ASC, BRAC & BEP, 2020; Rahman et al., 2021). However, despite the various options available, a significant number of students were left behind due to the substantial increase in out-of-pocket education expenses (Rahman & Matin, 2021).

Learning Losses

While the interventions had impressive reach, the depth of learning achieved by students remains uncertain. CAMPE's research revealed that students could only partially engage in their schooling process across different education levels. Teachers had also expressed hesitation about learning outcomes during the pandemic, with

the majority believing that virtual platforms only partially facilitated true learning and assessment (CAMPE, 2020). In response, Bangladesh has implemented curriculum and assessment reforms by shortening the syllabi by 2023 (UNESCO, 2021).

Predictably, additional challenges also hindered the potential of distance learning. Parents could not often support their children's homeschooling in rural and urban areas. CAMPE's survey revealed that the majority of respondents, who were parents, were illiterate and unable to teach their young children at home (CAMPE, 2020). Even among households in rural areas with television access, only a quarter utilized it for attending classes, and an even smaller proportion of students with internet access participated in online classes (Asadullah et al., 2020). Existing literature suggests that while TV broadcasts offer accessibility and availability for continuing education, the digital divide and household or parental limitations impede their effective implementation.

BRAC's rapid assessment survey identified the three key factors contributing to the potential discontinuation of education among children. These included the lack of direction from schools for home-based learning, food insecurity leading to prioritizing basic needs over education, and lack of support from family members (ASC, BRAC & BEP, 2020). Moreover, despite efforts to facilitate distance learning, over 50% of children aged 5–15 had no access to television, with the figure rising to approximately 91% for the poorest households (UNESCO, 2021).

Impact of COVID-19 on the Education Sector

Bangladesh imposed one of the longest school closures in the world, totaling a period of 63 weeks (UNESCO, 2021). Such a drawn-out disruption in classes was estimated to induce nearly 24 million school drop-outs from the pre-primary level to university (UNESCO, 2020).

Out of the students in the surveyed households, primary and below students comprise 45.2%, whereas secondary school students comprise 38.4%. It must be noted that 'primary and below' refers to primary and pre-primary school students.

Secondary school and college-level students are 2.6 times more likely to drop out of school in a post-COVID-19 scenario than students at the primary level or below (Table 9.1). Among the sample of primary school students, students from slum areas exhibited the highest likelihood of dropping out of school once they reopened in the post-COVID-19 era.

In contrast to secondary school students, there is a drastically higher potential of secondary students from coastal areas dropping out of education completely (8.7%). Moreover, this share is comparatively higher among secondary school students of vulnerable groups and across all levels of education. At the collegiate and higher levels of education, students from the char areas are at the most risk of leaving the education system once educational institutes reopen.

Among the individual communities, students in coastal areas are at the most risk of being excluded from the education sector in Bangladesh in the post-COVID-19 scenario. The coastal community comprises the larger traditionally disadvantaged

Table 9.1 Potential Discontinuation of Education (%)

Groups	*Primary*	*Secondary*	*College and above*	*Overall*
Traditionally disadvantaged				
Char	0.0	2.6	33.3	2.6
Haor	0.0	3.4	5.0	1.9
Coastal	0.0	8.7	0.0	3.0
Slum	3.4	5.7	6.3	4.4
Dalit	0.0	0.0	0.0	0.0
Indigenous	0.9	1.8	0.0	1.6
PWD	3.0	4.2	0.0	2.8
Newly disadvantaged				
Migrants	0.0	1.6	2.6	1.1
MSME	1.2	3.5	4.9	2.9
All	**1.3**	**3.4**	**3.4**	**2.5**

Source: Citizen's Platform Household Survey 2021.

group, which is also at a comparatively higher risk of experiencing overall rising drop-out rates.

On a gender-disaggregated level, more female than male student respondents stated that they may no longer pursue education even if schools reopen. The potential rise in students dropping out of the education system altogether may be considered one of the direct impacts of COVID-19 on the country's education sector. However, many other indirect impacts drive students out and keep them out of school.

Impact at the Household Level

The following subsection presents and explains the various dimensions of the impact that a vulnerable household might have experienced concerning education during the pandemic. The disrupting impact on education was analyzed according to individual groups within the broad classifications of traditionally and newly disadvantaged as well as the overarching perspectives, respectively.

Within the traditionally disadvantaged group, the coastal community was found to have the highest percentage of households with students enrolled in schools and participating virtually. However, this same group also has the highest percentage of households with the potential to have their children drop out of education due to the pandemic. The coastal communities have been recognized as the most climatically vulnerable and, consequently, socioeconomically vulnerable. These communities primarily depend on making their living based on climate-dependent work such as fishing and farming (Istiakh et al., 2019). The resultant high exposure to vulnerabilities may add to the growing caution and need to build income streams rather than continue with education in the long term. This may be one of the underlying reasons why coastal communities have the highest share of potential drop-outs in the post-pandemic era.

The char community,[3] based entirely in the rural areas, may not have the lowest percentage of households with students enrolled in schools, but they do have the lowest share of households with students in virtual schools. Coincidentally, these households from the char community experienced the second-highest incremental cost of participating in virtual school at BDT 410 a month (Table 9.2).

This is followed by female-headed households experiencing the highest incremental cost (411 BDT/month) as well as the second-largest share of households with students participating in virtual schools (21.8%).

Among the newly vulnerable, returnee international migrants and MSME households have comparatively similar experiences in terms of shares of households with currently enrolled students. However, there is a slightly higher percentage of households among the migrants, with students participating in virtual schools (22.8%) and a resultant comparatively higher incremental cost (395 BDT/month). Despite a comparatively lower incremental cost resulting from virtual schooling, the percentage of MSME households with the possibility of discontinuing education remains at a higher-than-average 3%.

Identifying the Underlying Reasons Driving the Drop-Out Rate

The section, thus far, identified the extent of the potential drop-out rates prevailing within disadvantaged communities in Bangladesh. The following subsection

Table 9.2 COVID-19 Impact on Education at the Household Level

Groups	*Share of households with currently enrolled students (%)*	*Share of households with at least a member is participating in virtual classes (%)*	*The incremental cost of participating in virtual classes at the household level (BDT) per month*	*Share of households with the possibility of a member discontinuing education due to COVID-19 (%)*
Traditionally disadvantaged	**67.8**	**14.3**	**343.0**	**2.8**
Char	74.0	6.8	410.0	3.0
Haor	77.0	7.8	350.0	3.0
Coastal	78.0	28.2	342.0	4.0
Slum	60.8	15.2	303.0	3.8
Dalit	65.0	10.8	229.0	0.0
Indigenous	72.7	15.6	397.0	2.0
PWD	62.2	13.9	374.0	2.9
Female HHH	59.9	21.8	411.0	1.7
Newly disadvantaged	**72.0**	**21.0**	**410.0**	**2.3**
Migrant	70.1	22.8	395.0	1.0
MSME	70.3	21.1	382.0	3.0
All	**68.8**	**15.8**	**363.0**	**2.7**

Source: Citizen's Platform Household Survey 2021.

discusses the various reasons underpinning the potential decision to keep a student out of school, given the circumstances of the pandemic. In this regard, the Citizen's Platform survey identified three major reasons driving the drop-out rate. The first is that they might not have had the finances to afford education as a result of the economic instability during the pandemic. Consequently, the financial instability during the pandemic resulted in an influx of youths joining the workforce instead, which was identified as the second reason. The third is that they might have got married during the pandemic, which may be barring them from going back into education.

According to the survey results, the primary reason behind students dropping out is financial constraints. The largest share (nearly 67%) of newly disadvantaged students dropped out due to insufficient funding. Nevertheless, the share of traditionally disadvantaged students (47%) who faced a similar demise is not minor by any measure. The economic instability brought on by the pandemic has instilled a sense of caution regarding smoothing consumption. Accordingly, marginalized communities and female students are more vulnerable to cutting costs related to education.

Many children were forced to earn additional income for their families between income instability and school closures. While no students from within the newly disadvantaged dropped out of school due to joining the workforce, 36% of the traditionally disadvantaged students dropped out of school because they became employed. However, there is a higher share of newly disadvantaged students who dropped out due to getting married during the pandemic. What becomes worrisome with a closer look at the gender-disaggregated figures is that across both traditionally and newly disadvantaged, the girls were far more disproportionately impacted by marriages and subsequent suspension of their education during the pandemic.

The overall context sets the basis for virtual participation in schools of varying vulnerable groups and the pandemic's direct and indirect impacts on education. One was dropping out of school due to financial inability. One may wonder whether household income differences may be relevant to virtual school participation.

Coping with the Disruption in Education

The earlier sections delved into the direct and indirect forms of impact, i.e., extended disruptions to classes and exacerbated drop-out rates across levels of education and between disadvantaged groups and at the household level. However, those students and households who were able to overcome the trappings that came with pandemic shocks coped with the disruption through distance learning whenever and wherever possible.

Virtual School Participation

Among the traditionally disadvantaged primary school students, the coastal population had the highest share of students participating in school virtually (14.5%). However, virtual primary school attendance was found to be non-existent within the completely rural-based communities (i.e., the char and haor areas).

A deeper analysis of the relationship between geo-locations and the likelihood of coping with distance learning revealed that the location considerably impacted the student's chances of partaking in virtual lessons. In particular, students from traditionally disadvantaged households in urban areas were more likely to leverage technology and the internet to attend school. This, however, does not hold true for students in newly disadvantaged households. This may indicate that households and schools in urban areas were much better equipped to take on virtual modalities for schooling.

This does not apply to secondary school and college, where slightly over 15% and 5% of char and haor secondary students were in virtual school. The corresponding attendance rates, respectively, were 16% and 15% in college and above (Table 9.3). Among the traditionally disadvantaged secondary school students, 25% of secondary school students from slums were found to be in virtual schools. This was lower in comparison to newly disadvantaged students, as over 30% of secondary school students from migrant households were attending classes virtually. Overall, 12% of enrolled students were participating virtually (Table 9.3).

Overall, when observing across levels of education, it was clearly delineated that the overall attendance rate in virtual primary school was the lowest (3.1%) in comparison to secondary (16.8%) and collegiate (25.3%) levels of education (Table 9.3).

An in-depth analysis of virtual school participation and its underlying drivers revealed that the type of school or institution the student was enrolled in considerably impacted students' chances of continuing school virtually. Among traditionally disadvantaged students, this likelihood increased when the student was enrolled in a public institution compared to students from private schools and universities. Students from particularly disadvantaged backgrounds were more likely to be in government schools compared to private institutions, as evidenced by the higher proportion of students surveyed in this study who were enrolled in public schools. Those institutions might not have had the funding to execute virtual classes for those attending private schools. Among the newly disadvantaged students, the situation was slightly different. The findings indicated that a newly disadvantaged student in a madrasah was considerably more unlikely to pursue education online or through alternative virtual means. This may be a result of institutional priorities or incapacities that impede the adoption of distance learning.

Digital Access: Challenges in the Education Sector

The path to adapting to online or virtual schooling must take account of the existing digital divide and the limitations experienced by many communities across Bangladesh, especially those left behind and pushed behind. Virtual schooling may be an expensive endeavor in a country where less than 40% of people own a smartphone. Moreover, a BANBEIS survey showed that 76% of students in rural areas could not access classes via television compared to 55% of students living in urban areas. Rural-based students fared comparatively weaker in terms of online classes, with nearly 94% of students unable to access online classes compared to 30% of their urban counterparts. Overall, urban students fared far better digitally accessing classes than their rural peers.

Table 9.3 Virtual Class Participation Rate (%) by Level of Education and by Groups (%)

Groups	*Primary*			*Secondary*			*College and above*			*Overall virtual class attendance rate (%)*
	Total enrolment	*Virtual class attendance*	*Virtual class attendance rate (%)*	*Total enrolment*	*Virtual class attendance*	*Virtual class attendance rate (%)*	*Total enrolment*	*Virtual class attendance*	*Virtual class attendance rate (%)*	
Traditionally disadvantaged										
Char	71	0	0.0	38	6	15.8	6	1	16.7	6.1
Haor	83	0	0.0	59	3	5.1	20	3	15.0	3.7
Coastal	62	9	14.5	46	11	23.9	27	11	40.7	23.0
Slum	207	7	3.4	123	31	25.2	32	9	28.1	13.0
Dalit	45	2	4.4	39	3	7.7	13	3	23.1	8.2
Indigenous	112	4	3.6	165	20	12.1	91	17	18.7	11.1
PWD	67	1	1.5	48	5	10.4	27	6	22.2	8.5
Newly disadvantaged										
Migrants	85	2	2.4	64	20	31.3	39	12	30.8	18.1
MSME	86	0	0.0	115	18	15.7	41	13	31.7	12.8
All	**818**	**25**	**3.1**	**697**	**117**	**16.8**	**296**	**75**	**25.3**	**12.0**

Source: Citizen's Platform Household Survey 2021.

The following subsection outlines the various modes of virtual school participation. These broadly comprise the interactive medium, i.e., online platforms that accommodate real-time discussions and follow-up between the instructor and students, as well as social media, such as Facebook and YouTube, television, and a mixed approach of all.

Modes of Virtual School Participation

Considering the experiences of the traditionally disadvantaged sections, the vast majority (56%) of primary school students surveyed were able to continue their education virtually through television. The least used mode was the interactive mode. However, while the television approach did take into consideration the limited smartphone penetration within the country, the non-reciprocal nature of it hinders the true learning experience.

In contrast to the traditionally vulnerable primary students' experiences, many traditionally disadvantaged secondary school students (44.4%) participated in school through an online, interactive medium, whereas only 6.3% continued their education through television.

Considering the experiences of the newly disadvantaged, however, there is an equal division between the primary school students who continued school through interactive mediums and those who continued through television. Moreover, among the secondary school students, 47% of them were found to use social media (such as Facebook and YouTube) as their mode of choice for online education.

Overall, considering the students who chose online education, smartphones dominated as the device of choice across both traditionally and newly disadvantaged students at both primary and secondary levels of education. Laptops and desktops were much more commonly used among students at the collegiate and higher levels of education but were not as popular as smartphones across both traditional and newly vulnerable groups.

Cost of Virtual School Participation

As mentioned in the preceding section, the transition of shifting to online or virtual school was often expensive and consequently, completely unfeasible in some cases. Among the traditionally disadvantaged, the Dalit community was found to experience 1.3 times more than the average increase in costs of both traditionally disadvantaged and newly disadvantaged primary school students together. Although they had the second-highest virtual primary school attendance rate during the pandemic, it was only 4.4% compared to the much higher 14.5% attendance of coastal area-based primary school students. Coastal area-based primary school students had the highest virtual school attendance, but also the lowest increase in cost (187 BDT per month).

Among the newly disadvantaged, secondary school students from migrant households incurred the highest cost rise due to virtual school (340 BDT per month). However, this may be a consequence of their highest virtual school attendance rate among the entire group of secondary school students. Overall, the highest increment was incurred by the college and higher educated students from char areas. The

rural area-based tertiary-level students clocked in one of the lowest virtual attendance rates yet experienced nearly 1.3 times more than the average increase in cost.

Table 9.4 sheds light on the results of significance tests conducted regarding the differences in household incomes of the students who participated in school virtually and those who did not. Comparing traditionally disadvantaged and newly disadvantaged, we observed significant differences in the incomes of households that participate in virtual school and those that do not.

Within the newly disadvantaged, there were no statistically significant observed differences. However, this does not apply to the vulnerable groups within the traditionally disadvantaged. Among them, households with significantly higher incomes in char areas, slums, and female-headed households were found to be participating in virtual schools. Furthermore, we observed the difference in incomes of households with persons with disabilities. It may be inferred that increases in household incomes in these specific areas may influence whether their students can support virtual schooling.

However, whether there is any true impact remains to be assessed. The increment in costs resulting from virtual school participation can be assessed from its share in the household incomes of respective groups.

Table 9.5 shows the share of monthly incomes occupied by the incremental cost of virtual schooling. For those who recently became financially vulnerable, these costs have gone up more compared to people who were already facing difficulties. The increase for the newly vulnerable is 0.3% higher than the 2.4% of the traditionally disadvantaged and 0.2% higher than the overall average of 2.5%. However, within the traditionally disadvantaged, char area-based households incurred the highest incremental cost versus their monthly income (4.4%). Interestingly, even

Table 9.4 Average Household Income (in BDT) by Those Who Participated Online vs Those Who Did Not (Significance Test)

Groups	*Did not participate in online classes*	*Participated in online classes*
Traditionally disadvantaged	**14754**	**17712*****
Char	9373	11800
Haor	15162	22717**
Coastal	15518	15409
Slum	12880	15319**
Dalit	11220	14643
Indigenous	11148	21966
PWD	15444	20263*
Female-headed HH	17880	25265**
Newly disadvantaged	**25008**	**24000**
Migrants	28770	30566
MSME	20469	17048
All	**16947**	**19602****

Source: Citizen's Platform Household Survey 2021.
Note: * p-value < 0.05, ** p-value < 0.01, *** p-value < 0.001

Table 9.5 Incremental Cost of Online Participation as a Percentage Share of Current Monthly Income

Groups	*Incremental cost of online participation as % of current monthly income*
Traditionally disadvantaged	**2.4**
Char	4.4
Haor	1.6
Coastal	2.4
Slum	2.4
Dalit	1.9
Indigenous	2.5
PWD	2.8
Female HHH	2.3
Newly disadvantaged	**2.7**
Migrants	1.9
MSME	3.0
All	**2.5**

Source: Citizen's Platform Household Survey 2021.

though both char and haor regions are rural, the haor region incurred the lowest share of incremental cost to monthly income (1.6%).

Factors Driving Down Virtual School Participation

While monthly household incomes and incremental costs have been referenced as one of the major factors discouraging virtual schooling among students from vulnerable households, a multitude of drivers beyond the financial aspect remains. The present subsection takes a deeper look into the various reasons underpinning the rising potential drop-out rate. In this vein, four reasons were identified. These include the lack of institutional arrangement, lack of devices, poor internet connection, and high internet expense.

Across the board, both the newly and traditionally disadvantaged experienced a rise in virtual school participation with a rise in the level of education. However, a higher percentage of traditionally disadvantaged students (89%) dropped out during the pandemic-led school closure, compared with a little over 4% more than newly disadvantaged students.

Both disadvantaged groups primarily reported the lack of arrangement by the institution as their major reason for being unable to pursue education virtually. The second reason is the lack of laptops, smartphones, or even a TV. One in every 14 newly disadvantaged households could not participate due to a lack of devices compared to one in every six traditionally disadvantaged households.

Furthermore, more newly disadvantaged secondary students reported that slow internet or weak internet signal strength was deterring them from online education. However, more traditionally disadvantaged students listed the high cost of internet services as their third major reason for not attending online school.

Regardless of all the reasons listed, the core responsibility, as presented by the survey results, remains with the institutions and their initiatives to push for students to continue their education virtually.

Reviewing Public Policies in Education during the COVID-19

Before the COVID-19 outbreak, disadvantaged students had already been facing challenges in education and employment, compounded by limited access to public services (Moazzem & Shibly, 2020). As mentioned previously, while coping approaches have helped, the pandemic has posed difficulties for students, teachers, and institutions alike in maintaining distance learning and addressing rising dropout rates.

Despite a slight increase in the allocated budget for education in the FY2022 National Budget, the share had dropped to 11.9% from 12.2% from the previous year. Correspondingly, public spending on education in Bangladesh continued to hover around 2% of GDP (GED, 2020). According to UNESCO, household expenditure on education (as a share of GDP) far exceeded this by 1.7% (Bhattacharjee & Shiblee, 2021). Before the pandemic, out-of-pocket expenditure on education already demonstrated the significance placed on it. However, since the outbreak, this expenditure has surged 12-fold (Rahman & Matin, 2021). The emphasis on education through private expenditure should be reflected in increased public spending, particularly during the pandemic.

The following section uses the responses gathered through the Citizen's Platform's 2021 field survey to assess the extent to which disadvantaged households enrolled in and received support through social safety net programs (SSNPs). In this regard, the analysis differentiates between cash-based and in-kind support-based government support programs and whether the vulnerable households are enrolled in them.[4]

Considering the differentiation between the SSNPs, the analysis further considers transfers targeting students across all levels of education, disabled students, and those who dropped out. The results show that two out of every 11 disadvantaged households were enrolled in a school-related SSNP and received support during the pandemic.

Table 9.6 illustrates the gender perspective and shows that female enrolment in and support from education-based SSNPs outweigh their male counterparts (i.e.,

Table 9.6 Share of Households That Received SSNP Support by Level of Education and by Gender (%)

Level of education	*Female*	*Male*	*All*
Primary	30.3	21.8	25.9
Secondary	13.2	11.7	12.5
College & above	11.3	6.4	8.4
All	20.6	15.3	17.9

Source: Citizen's Platform Household Survey 2021.

at least 1.3 times more females receive education-specific support compared to males). This is particularly surprising given that a higher proportion of female students compared to male students responded that they will not be re-joining schools in the post-pandemic era.

Moreover, one in every five traditionally disadvantaged households received education-specific support through SSNPs during the pandemic compared to one in every eight newly disadvantaged households. Considering the levels of education, at least three times more households enrolled in primary school-focused SSNPs received support compared to those in SSNPs targeting tertiary-level students. Further analysis of enrolment in and receiving SSNP support and the subsequent likelihood of participating in school virtually revealed that enrolment in a cash-based program raised the likelihood of a student from a traditionally disadvantaged household attending virtual school by 4%.

The statistically insignificant impact of in-kind transfers may be attributed to the school feeding programs being temporarily suspended or awaiting approval during school closures. The primary intent of such programs was to incentivize students to stay in school and maintain class attendance, which became difficult to ensure during the pandemic.

Policy Perspectives

The analyses presented in this chapter, thus far, provide insight into the implications of COVID-19 on the education status of vulnerable communities from three vantage points:

(i) the direct and indirect impacts regarding the continuity of education,
(ii) the means of coping with distance learning and
(iii) the social safety net programs promoting and incentivizing school attendance.

The education experience of students, teachers, and institutions alike focuses on resuming classes following the ‘general holiday’ period during the first wave of the pandemic. In addition to class continuation, it was necessary to redesign assessment modalities and reduce the potential of a student dropping out. The following observations were derived from the collated literature and findings of this chapter, and are presented, primarily, concerning the traditionally and newly disadvantaged community perspectives and experiences of virtual schooling.

During the first wave of the pandemic, the educational experiences of students, teachers, and institutions alike included resuming classes and exams with as much normalcy as possible.

In current discussions, aspects beyond the mainstream issues still need to be broadly addressed. First is the issue of monitoring. While there has been a comprehensive set of remote learning initiatives in the country, monitoring lesson dissemination and its effectiveness at the primary and secondary levels is yet to be publicized.

In line with the lack of information is the issue of data hesitancy beyond the data gap, where government agencies have the capacity to collect required data and

are doing so, which are then not released for public viewing. Without a relevant and timely national database, the need for evidence-based policymaking is further pushed behind.[5]

In view of the first vantage point (i.e., the direct and indirect impacts on education continuity), the present study found that, overall, students in secondary and higher levels of education were far more likely to discontinue their education in the post-COVID-19 world. Considering different groups, students based in coastal areas had the highest potential of being left out of education completely.

On a gender-disaggregated level, more female respondents stated their intention of discontinuing their education even if schools return to normal. Three key reasons have endangered the education of thousands, if not millions, of students across Bangladesh. The major reason driving both groups of disadvantaged students out of school is financial inability. The COVID-19 pandemic had exacerbated household financial instability and placed the education of girls at risk. Against this development, the alternative choice was to have them married at a younger age. This study found that a disproportionate share of girls from vulnerable homes were married off, and consequently, their education ceased indefinitely.

Considering the second point (i.e., coping with distance learning mechanisms), for those students who were not forced out of schools, options either lay with self-study or with distance learning. Ironically, while primary school students were found to be less likely to drop out of school in the post-COVID-19 world, a deeper analysis of the relationship between the level of schooling and virtual school participation revealed that the likelihood of students participating in virtual school rose with the level of education.

Against this backdrop, the survey's findings indicated that secondary and tertiary-level students were significantly more likely to continue education virtually than their primary school counterparts. Primary school students' lower virtual school participation may be attributed to several reasons. One is that children in primary schools require guidance from either a teacher or a parent. For vulnerable households, this may be a major factor discouraging online education for primary school students. The other reason may be the widespread understanding that as students progress across levels of schooling and as they grow older, their adaptability to technology improves as well. This may also be attributed to the increased attention toward tertiary-level institutions in regard to equipping them technologically during the pandemic. Accordingly, colleges and universities might have been much better equipped to deliver virtual classes and assessments compared to primary and secondary schools.

However, the extent of coping with distance learning is encompassed within the households' ability to accommodate digital requirements and the institution's ability to provide the needed resources during school closures. Among primary school students, the most popular mode of attending classes was through television broadcasts. This approach is much more one-directional than the preferred interactive modes popular among secondary and tertiary-level students. Regardless of the dimensions of the class-taking approach, smartphones were the most commonly

used device among both traditionally and newly disadvantaged students across all levels of education.

Given the modes of participation and device of choice, the households surveyed found an average of 2.5% incremental cost as a share of their monthly income. The newly disadvantaged experienced higher-than-average incremental costs. However, despite experiencing higher-than-average increments in costs due to virtual schooling, there was no significant difference in the household incomes of newly disadvantaged students who attended virtual school and those who did not, which is unlike the situation among traditionally disadvantaged households.

The following was found by analyzing in-depth the relationship between the ability to reduce one's household expenditure and the likelihood of a student in that household being in virtual school. Traditionally disadvantaged households that had the capability of reducing household expenditures and did reduce them during the pandemic had students who were more likely to be in virtual school or schools that could accommodate distance learning. This aspect did not, however, apply to students and households from newly disadvantaged communities.

For both traditionally disadvantaged and newly disadvantaged students, the lack of institutional arrangement was overwhelmingly mentioned as the major reason for not continuing one's education online during the COVID-19 school closures.

Finally, considering the third vantage point of policy support, the results of the current survey revealed that female students, primary school students, and students from traditionally disadvantaged households were primarily on the receiving end of support through social safety net programs.

According to existing literature, disbursement of cash support may diminish the chances of dropping out of school because it helps cushion the added expenses resulting from a virtual school. In alignment with this, the survey's findings indicated that traditionally disadvantaged students who were enrolled in cash-based education programs were far more likely to participate in virtual classes than newly disadvantaged students. This may be attributed to the confidence that families with students enrolled in cash-based SSNPs might have had when faced with the need to compensate for incremental costs resulting from online schools.

Considering the experiences and challenges that emerged in the education sector during the pandemic, the way forward must blend the country's COVID-19 recovery processes with addressing education institutions, teachers, and students alike. Students surveyed across the board listed a lack of institutional arrangement as their major impediment in continuing classes during the lockdowns. Since the pandemic does not appear to end anytime soon, blending the virtual and physical class experiences is paramount.

It may be rather obvious that given the pandemic and the necessity to move into distance learning, improving institutional capacities will be the first and foremost necessity. In this case, creating and effectively using e-learning platforms is necessary while making supplementary study materials available online. For teachers, this would entail the creation of a training module to guide rigorous training in terms of enhancing their adaptability to shifting classes and assessments to an online medium. As for the students, given the findings of the chapter thus far,

being able to afford to attend classes via digital devices has emerged as a major concern. Therefore, a cash-based transfer program tailored to address the needs and requirements of students from vulnerable homes may decrease the likelihood of them dropping out of school. For students who live in hard-to-reach areas, the Government of Bangladesh should be able to leverage NGOs and their capacities to deliver lessons and assessment modules to these geographically disadvantaged students.

Regardless of how many more waves of the pandemic the world may face, the expectation that 'disaster may strike anytime' cannot diminish. This chapter serves as a jumping-off point in identifying the weaker links in the country's education system, the vulnerable communities and their unique challenges, and the adequacies or inadequacies in policy support. Prolonged school closures may have supported the containment of the virus but have also undoubtedly contributed to the mass deterioration of student development, especially in terms of their learning capabilities and social skills. More importantly, the virus containment measures have created a 'lost generation' of students in Bangladesh who are expected to continue to experience the ramifications of losing out on years of schooling, interpersonal interaction, and social development well into adulthood.

Notes

1 Please refer to the methodology in Chapter 2.
2 Please refer to the Technical Appendix.
3 Char areas refer to 'silt and sand landmasses inside and along major rivers in Bangladesh' and areas characterized by multiple vulnerabilities, specifically in terms of infrastructure and connectivity to the mainland (Fujita et al., 2018; Hellen Keller Worldwide, 2003).
4 Cash-based transfers include all the stipends and allowances provided to students and respective households, whereas in-kind transfer encompasses food assistance programs, rations, relief activities, and other non-cash-based forms of support targeting disadvantaged groups in society. Moreover, it considers whether the enrolled vulnerable households received any overall support through the social safety net programs during the COVID-19 pandemic.
5 Specific comments addressed the latest version of the National Student Assessment Survey available from 2017, which is only for grades 3 and 5.

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Technical Appendix

The chapter used an econometric exercise via STATA to assess the impact on the likelihood of virtual school participation of a student from a traditionally and newly disadvantaged household.

Given that a student can either participate in school through virtual means or not at all during the school closure, two probit regression models were employed for students from both types of disadvantaged households.

The overarching explanatory/independent variables common for both models used in this exercise included the gender and age of the survey respondents. The study also included the level of education and type of institute they had been enrolled in, followed by whether their respective households resided in urbanized areas or otherwise and whether they had to reduce their household expenses. Additionally, the variable regarding whether the student respondent would continue going to school once institutes reopened was included in both Models 1 and 2.

The difference between the two is based on Model 1, including whether the respective households of the students surveyed were included in cash-based or in-kind based social safety net programs.

Model 2, however, included whether that family received support through these programs during the pandemic.

In this connection, Model 1 was created as follows:

$$Prob(Y_i = 1) = \Phi(\alpha_0 + \alpha_1 \text{Gender}_i + \alpha_2 \text{Age}_i + \alpha_3 \text{Age Squared}_i + \alpha_4 \text{ Secondary}_i + \alpha_5 \text{College and Above}_i + \alpha_6 \text{Government}_i + \alpha_7 \text{Madrasa}_i + \alpha_8 \text{Urban}_i + \alpha_9 \text{Reduction in HH expenditure}_i + \alpha_{10} \text{Cash SSNP received during COVID-19}_i + \alpha_{11} \text{In-Kind SSNP received during COVID-19}_i + \alpha_{12} \text{Education Continuation}_i + u_i) \quad \text{(i)}$$

While Model 2 is as follows:

$$Prob(Y_i = 1) = \Phi(\alpha_0 + \alpha_1 \text{Gender}_i + \alpha_2 \text{Age}_i + \alpha_3 \text{Age Squared}_i + \alpha_4 \text{ Secondary}_i + \alpha_5 \text{College and Above}_i + \alpha_6 \text{Government}_i + \alpha_7 \text{Madrasa}_i + \alpha_8 \text{Urban}_i + \alpha_9 \text{Reduction in HH expenditure}_i + \alpha_{10} \text{Recieved SSN support}_i + \alpha_{12} \text{Education Continuation}_i + u_i) \quad \text{(ii)}$$

10 Assessing COVID-19 Impact on SDG Delivery in Bangladesh

Framework, Measurement, and Perspectives

Debapriya Bhattacharya, Fabiha Bushra Khan and Towfiqul Islam Khan

Introduction

The 2030 Agenda for Sustainable Development provides a universal set of goals and targets to attain inclusive, equitable, and sustainable development with the core theme of 'leaving no one behind' (United Nations General Assembly [UNGA], 2015). The Bangladesh government expressed its commitment to achieving the SDGs (General Economics Division [GED], 2020a). Its integration into the Seventh Five-Year Plan (7FYP) marked the beginning of SDG implementation (Khatun et al., 2020). Bangladesh also presented its first and second Voluntary National Review (VNR) at the High-Level Political Forum (HLPF) in 2017 and 2020, respectively. Additionally, the government developed an SDG Tracker for indicator-wise data-driven implementation monitoring (GED, 2020b). The Eighth Five-Year Plan (8FYP), to be implemented during 2021–25 will also seek to accelerate progress toward achieving the major SDGs (GED, 2020c).

Before the COVID-19 pandemic, progress toward the agenda was uneven, leaving Bangladesh off-track from delivering several goals by 2030 (GED, 2020b). According to the second VNR, high-income inequality accompanied rapid economic growth, and substantial challenges remained for ensuring food security, universal health coverage, quality education, sustainable urban development, and domestic resource mobilization. Similarly, the Asia and Pacific region, as a whole, may not be able to attain the goals by 2030 at the current rate of progress (United Nations Economic and Social Commission for Asia and the Pacific [UNESCAP], 2022). The national and regional trends corroborate with global advancements as well.

Unprecedented shocks caused by the pandemic have exacerbated the prevailing challenges to retaining and fast-tracking progress. As the global community has been exposed to parallel threats of economic, social, and health crises, the adverse impact of the pandemic has extended to all three pillars of SDGs, i.e., social, economic, and environmental, thereby affecting all goals directly or consequentially (United Nations [UN], 2020). The implications for SDGs could be categorized as follows. Progress attained on some goals was entirely erased, achievements of other goals were delayed, and resources were shifted from implementation toward pandemic-led emergencies (Mukarram, 2020).

As development trajectories and prospects of progressing toward SDGs have been jeopardized, including in Bangladesh, the disadvantaged population has been

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disproportionately affected (Chapter 4). New groups of people have also become vulnerable, known as the 'pushed behind'. This has essentially endangered SDG accomplishment at the disaggregated level.

Although a myriad of empirical literature analyzed the socioeconomic implications both within and across countries, none has adopted an explicit research objective to evaluate the impact on SDGs from the viewpoint of disadvantaged communities. Consequently, the findings have not been explicitly related to the impact on SDGs and relevant public policy, and there is a lack of an analytical framework to guide analysis (Chapter 2). Analytical frameworks enable logical thinking in a structured manner and derivations of novel results with high coherence (Coral & Bokelmann, 2017).

Objectives of the Paper

Against this backdrop, the present study assessed the impact of the COVID-19 pandemic on the prospect of SDG delivery in Bangladesh, focusing on the disadvantaged population. The study is unique in the context of Bangladesh and has high value for post-COVID policy realignment. First, the study developed an analytical framework to overcome ad hoc representations of COVID-19 implications for SDGs in the current literature in national, regional, and international contexts. Second, the framework was applied to develop an expert consensus-based index. Third, the study articulated policy linkage between impact variables and SDG-related policy interventions. Hence, to the best of our knowledge, this is a pioneering study for Bangladesh capturing the COVID-19 consequences for SDGs – both in terms of pillars and indicators from the viewpoint of the disadvantaged. Accordingly, the study could serve as a framework for conducting similar exercises in other developing countries.

The Four Dimensions to Frame the Impact of the COVID-19 Pandemic on SDGs

The section details the theoretical concepts of the analytical framework of the study. This is followed by utilizing the framework to structurally associate the findings of a vast array of literature to the pandemic impact on multiple SDGs, particularly from the perspectives of the disadvantaged. For this purpose, studies related to Bangladesh were prioritized, and findings of recent surveys conducted by national think tanks on the multidimensional socioeconomic effects were included.

Conceptualization of the Analytical Framework

The analytical framework identified three domains from the lens of four impact dimensions. Thematically, the three domains are understanding, measuring, and policy response to the impact. The criticality of the domains arises from the idea that understanding impact helps identify policy priorities, whereas measuring the impact based on data aids policy design through purposive strategies, which finally result in evidence-driven objective policy response. Conceptually, the four impact dimensions are the following: (i) intensity, (ii) duration, (iii) linkages, and (iv)

disaggregation at the group level. The intensity of the COVID-19 pandemic impact refers to the magnitude of effects exerted on a particular SDG indicator. The time lag is a combination of the impact manifestation and duration. While manifestation refers to the time taken to exert impact, duration is the period for which the effect will continue to influence a particular indicator. Linkages, in contrast, consider interdependency among the goals, suggesting that the impact of the pandemic and its containment measures on one goal may induce positive or negative interlinking effects for other goals. Finally, disaggregation accounts for the severity of the disproportionate impact on disadvantaged groups (Table 10.1). While intensity and duration are standard impact dimensions for any event or intervention, linkages and disaggregation were specially designed to capture the impact on SDGs and disadvantaged communities, respectively.

Following the concepts put forth by the analytical framework (Table 10.1), this subsection presents a critical review of the literature, associating the findings to the COVID-19 implications for SDGs and the disadvantaged groups. The evidence derived from the existing knowledge base was structured according to the three domains of the framework, i.e., (a) understanding the impact, (b) measuring the impact, and (c) policy response. Each domain was analyzed based on the four impact dimensions, namely, intensity, time lag, linkages, and disaggregation.

Understanding the Impact

The multidimensional impact of the COVID-19 pandemic has been uneven across countries (Rebucci et al., 2020). The developing economies have experienced worse consequences than their advanced counterparts. Even within countries, the impact has differed between regions due to the vulnerability of economically deprived areas (Organization for Economic Co-operation and Development [OECD], 2020). Moreover, differential effects have been observed for disadvantaged populations, creating potential disruptions for achieving the goals for the 'left behind' and 'pushed behind' people (Bottan et al., 2020).

Intensity: The Sustainable Development Report 2020 categorized the COVID-19 impacts into positive, highly negative, moderately negative, and ambiguous (Sachs et al., 2020). To illustrate, SDG 1 (no poverty), 2 (zero hunger), and 3 (good health and well-being) have been highly negatively affected, whereas SDG 4 (quality education), 5 (gender equality), and 6 (clean water and sanitation) have been moderately negatively affected. However, the impact has been unclear for SDG 12 (responsible consumption and production), 13 (climate action), 14 (life below water), and 15 (life on land). Likewise, in Bangladesh, the intensity has varied across SDGs.

Based on the conceptualization of 'intensity' in Table 10.1, poverty has been highly negatively affected in Bangladesh, as evident in the projections of many studies. Sen et al. (2020) indicated a substantial increase in the poverty rate, with 9.4 million to 35.5 million people falling into poverty under different scenarios of income loss and labor type.

Furthermore, food security and hunger have been moderately negatively affected. Prolonged lockdowns have caused many households to cope by reducing

Table 10.1 Descriptive Outlay of the Analytical Framework – An Issue by Dimension Approach

Critical Issues	*Impact Dimensions*			
	Intensity	*Time*	*Linkages*	*Disaggregation*
1. Understanding impact	The extent to which specific groups or socioeconomic aspects are affected (Terrapon-Pfaff et al., 2017). **Low impact** occurs within a short time without widespread effect. **Medium impact** occurs for a relatively longer duration without threat to sustainability. **High impact** enforces significant effects causing long-term or permanent changes.	1. Duration: Persistence of crisis over multiple time frames 2. Manifestation: Time taken to exert impact. **Temporary effects** are intermittent and last for a short period. **Short-term** impact continues for a limited period but ceases due to recovery measures. **Long-term** impact prolongs for an extended period but stops with the end of the pandemic. **Permanent impact** continues longer, even after the pandemic ends.	If the impact on particular SDGs generates positive effects for other goals, it is termed **synergy,** whereas the reverse is known as **trade-off**.	The differential impact on various groups such as people of different ages, geographic location, gender, education, ethnicity, and other socioeconomic variables (Pan American Health Organization, 2020).
2. Measuring impact	Use of modeling techniques, statistical analysis, desk research, and field surveys. Measurement could also consider the impact significance[1] . As shock intensities are challenging to predict with certainty, predictions could also be formulated using qualitative methods, expert insights, and quantitative techniques.	Use of econometric modeling techniques such as International Futures (IFs), Difference-in-differences model, and Computable General Equilibrium model. Mixed methods include quantitative surveys, key informant interviews, and focus group discussions.	Application of qualitative methods such as focus group discussions, System Dynamic (SD) Model, and critical contextual approach guided by literature review.	A mixed method consisting of desk review and quantitative and qualitative surveys. Quantitative policy analysis tools such as randomized controlled trials (RCT) or economic modeling frameworks are also evidenced approaches.
3. Policy response	Policies could be formulated based on (i) analysis of crisis evolution and decrees of containment measures, (ii) firm or household level characteristics that influence the level of exposure to the impact, and (iii) impact analysis across various dimensions such as high impact industries or high impact regions.	Policies could be designed based on (i) heterogeneity analysis of the impact, (ii) existing inequalities, and (iii) interaction between impact variables and shocks to devise long-run strategies.	Policies to gear investment toward SDGs as a means to post-COVID recovery would require the SDG-oriented strategy to consider how the pandemic has affected outlooks on various SDGs (Kharas & McArthur, 2020).	Policy responses could be driven by (i) identification of transmission channels, (ii) characteristics of vulnerable groups, and (iii) direct and indirect effects of containment measures.

Source: Authors' formulation based on the literature review.

protein intake and the number of meals per day (Chapter 7), threatening food security and nutrition.

Nevertheless, it is crucial to note that impact intensity and persistence are not mutually exclusive. The presence of an impact signals its manifestation and duration as well. Furthermore, the time lag of the effect could also potentially affect the severity, including that for linkages and the disproportionate impact on the vulnerable.

Duration: The education system in Bangladesh has been exposed to a long-term impact due to prolonged closures of educational institutions, which could result in lower retention and graduation rates. This could cause poor learning outcomes, particularly among disadvantaged children (Committee for the Coordination of Statistical Activities [CCSA], 2020).

Such impact on SDGs will likely affect other goals either positively or negatively and with varying degrees of intensity and duration. This is precisely due to the indivisibility of the agenda causing goals to be interconnected.

Linkages: A synergistic effect of the pandemic recovery measures has been observed in India, where mitigation of the health crisis (SDG 3) has created economic opportunities for women-run self-help groups that sell protective equipment at the local and rural levels. This has created synergies for SDG 1 (no poverty), SDG 2 (zero hunger), SDG 5 (gender equality), and SDG 10 (reduced inequalities). In contrast, lockdowns to overcome the health problems have created various trade-offs, such as employment loss for informal workers and increased instances of domestic violence, thus threatening SDG 8 (decent work and economic growth), SDG 5 (gender equality), and SDG 16 (peace, justice, and strong institutions) (Bhowmick, 2021). Hence, interlinkages among the goals could either lessen or escalate the disaggregated impact on disadvantaged communities.

Disaggregation: The interaction between the crisis and pre-existing inequalities has exacerbated the previous socioeconomic divides (Blundell et al., 2020). For example, RMG female workers have faced increased health risks, financial hardships, and lower affordability of basic food requirements (Kabir et al., 2021). Additionally, women have been subjected to more unpaid care and domestic work than men (United Nations Environment Programme [UNEP] & United Nations Entity for Gender Equality and the Empowerment of Women [UN Women], 2020).

Measuring the Impact

The catastrophic impact disproportionately felt by disadvantaged communities has surfaced the myriad of existing inequalities and deepened the disparities further (Min & Perucci, 2020). These mandates target policies to the sources and extent of vulnerabilities. The correct policy discourse will require measuring the implications, i.e., employing the proper methodological framework to quantify effects across SDGs and the disadvantaged.

Intensity: The implications of different intensities of the crisis can be assessed using modeling techniques, statistical analysis, and inferences from field surveys (Nord Stream AG, n.d.). Examples include constructing a COVID-19 stringency index, intensity scales with values assigned to COVID-19 containment measures

(Santamaria et al., 2020), and quantifying pandemic-induced shocks under varying scenarios of intensity to analyze the impact on SDGs (Rahman et al., 2020).

To illustrate, Sen et al. (2020) developed a hard lockdown scenario to determine the impact on poverty. Simulations were conducted based on the vulnerability to poverty of the extremely poor, moderately poor, and marginalized non-poor; they determined a higher probability of the laboring class falling into poverty.

Duration: Quantitative tools to measure impact duration include econometric techniques such as International Futures (IFs), the Difference-in-differences model, and the Computable General Equilibrium model (Hughes et al., 2021; Kim et al., 2020; Malliet et al., 2020). In addition, the classification of economic sectors into essential and non-essential parts to speculate sectoral-differentiated impacts is a qualitative approach. Fana et al. (2020) conducted a qualitative analysis of confinement measures in three European countries and developed an indicator to classify sectors according to exposure to the lockdown impact. The analysis was applied to employment structures across the sectoral categories to determine short-term socioeconomic impacts and predict midterm developments.

Linkages: In the context of the association between the COVID-19 pandemic and SDG interlinkages, many studies have applied qualitative research to analyze the extent of the impact on SDGs and their interconnectedness. Some of these methods include structured and moderated FGDs (Shulla et al., 2021), the System Dynamic (SD) Model linking COVID-19 preventive measures and correlation with SDGs (Beigi, 2020), and a critical contextual approach based on desk research (Leal Filho et al., 2020). Beigi (2020) employed a System Dynamic (SD) Model of the containment measures and relation with SDGs. A Causal Loop Diagram (CLD) demonstrated the association between WHO health measures and SDG interlinking effects through feedback loops. The study's findings presented the COVID-19 vulnerability outlook and possible implications for SDGs.

Disaggregation: Studies on disaggregated impact have measured the effects through desk research (Blundell et al., 2020) and quantitative tools. The latter comprises randomized controlled trials (RCT) (Islam et al., 2020), quantitative and qualitative surveys (Paul et al., 2021), and modeling techniques (Mottaleb et al., 2020). Islam et al. (2020) examined the impact on small- and medium-sized enterprises and their employees in Bangladesh using an RCT. The survey elicited data on enterprises' economic behavior and outcome, employees' physical well-being, COVID-19 preventive measures of enterprises, and accessibility to government support. Analysis of pre-, par, and post-lockdown periods revealed the findings of sales losses relative to the pre-COVID scenario and that poorer enterprises with low initial capital were worse off (SDG1 and SDG 8).

Policy Response

Policies have mainly been directed toward mitigating the immediate impact, keeping the economy afloat, and helping to rebound to pre-pandemic conditions. However, there has been an inadequate focus on building resilience and recovery to

a higher benchmark of prosperity than in the pre-COVID situation. This demands a planned policy design and implementation to orient growth toward sustainability and inclusivity, against which SDGs provide a blueprint for guiding recovery efforts.

Intensity: Empirical literature on intensity has proposed policies based on several analytical factors. Some of these factors include (1) transmission channels such as domestic disruptions and exogenous shocks, (2) disaggregated analysis of effects, for instance, at sectoral levels under different shock scenarios, and (3) policy analysis under varying shock levels to assess effectiveness (Rahman et al., 2020; Sen et al., 2020). The underlying analyses have facilitated policies ranging from short-term measures to improve the health system and medium-term efforts to introduce innovative fiscal measures, expand job-creating MSMEs, and increase female labor force participation to create poverty-oriented growth (Sen et al., 2020). Recommendations have also been suggested to enhance private demand to create income-earning opportunities for low- and middle-income households (Rahman et al., 2020).

Duration: Only a handful of studies that analyzed COVID-19 implications based on the time dimension of the impact have solely focused on duration with no reference to impact manifestation. Therefore, policies based on duration have been contingent on (1) the nature of existing institutions for identifying economic asymmetries deepened by the crisis, (2) specialization in sectors that are likely to be closed by lockdown, and (3) household behavioral changes and consumption and spending patterns influenced by stimulus payments (Fana et al., 2020; Kim et al., 2020). These have formed the basis of policies of non-uniform cash transfers and large-scale wage subsidies to industries employing vulnerable workers (Kim et al., 2020), income support, and widening social welfare (Fana et al., 2020).

Linkages: The 2030 agenda, by design, is integrated and indivisible, causing goals to be interconnected and interactive with each other (Langou et al., 2020). Thus, dynamics between SDGs causing the pandemic effect to create synergies or trade-offs require coherent policy frameworks for recovery that would balance the goals and aid in managing trade-offs (Zhou & Moinuddin, 2021). The Sustainable Development Report 2020 highlights the six SDG transformations for recovery (Sachs et al., 2020). It recognizes that all goals can be attained through the integrated focus on education and skills, health and well-being, clean energy and industry, sustainable land use, sustainable cities, and digital technologies. According to the numerous policy recommendations, from a holistic viewpoint, governments should undertake policies beyond short-term priorities and analyze trade-offs to design time-bound, ring-fenced, and clearly labeled measures. These should be undertaken in proportion to damages to disadvantaged groups and the broader objectives of SDGs (Donoghue & Khan, 2020).

Disaggregation: The study focused on a horizontal disaggregation of the Leave No One Behind (LNOB) groups (refer to Table 10.1). In this vein, policies in literature have been based on several analytical grounds, such as the identification of broad domains[2] to understand pandemic-induced vulnerabilities and adequacy of government support (Mottaleb et al., 2020), and the effects of containment measures on

education, employment, and empowerment (Guglielmi et al., 2020). For instance, Islam et al. (2020) emphasized the need to establish support delivery platforms for small- and medium-sized enterprises because their lower endowment and hard-to-attain stimulus packages would disproportionately magnify economic losses.

Therefore, policies discussed in the existing literature have predominantly stressed measures to cushion disadvantaged groups against the multifaceted shocks of the COVID-19 pandemic. However, efforts to strengthen health systems, support MSMEs, provide cash transfers, expand social welfare, and create employment for disadvantaged populations are necessary for inclusive recovery. However, the measures are insufficient to realize the 2030 targets and 'build back better' from the crisis.

Construction of the COVID-19 Impact Index to Measure the Impact

The subsequent section details the methodological approaches for formulating the COVID-19 Impact Index. It highlights the uniqueness of the index and discusses its mathematical derivations.

Rationale of the Index

Recent literature has demonstrated the significant prevalence of indices established on statistical data, expert perception, or both. In development research, indices formed upon industry experts' perceptions are prevalent. For example, the Corruption Perception Index (CPI) provides country scores of *perceived* corruption levels in public spheres built upon business experts' opinions. Similarly, the Global Competitiveness Index (GCI) is computed through score aggregations from indicators to the overall GCI, which is an average of the scores obtained for 12 pillars consisting of productivity determinants. Statistical data to calculate the GCI is also complemented by the Executive Opinion Survey, where business communities' insights are accumulated for key indicators of competitiveness with no data (Schwab, 2019).

The COVID-19 Impact Index was built upon the approach of Schwab (2019) and Alibegovic et al. (2020). The latter used a qualitative method to capture the impact on the goals by calculating target averages. The averages consisted of final weights (multiplication of scores for impact, orientation, and magnitude)[3] derived for every target of individual goals.

The present study's methodology is thereby novel in terms of a sophisticated quantitative approach. The index was built on expert opinion and accommodates new impact dimensions to capture the perceived impact of the COVID-19 pandemic on SDG indicators. In doing so, the study closely followed the score aggregation method of Schwab (2019) to report pillar-level indices.

Choice of Pillars and Indicators

The index was formulated for the three SDG pillars of Economic, Social, and Environment based on the categorization of Bhattacharya et al. (2014). In addition,

the study incorporated the fourth pillar of Governance consisting of indicators of SDGs 16 (Peace, Justice, and Strong Institutions) and 17 (Partnerships for the Goals). This helps address the political economy dimensions of the implications.

Each pillar has seven indicators obtained from the national priority targets (NPTs) of Bangladesh. Three broad concerns drove the choice. First, the selection from the NPTs aids in the assessment of whether the priority targets could be attained within the pre-determined timeline by ensuring inclusiveness. Second, the choice was also based on data availability for at least the pre-pandemic period for trend analyses of the indicators and subsequently gauging the COVID-19 impact on progress based on index values for the dimensions. Third, indicators were included as per their significance for COVID-19 implications for SDGs and reflections of the consequences for the disadvantaged population of Bangladesh.

Construction of the Index

The aggregate index or the index for individual pillars was calculated through the successive score aggregation from the indicator to pillar levels, i.e., from the most disaggregated to the highest level. The computation began with the derivation of impact dimension scores for indicators, followed by calculating a weighted average score. The pillar index was then a simple arithmetic mean of the respective indicators' final scores. This is represented using the following mathematical expressions:

1. Score for impact dimension (k) of indicator (i): $s_{ik} = \sum_{q=1}^{n} qki \div nki$ where, s_{ik} = score for impact dimension (k) of indicator (i); q_{ki} = expert input for dimension (k) of indicator (i); n_{ki} = number of respondents for dimension (k) of indicator (i).
2. Score for indicator (i): $s_i = (w_I * s_I) + (w_T * s_T) + (w_{S/T} * s_{S/T}) + (w_D * s_D)$ where, s_i = score for indicator (i); w = weight for every impact dimension; s = score for respective impact dimensions.

The weights for the final indicator scores were assigned on the value judgment of the dimension's significance in the COVID-19 impact on SDGs. Thus, intensity holds a weight of 40% and the remaining three dimensions hold equal weights of 20%. Scores for the pillar impact dimensions were also obtained by aggregating the corresponding average scores at the indicator level.

Scores for indicators were generated through four multidisciplinary expert group meetings. The expert groups consisted of researchers, academicians, development practitioners, government personnel, and representatives of international and non-government organizations. Experts gave a set of four scores for every indicator, i.e., intensity, time, linkages, and disaggregation. Discussions on rationales for their perceived impact and assigned scores helped validate and consolidate scores for each indicator along with the impact dimensions.

However, the index could not be complemented with data due to the limited availability of data. While data for the dimensions are unavailable, mapping numerous government data sources and databases from international organizations such as the World Bank and the ILO Department of Statistics (ILOSTAT) revealed considerable infrequencies in data reporting for SDG indicators. The economic pillar has the lowest data availability among the four pillars, with pre-pandemic data reported for only two of the seven indicators and no data available for the pandemic period (2020–21). In contrast, the environment pillar has the highest data availability. Six of the seven indicators have pre-pandemic data points, whereas five indicators have data for the pandemic period. This is followed by data availability for the governance and social pillars considering the pre- and pandemic periods. Nevertheless, there is still no trade-off between empirical evidence and knowledge perception. The index aims to capture expert opinion to overcome data shortages and facilitate estimating the impact on SDGs and the disadvantaged.

Estimations from the COVID-19 Impact Index

The section discusses the results derived from the 'COVID-19 Impact Index for SDGs' at the pillar and indicator levels. The index values range between 0 to 1, with varying definitions of the scores depending on the dimension. The aggregate index values indicate possible changes from reference points for the pillars and indicators due to the impact of the crisis. Implications of findings for policy response follow interpretations of the results.

Inter-pillar Comparison

The pandemic affected every SDG pillar and indicator and resulted in transferring the consequences to the disadvantaged population. According to the numeric scores, exposure to the SDGs and disadvantaged ranged between medium and high impact on the intensity scale. The effects occurred within the short to medium terms and were perceived to prolong into the medium term. More precisely, the effects generally manifested within 1 to 3 years of the pandemic and are expected to continue for an equal period. Incidentally, the disaggregated impact on the disadvantaged is considered substantial, with index values mainly at the high level.

Estimates from the index indicate that the economic pillar experienced a high negative impact manifested in the short term (Table 10.2). Relative to the other three pillars, intensity was highest on the economic pillar. This case is confirmed by the rise in national poverty and youth disengagement, particularly among informal workers and youth due to reduced work hours, wage cuts, and job redundancies. Also, given the massive employment and income generation of MSMEs, economic fallouts could potentially intensify in the near future as the sector bears substantial losses while being barred from government support (International Monetary Fund [IMF], 2021; Mamun et al., 2021). Furthermore, the linkage index value conveys a medium interlinking effect among the indicators; expert justification for it is considered a renewed policy focus on social protection amidst the pandemic.[4] The adverse impact on the indicators channeled a highly disproportionate impact

Table 10.2 Economic Pillar of SDGs – Index and Rankings

Economic Pillar of SDGs: Indicator and Pillar Indices

Target/Indicator	*Index for Impact Dimensions*					*Aggregate Index*	*Ranking*
	Intensity	*Manifestation*	*Duration*	*Linkages*	*Disaggregation*		
Reduce the proportion of population living below the national poverty line below 10% **(SDG Indicator 1.2.1)**	0.79	0.77	0.58	0.67	0.9	0.78	1
Reduce the ratio of income of top 10% population and bottom 10% population to 20 **(NPT 28)**	0.83	0.71	0.69	0.65	0.88	0.78	1
Reduce the proportion of youth population (15–29 years) not in education, employment, or training to 10% **(SDG Indicator 8.6.1/ NPT 23)**	0.75	0.77	0.58	0.65	0.75	0.71	2
Proportion of informal employment in non-agriculture/total employment **(SDG Indicator 8.3.1)**	0.77	0.75	0.58	0.65	0.69	0.7	3
Average hourly/monthly earnings of female and male employees **(SDG Indicator 8.5.1)**	0.69	0.77	0.52	0.65	0.73	0.68	4
Proportion of small-scale industries with a loan or line of credit **(SDG Indicator 9.3.2)**	0.58	0.67	0.5	0.56	0.58	0.58	5
Ensure 100% pucca roads (suitable for all seasons) **(SDG Indicator 9.1.1/NPT 24)**	0.4	0.58	0.42	0.44	0.48	0.45	6
Pillar			**Index for Impact Dimensions**			**Aggregate Index**	
Economic	**0.69**	**0.72**	**0.55**	**0.61**	**0.71**	**0.67**	

Source: Authors' calculation based on the methodology of the COVID-19 Impact Index.

on the disadvantaged primarily due to increased vulnerabilities of the non-poor and the creation of new poor. Despite the substantial severity and relatively quick manifestation, recovery to pre-pandemic conditions could plausibly be observed three years after the second wave of the pandemic. Nevertheless, recovery could still be uneven, as perceived by experts, because the fast rebound of the extremely poor could be through employment in low-wage, labor-intensive work and higher labor force participation of youths at the expense of education discontinuity.

Similar to the economic pillar, the impact on the social pillar was highly negative. In contrast, the impact manifested in the medium term because it took time for the economic losses to be felt. The highest disproportionate impact could be owed to poverty-stricken households' hazardous coping mechanisms, particularly to people with disabilities (PWD), ethnic groups, transgender persons, and sex workers, as the experts highlighted (Table 10.3). Moreover, SDG indicators interlinked with those of the social pillar were exposed to a medium-intensity impact.

The environment pillar exhibited medium intensity with effects prolonging into the medium term (Table 10.4). The effect on interlinked SDGs and the disadvantaged was also perceived to be at a medium level. The environment pillar experienced the lowest intensity among all the pillars, evident in short-term decline in environmental pollution due to reduced industrial activities (Dellink et al., 2021). The impact was expected to manifest in the medium term following the second wave of the pandemic. Experts, however, agreed on the risk of inadequate policy focus on the environment due to the relatively low impact and prioritization of the more urgent socioeconomic consequences.

With an aggregate index similar to the environment pillar, the governance pillar experienced a medium intensity of the pandemic with effects prolonging into the medium term (Table 10.5). However, the impact on the governance pillar was perceived to manifest in the short term. SDG indicators interconnected with the governance pillar were exposed to a medium impact intensity.

Although economic and social pillars have the same aggregate index values, the economic pillar is characterized by the highest impact intensity manifested in the short term while the impact on the social pillar is manifested with a lag (in the medium term) with the largest disproportionate impact. Similarly, despite the same aggregate values, the environment pillar is distinct from the governance pillar as it exhibited the lowest intensity, had medium-term manifestation, and had a high disproportionate impact. Unlike the remaining pillars, the relatively low disproportionate impact associated with the governance pillar could be attributed to the favorable political economy factors.

Intra-pillar Comparison

Five of the seven indicators experienced a high negative impact in the economic pillar, with aggregate index values between 0.68 to 0.78 (Table 10.2). The impact on these indicators was perceived to manifest in the short term and impart a highly disproportionate impact. Among all indicators of the pillar, poverty (SDG 1.2.1)

Table 10.3 Social Pillar of SDGs – Index and Rankings

Social Pillar of SDGs: Indicator and Pillar Indices

Target/Indicator	*Index for Impact Dimensions*					*Aggregate Index*	*Ranking*
	Intensity	*Manifestation*	*Duration*	*Linkages*	*Disaggregation*		
Ensure 100% completion rate of primary education **(NPT 9)**	0.85	0.60	0.69	0.69	0.92	0.80	1
Reduce the proportion of women aged 20-24 years who were married before age 15 to zero **(SDG Indicator 5.3.1/NPT 14)**	0.77	0.58	0.67	0.69	0.85	0.75	2
Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual, and psychological violence by intimate partner in the previous 12 months **(SDG Indicator 5.2.1)**	0.71	0.63	0.58	0.60	0.81	0.70	3
Reduce the prevalence of stunting among children under 5 years of age to 12% **(SDG Indicator 2.2.1/NPT 3)**	0.60	0.56	0.60	0.60	0.77	0.65	4
Proportion of the population with access to affordable medicines and vaccines on a sustainable basis **(SDG Indicator 3.b.1)**	0.63	0.56	0.52	0.56	0.71	0.62	5
Reduce under-5 mortality rate to 25 per 1,000 live births **(SDG Indicator 3.2.1/NPT 6)**	0.54	0.58	0.50	0.52	0.67	0.58	6
Ensure women, children, elderly, and persons with disabilities have convenient access to public transport (minimum 20% seats) **(SDG Indicator 11.2.1/NPT 30)**	0.54	0.57	0.52	0.55	0.61	0.56	7
Pillar	**Index for Impact Dimensions**					**Aggregate Index**	
Social	**0.66**	**0.58**	**0.58**	**0.60**	**0.76**	**0.67**	

Source: Authors' calculation based on the methodology of the COVID-19 Impact Index.

Table 10.4 Environment Pillar of SDGs – Index and Rankings

Environment Pillar of SDGs: Indicator and Pillar Indices							
Target/Indicator	*Index for Impact Dimensions*					*Aggregate Index*	*Ranking*
	Intensity	*Manifestation*	*Duration*	*Linkages*	*Disaggregation*		
Ensure 100% industries install and operate the waste management system **(NPT 31)**	0.71	0.64	0.71	0.68	0.79	0.72	1
Ensure 100% population using safely managed drinking water services **(SDG Indicator 6.1.1/NPT 17)**	0.61	0.50	0.68	0.64	0.75	0.65	2
Ensure 100% population using safely managed sanitation services **(SDG Indicator 6.2.1/ NPT 18)**	0.61	0.50	0.64	0.46	0.79	0.63	3
Ensure access to electricity for 100% of the population **(SDG Indicator 7.1.1/ NPT 19)**	0.54	0.64	0.64	0.57	0.64	0.60	4
Reduce the number of deaths, missing persons, and directly affected persons attributed to disasters to 1500 per 100,000 population **(SDG Indicator 13.1.1/NPT 32)**	0.57	0.46	0.57	0.50	0.68	0.58	5
Enhance forest area as a proportion of total land area to 18% **(SDG Indicator 15.1.1/ NPT 34)**	0.57	0.54	0.57	0.54	0.64	0.58	6
Increase renewable energy share in the total final energy consumption to 10% **(SDG Indicator 7.2.1/NPT 20)**	0.46	0.61	0.54	0.46	0.50	0.50	7
Pillar	**Index for Impact Dimensions**					**Aggregate Index**	
Environment	0.49	0.56	0.62	0.55	0.68	0.58	

Source: Authors' calculation based on the methodology of the COVID-19 Impact Index.

Table 10.5 Governance Pillar of SDGs – Index and Rankings

Governance Pillar of SDGs: Indicator and Pillar Indices

Indicators	*Index for Impact Dimensions*					*Aggregate Index*	*Ranking*
	Intensity	*Manifestation*	*Duration*	*Linkages*	*Disaggregation*		
Increase total government revenue as a proportion of GDP to 20% **(SDG Indicator 17.1.1/NPT 38)**	0.86	0.75	0.58	0.67	0.58	0.7	1
Proportion of businesses that had at least one contact with a public official and that paid a bribe to a public official or were asked for a bribe by those public officials during the previous 12 months **(SDG Indicator 16.5.2)**	0.61	0.69	0.61	0.61	0.69	0.64	2
Proportion of the population satisfied with their last experience of public services **(SDG Indicator 16.6.2)**	0.58	0.81	0.56	0.58	0.69	0.64	2
Unsentenced detainees as a proportion of the overall prison population **(SDG Indicator 16.3.2)**	0.67	0.81	0.5	0.44	0.58	0.59	3
Increase the proportion of individuals using the internet to 100% **(SDG Indicator 17.8.1/NPT 39)**	0.61	0.75	0.75	0.53	0.39	0.56	4
Statistical capacity indicator for Sustainable Development Goal monitoring **(SDG Indicator 17.18.1)**	0.5	0.58	0.53	0.61	0.39	0.5	5
Increase the proportion of children under 5 years of age whose births have been registered with a civil authority to 100% **(SDG Indicator 16.9.1/NPT 36)**	0.42	0.67	0.36	0.28	0.5	0.43	6
Pillar	**Index for Impact Dimensions**					**Aggregate Index**	
Governance	**0.61**	**0.72**	**0.56**	**0.53**	**0.55**	**0.58**	

Source: Authors' calculation based on the methodology of the COVID-19 Impact Index.

and income inequality (NPT 28) were the most affected. The intensity was largest on income inequality. In 2016, the income of the total population grew by 9.1% annually as opposed to a 7.7% growth in the income of the bottom 40% (GED, 2020b). Hence, the highest intensity indicates widening income gaps amidst the pandemic, causing a policy concern for inclusive and sustainable development, especially with the expected persistence of long-term deterioration (highest duration index value of 0.69). Furthermore, the strongest disproportionate impact was associated with poverty, with an index value for disaggregation slightly higher than that of income inequality. Before the pandemic's onset, the poverty reduction rate decelerated, and the current increasing poverty could push Bangladesh off-track from achieving SDG 1.

Four of the seven indicators experienced a high impact in the social pillar, with aggregate index values between 0.65 to 0.80 (Table 10.3). These indicators' high impact intensity manifested in the medium term and imparted a highly disproportionate impact. Among all the indicators, education (NPT 9) and gender equality (SDG Indicator 5.3.1/NPT 14) were the most affected. Dimension indices for education indicate its substantial influence on the pillar with values for linkages and disaggregation being the highest, relative to other indicators under the four pillars. Experts opined that worsening educational divides amidst the pandemic narrowed learning opportunities for disadvantaged children. School closures disrupted the provision of school meals and raised cases of mental illness (SDG 3), and also increased the burden of unpaid care work, forced marriages, gender-based violence (SDG 5), and child labor (SDG 8). The combined implications were expected to persist into the long term.

In the environment pillar, safe water availability (SDG Indicator 6.1.1/NPT 17) and operation of waste management systems (NPT 31) were the two highly affected indicators. The effects were considered to prolong into the long term with a substantial impact on the disadvantaged. The impact on waste management systems was the largest, with critical implications for linked SDGs and the disadvantaged. Due to the pandemic, slow rates of industrial and medical waste treatment and disposal threatened waste workers' welfare through reduced income, induced negative coping mechanisms, and psychological ailments.

Finally, within the governance pillar, estimates show that the government revenue (SDG Indicator 17.1.1/NPT 38), the incidence of corruption (SDG Indicator 16.5.2), and satisfaction with public services (SDG Indicator 16.6.2) were comparatively more affected compared to other indicators of the pillar. The intensity index was highest for government revenue that manifested in the short term. Bangladesh was off-track from achieving the 2030 target for SDG 17.1.1 before the pandemic. In contrast, a substantial impact would now likely require a higher value of financial resources for SDG implementation. Furthermore, corruption and public service utility were associated with greater implications for the disadvantaged. Disruptions in the delivery of essential public services, felt in the short term, were observed in interrupted immunization, family planning, and maternal and childcare services, as reported in existing literature (Bangladesh University of Health Sciences & BRAC Advocacy for Social Change, 2020). The most affected indicators resulted

in prominent economic and social implications despite the relatively lower impact on the governance pillar. However, a contrasting expert opinion reported a relative improvement in public service delivery during the COVID-19 pandemic owing to several initiatives adopted, such as technological innovation in policymaking, behavioral changes, and data generating efforts.[5] However, the sustainability of the positive changes could be a cause for concern.

Conclusion and Policy Outlook

The disruptions of Bangladesh's development trajectories amidst COVID-19 have threatened prospects of fulfilling the 2030 agenda. The country was off-track from accomplishing the goals before the COVID-19 outbreak, and the unprecedented shocks have considerably enhanced the risks of amplifying the previous challenges and endangering the principle of leaving no one behind. In this vein, the study outlined COVID-19 implications for SDGs from the perspective of the disadvantaged as assessment of consequences from an SDG lens is necessary to inform midterm policies for addressing longer-term adversities of the disadvantaged that could persist regardless of subdued pandemic effects.

The index-based assessment of implications from four impact dimensions generated the effects of the pandemic on the four SDG pillars. The pandemic largely intensified economic vulnerabilities perceived to prolong for one to three years post the second wave of the pandemic in Bangladesh. In contrast, the impact on the environment was expected to be of the lowest magnitude. However, given the complete resumption of economic activities, the environmental pillar's intensity index value could increase as pollution levels continue to rise. The impact on the social pillar transmitted the highest disproportionate impact. These asymmetric effects were also channeled via the governance pillar despite its lowest index value for disaggregation.

The intra-pillar analysis facilitated the identification of SDG indicators that are the various transmission mechanisms of the disproportionate impact. The highly disaggregated impact on the disadvantaged largely resulted from increased poverty and income inequality within the economic pillar and deterioration in education and gender equality in the social pillar. The strong interlinkages among indicators of economic and social pillars, particularly those related to poverty, education, and child marriage, also deepened the disproportionate effects. The distress of the disadvantaged was also perceived to have occurred due to the prevalence of corruption and dissatisfaction with public services, as conveyed by the governance pillar. Moreover, in the environment pillar, NPT 31 (operation of waste management systems) imparted a substantial adverse impact on waste workers.

Given the assessment of the implications, the study made three major policy recommendations. First, the findings imply the urgent need to generate adequate and disaggregated data for SDG indicators to forecast mid and long-term trends. In this respect, the SDG Tracker should be updated with data for indicators that form the four pillars of the study. The tracker should provide a sufficient time series (data for at least 20 years) and the latest numbers after the onset of the pandemic in Bangladesh. This would aid in quantifying the impact, informing of necessary

revisions of national priority targets, reconsidering funding requirements, and formulating plans to integrate SDGs into the recovery measures.

Second, the SDGs should be used to guide post-pandemic recovery, facilitated by timely data availability. Public expenditure will need to prioritize poverty eradication and the education, and health sectors. Simultaneously, the importance of the linkage dimension demonstrates that governments need to intricately consider synergies and trade-offs created for interlinked SDGs while devising policies. This would be enabled through a comprehensive mapping of the interrelations among various indicators informing of the positive and negative consequences created for other SDGs due to the impact on a particular goal.

Third, policies coherent with SDGs to 'build back better' will need to mitigate governance bottlenecks. This would be achieved through prompt actions toward reducing corruption in allocating and distributing the different government support to overcome distribution leakages, ensure adequate coverage of the required population, and maintain regularity of disbursements.

Notes

1 An impact of major significance is a high magnitude affecting high or medium sensitivity resources or of a medium magnitude affecting high sensitivity resources.
2 The broad domains refer to endowments, economic conditions, and socioeconomic and demographic traits of the vulnerable.
3 In Alibegovic et al. (2020), weights for every target of the 17 goals were allotted according to the following criteria:
Impact: Presence of an impact, i.e., null/indirect/direct, with respective weights of 0, 0.5, and 1.
Impact orientation: Negative or positive impact with respective weights of -1 and +1.
Impact magnitude: low, medium, or high magnitude with respective weights of 0.33, 0.66, and 0.99. This is the only impact dimension considered in the study.
4 Rahman et al. (2021) also highlighted this need.
5 The Bangladesh government undertook several data-generating initiatives associated with health issues during the COVID-19 pandemic. In addition to the use of the initiatives for evidence-based policymaking, there were also adoptions of new data technology, collection of real-time data, and improved dissemination of statistics (Chapter 13).

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11 Public Policy Responses and Options

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Introduction

The government of Bangladesh has approved economic incentives such as tax incentives, financial incentives, subsidies, and tax rebates using fiscal, monetary, and hybrid tools in view of the COVID-19 pandemic. Until November 2021, the government had announced 28 COVID-related support interventions amounting to approximately BDT 1919.3 billion (approx. USD 22.4 billion) (Centre for Policy Dialogue [CPD], 2022). The stimulus packages announced in response to the national call to tackle the economic downturn caused by the COVID-19 pandemic are worth appreciation; however, the effectiveness of the packages has largely depended on the management and execution of the funds disbursed under these packages. Hence, this chapter reviews the stimulus packages, in brief, to explicitly assess their efficacy. This chapter captures all the stimulus packages that the Bangladeshi government undertook between March 2020 and December 2021. Later, in order to suggest some policy measures, the computable general equilibrium (CGE) model is examined through two policy measures – doubling the government's transfers to five selected households and increasing the 50% allocation in the health and education sector.

Review of Public Policy Interventions in View of COVID-19

The first declaration of the stimulus package was the announcement of BDT 50 billion (approx. USD 588.93 million) as salaries to export-oriented industries on 25 March 2020. Later, on 5 April 2020, the Prime Minister of Bangladesh announced a complete set of stimulus packages worth BDT 727.50 billion (approx. USD 858.90 million), representing 2.59% of the GDP. Out of the total amount, BDT 300 billion was announced to be provided as a working capital loan to the service sector and large industries, and BDT 200 billion was to be provided as a working capital loan to the coronavirus-hit cottage, micro, small, and medium enterprises CMSMEs with a subsidized interest rate (Table 11.1).

In June 2020, the government announced a total of 19 stimulus packages worth BDT 1031.17 billion (approx. USD 12.15 billion) (Ministry of Finance [MoF], 2020a). Subsequently, the government added two more stimulus packages and expanded the coverage of some packages, totaling 21 stimulus packages worth BDT 1213.53 billion (approx. USD 14.28 billion) (MoF, 2020b). The government announced two additional stimulus packages in January 2021, summing up the total

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Table 11.1 Timeline of Public Policy Response during the Pandemic Period

Date	*Policies*
19 March 2020	Bangladesh Bank announced a moratorium on loan payments until 31 December 2020
23 March 2020	Reduction in a repo interest rate from 6% to 5.75%
31 March 2020	The first package worth BDT 50 billion for salary support was announced
1 April 2020	Cash Reserve Requirement (CRR) of the banks was reduced from 5.5% to 5% on a bi-weekly average basis and 5% to 4% on a daily basis. CRR was further reduced to 4% on a bi-weekly average basis and 3.5% on a daily basis, effective from April 15
5 April 2020	With salary support, another four packages were announced totaling five stimulus packages summing to BDT 727.50 billion (2.52% of GDP)
13 April 2020	Refinance scheme announcement for the agriculture sector
12 May 2020	Remittance incentives imposed
14 May 2020	Launching disbursement of cash assistance worth BDT 2,500 per month to 5 million families
10 June 2020	Announcement of 19 stimulus packages worth BDT 1,031.017 billion (approx. USD 12.15 billion) (3.7% of GDP)
December 2020	Expansion of allocated amount for some stimulus packages and addition of two packages, totaling 21 stimulus packages worth BDT 1,213.53 billion
17 January 2021	Announcement of two more stimulus packages, resulting in 23 stimulus packages worth BDT 1,240.53 billion in total
18 April 2021	Announcement of BDT 9.30 billion cash support to 3.50 million poor families and 0.10 million disaster-affected farmers
21 April 2021	Announcement of BDT 0.11 billion cash support to the 2nd and 3rd lockdown affected poor and insolvent people.

Source: Collation from various publicly available sources.

stimulus packages to 23 and the cost of packages to BDT 1240.53 billion (approx. USD 14.6 billion). Between the two packages, one package of BDT 15 billion was designated for the rural people and cottage, micro, small and medium enterprises (CMSMEs). Another stimulus package was an expansion of the social safety net to cover the elderly, widows, and deserted wives in 150 upazilas,[1] starting in July 2021.

In response to the spiraling cases of COVID-19 infections, the government opted for a second lockdown starting on 5 April 2021. To protect the low-income families and disaster-affected farmers who had been more severely affected due to the lockdown, the government announced two more fiscal support summing to BDT 9.41 billion. Out of the total allocations for support interventions, approximately BDT 772.78 billion (approx. USD 9.1 billion and 2.76% of GDP) was intended for FY2020, while the other BDT 477.15 billion (approx. USD 5.6 billion and 1.55% of GDP) was intended for FY2021.

The government and the central bank initiated additional policies during the announcement of COVID-related support incentives. These included an increase in liquidity, deferral of utility bill payments, incentives on remittance inflow, restructured income tax, and a reduction of VAT on the usage of locally produced agricultural products.

The government rolled out stimulus packages by extending existing support measures and introducing new ones. Until May 2021, the government announced 18 new stimulus packages and seven extensions of pre-existing programs, combined into 25 stimulus packages adopting fiscal (cash and food support) and hybrid (loans at subsidized or low-interest rates) measures. Most of the extensions were relevant to the agriculture sector and social safety programs, whereas the new packages mostly included loans at low and subsidized interest rates. A larger portion of the stimulus packages was disbursed as hybrid support, accounting for more than 86% of the total support, amounting to BDT 1,664.50 billion (approx. USD 19.40 billion), whereas the rest (13.28%) was disbursed as fiscal support, which was approximately BDT 254.79 billion (approx. USD 2.97 billion). In addition, supporting fiscal and monetary policies were also adopted.

Fiscal Policies

The government announced 14 fiscal support interventions until May 2021. As of December 2021, a total of 15 fiscal stimulus packages were announced, including cash support, food support, cash incentives for frontline workers, house construction support, agricultural subsidy, and expansion of beneficiaries under social safety net programs.

The government initiated one cash support and two food support measures covering only 1.63% and 4.23%, respectively, of the total allocation for FY2020. In FY2021, the fiscal support measures increased to 44.03% of the total allocation for support interventions in FY2021, including cash support to poor households (announced in the third week of April 2021), expansion of agricultural and social safety programs, cash incentives to health workers, health insurance for the government frontline employees, safety net programs for distressed workers in the export-oriented industries (the readymade garment (RMG), leather goods, and footwear), and construction of homes. More precisely, the majority of the packages were the expansion of pre-existing programs. No new or enhanced food support measure was initiated in FY2021. The share of each fiscal stimulus package among the total COVID-19 funding has been largely inadequate, considering the total allocation made until FY2022. Furthermore, the implementation procedure of these fiscal support measures was lengthy, and for some packages, the process took much longer than expected and was still in the primary stage a long time after the announcement of the support measures.

The government adopted supporting fiscal policies as well. For example, it reformed the income tax structure. More specifically, it raised the tax payable income threshold from BDT 0.25 million to BDT 0.30 million and raised it from BDT 0.30 million to BDT 0.35 million for female taxpayers and elderly taxpayers. Furthermore, VAT was exempted at the manufacturing, import, and trading stage for 17 types of medical equipment. These include soapy alcohol, COVID-19 testing kits, and personal protective equipment.[2] VAT was also exempted for agro-based industries, including locally-made products and agricultural machinery.

Monetary Policies

Stimulus packages announced by the government required additional liquidity, thus easing control of the money supply. Therefore, to increase the liquidity flow, Bangladesh Bank cut down the repo rate from 6% to 5.25% and further to 4.75% and introduced a 360-day repo facility as a monetary tool. The reverse repo rate was slashed from 4.75% to 4.00%. The Cash Reserve Ratio (CRR) was also cut down from 5.00% to 3.50% on a daily basis and 5.00% to 4.00% on a bi-weekly basis to improve liquidity. Bangladesh Bank purchased government securities from banks and financial institutions as part of its expansionary monetary policy. It also undertook the move to defer non-performing loans; relax loan rescheduling policies for non-bank financial institutions (NBFIs), credit card fees, interest payments, and credit risk rating rules for banks; extend trade instrument tenures; lower farm loan interest rates; and ensure access to financial services (Bangladesh Bank, 2020a; International Monetary Fund [IMF], 2021).

Furthermore, to tackle a possible decline in the lending capacity of the bank due to a possible decline in return from the borrowers during the pandemic, Bangladesh Bank took the initiative to create BDT 707.94 billion worth of currency through refinancing schemes and by relieving regulatory requirements.

Hybrid Policies

The lion's share of the announced stimulus packages comprises hybrid support – mixing fiscal and monetary tools. The hybrid policies included working capital loans with subsidized interest rates, loans with a low-interest rate,[3] refinance schemes, and credit risk-sharing schemes. Under the policies, there were three key stimulus packages:

Salary support to export-oriented manufacturing industry workers

The first stimulus package included salary support worth BDT 50 billion to export-oriented manufacturing industry[4] workers (Bangladesh Bank, 2020b). Even after the announcement of the package, the RMG workers received 60% salary in the first 25 days of April 2020 due to the closure of factories. As of November 2021, 100% of the funds under this package were disbursed.

Working capital loans to the service sector and affected industries

BDT 400 billion working capital loan was announced for the affected large industries and service sector in phase 1. A total of 51 commercial banks participated in disbursing the loan at a 9% interest rate where the recipients had to pay 4.5% and the remaining 4.5% had to be paid by the government as a subsidy, with the highest one-year maturity (Bangladesh Bank, 2020c; MoF, 2020b). In phase 2, another BDT 330 billion working capital loan was announced for the affected large industries and the service sector.

Working capital loan to CMSMEs

To protect the CMSMEs, BDT 200 billion working capital loan was announced in phase 1. The entrepreneurs of CMSMEs were required to apply for loans

at scheduled banks and financial institutions. The manufacturing sector would receive 50% of the total allocation of the loan, whereas service and trade-based enterprises would receive the remaining 50% (services 30% and trade-based 20%). At least 15% of the firms based in rural areas were entitled to avail of this package. As high as 70% of the loan allocation was intended for cottage, micro, and small enterprises, and the remaining 30% was for medium enterprises. There was also at least a 5% quota for women entrepreneurs. In phase 2, the government allocated another BDT 200 billion as a working capital loan for the CMSMEs.

Sectoral Orientation

Stimulus packages should prioritize the health sector and create a balance between the health sector and the economy during pandemic times. However, the most prioritized sectors of the aforementioned stimulus packages were the large industries, the service sector, and export-oriented firms. Approximately 38% of the total stimulus packages were allocated to large industries and service sector organizations. Even from the perspective of the implementation, the package for the large industries and service sector organizations was one of the most successful ones, with 81.8% working capital disbursed in the first phase of disbursement of stimulus packages as of June 2021. For many large firms, the allocated working capital helped them achieve production rates at pre-COVID levels.

Furthermore, salary support was also provided for the workers of export-oriented firms, with 80% export volume. The RMG sector likely received the lion's share of the salary support, whereas the other export sectors (e.g., leather and plastic) might have been ignored as the fund itself was not sufficient to cover all export-oriented sectors and firms. Moreover, many workers in the RMG sector did not receive their full salary in April 2020. Bangladesh Bank, in its circular, did not mention the eligibility of 'buying houses'[5] to avail of any of these packages; however, buying houses plays an important role in the export sector by contributing to the value chain and offering employment to 0.4 million people directly and indirectly (CPD, 2020).

The CMSMEs are key players in the Bangladeshi economy. The country is home to 6.8 million cottage enterprises and 0.9 million small and medium enterprises, which generate more than 30% of the total employment. Moreover, the CMSMEs contribute to one-fourth of the GDP share. However, 52% of the SMEs completely cut down their production during the lockdown (Khan & Newaz, 2020). The government announced working capital loan facilities for the sector equivalent to half of the amount announced for the large industries. Despite the credit guarantee scheme for ensuring the disbursement of the allocated funds to CMSMEs, the disbursement rate is relatively low compared to the disbursement rate of large industries. Thus, the imbalance of sectoral distribution and implementation of stimulus packages pushes Bangladesh further toward the K-shaped recovery.[6]

To disburse stimulus packages for the CMSMEs faster, the government announced another BDT 15 billion support package in January 2021. This was

intended to channel through CMSMEs-related organizations, including the SME Foundation, Social Development Foundation, Rural Poverty Alleviation Foundation, and Bangladesh Rural Development Board.

Reluctance in disbursing loans is also an issue in the agriculture sector. Moderate disbursement rates for refinancing schemes for low-income earning professionals, farmers, and small traders can be observed. Besides liquidity support, three direct fiscal stimulus packages were announced for the agriculture sector. These included the procurement of paddy and rice, subsidies for farm mechanization, and agriculture. Implementation of those packages was not fully successful. The disbursement rate was above 75% as of November 2021, except for the procurement of paddy and rice. Paddy procurement was only 27.5% of the target. The lack of administrative transparency, corruption, and disputes over procurement prices disrupted the procurement process. Moreover, the implementation rates for some packages have not been disclosed.

The large industries received more than 50% of the total support interventions in terms of allocation; the CMSMEs received close to 19%, whereas the agriculture sector received approximately 17% in FY2021 (From July 2020 to June 2021). Although in the first half of FY-2022 (until November 2021), the allocation for the CMSHEs increased, still it was low compared to the large industries. The agricultural sector's allocation has deteriorated by nearly 5 percentage points in FY2022 (Table 11.2).

Table 11.2 Sectoral Allocation of the Stimulus Packages

Sector	*FY2021*			*FY2022*		
	Allocation (in billion BDT)	*Allocation (in billion USD)*	*Percentage of total allocation (%)*	*Allocation (in billion BDT)*	*Allocation (in billion USD)*	*Percentage of total allocation (%)*
Export-oriented and large industries[1]	627.50	7.40	50.20	1042.50	12.15	54.32
CMSME[2]	235.00	2.80	18.80	435.00	5.07	22.66
Agriculture sector[3]	215.80	2.50	17.26	237.20	19.30	12.36
Others[4]	171.64	2.00	13.73	273.88	3.19	14.27

Source: Calculation based on Bangladesh Bank (2021a), CPD (2022), & MoF (2020b).
Note: 1 = including salary support, 2 = including credit risk-sharing scheme, 3 = including refinancing scheme for the professional farmers and small traders, 4= others include improvement of the Export Development Fund, pre-shipment Credit Refinance Scheme, working capital credit facility for hotel/motel/theme parks, special honorarium to doctors, nurses, and health workers, social safety net programs for unemployed and poor workers of export-oriented ready-made garments, leather, and footwear sectors.

Community Orientation

In FY2020, the government initiated cash and food support programs for disadvantaged groups. These programs were launched with the aim to provide cash support worth BDT 2,500 to 5 million families and sell rice at BDT 10 per kg under Open Market Sale (OMS) to low-income groups, including extremely poor people, and to provide food support (rice and wheat) to poor people who had become unemployed during pandemic. The disbursement of these support measures portrays a sorry figure. The government provided cash aid to approximately 3.5 million households after the failure to make a complete list of the households multiple times. Under the OMS program, only 42.68% of the allocated food aid was disbursed. The absence of specific cash assistance or quota in the adopted program for the indigenous, Dalit, transgender community, disabled persons, and remotely located households is notable.

Some stimulus packages had separate quotas for women or women-led organizations. For example, there was a 5% quota for women in the stimulus packages for CMSMEs worth BDT 200 billion. This means that an amount of BDT 1 billion was available as a stimulus package for the women entrepreneurs in CMSMEs. In a country where 92% of women are largely involved in the informal sector and 7.2% of total CMSMES are led by women, whether the allocation itself is sufficient is a matter of concern. The allocation of the working capital loan to CMSMEs was improved to BDT 400 billion in FY2022 (as of December 2021); however, the disbursement rate of the package was slower compared to the disbursement rate of the salary support given to the export-oriented large industries.

Salary support to export-oriented industries addressed the highest percentage of women (54%) with a 100% implementation rate (Table 11.3). Given that female workers constitute the majority of the employed in export-oriented industries, particularly readymade garments (RMG) industries, this allocation is to their benefit as opposed to female employees of CMSMEs.

Bangladesh's demographic dividend has moved toward the youth population. Therefore, one of the key priorities should be employment generation for the youth and the creation of opportunities for youth entrepreneurs. This area has been greatly neglected. More precisely, this is evident in the fact that the only package that included youth, which is credit support to youth, low-skilled, unemployed, and returned migrants, had a relatively lower allocation (Table 11.4). Further, the pandemic caused many migrants to return to Bangladesh. Approximately 70% of the migrants who returned from abroad between February and June 2020 remained unemployed in August 2020 (International Organization for Migration [IOM], 2020). Regarding the case of cash incentives for health workers, it had been in the beneficiary listing phase until November 2020.[7]

In the case of social support programs, the expansion of previous support measures for elderly people, widows, female divorcees, and people with disability was adopted after adding more than 1.11 million beneficiaries. The newly added beneficiaries were supposed to obtain the allowances from January to March 2021,

Table 11.3 Stimulus Packages Addressing Women

Package	*FY2021*				*Till FY2022*			
	Allocation (in billion BDT)	*Implementation rate (%)*	*Beneficiaries (number of households/ individuals/ organizations)*	*Percentage of women (%)*	*Allocation (in billion BDT)*	*Implementation rate (%)*	*Beneficiaries (number of households/ individuals/ organizations)*	*Percentage of women (%)*
Salary support to export-oriented industries	50.00	100.00	3,800,000	53.00	50.00	100.00	3,778,969	54.00
Working capital loan for CMSMEs	200.00	N/A	95,407	5.46	400.00	98.16	128,755	N/A
Health insurance and life insurance	7.50	2.17	42	2.38	7.50	3.40	42	1.00
Distribution of free food items	25.00	42.68	25,400,000	36.00	25.00	43.00	23,400,000	30.00
Distribution of cash among the targeted population	12.58	69.92	3,497,353	25.00	13.26	70.00	3,497,353	25.00
Construction of houses for homeless people	21.30	N/A	9,039	38.00	21.30	N/A	9,039	38.00

Source: Calculation based on Bangladesh Bank (2021a), CPD (2021), & MoF (2020b).

Table 11.4 Community-wise Allocation of Stimulus Packages

Community	*Allocation (in billion BDT)*	*Allocation (in billion USD)*	*Percentage of total allocation (%)*
Doctors, nurses, and frontline workers	8.50	0.10	0.69
Poor and low-income households including cash, food, and home support	101.73	1.20	8.20
Rural poor farmers, expatriate migrant workers, trained youths, and unemployed youths	32.00	0.38	2.58

Source: Calculation based on Bangladesh Bank (2021a), & MoF (2020b).

which means these beneficiaries did not receive the allowances under the programs until December 2020. Additionally, the allowance rate remained constant. As of April 2021, the government has not announced any incentive measures for teachers. However, support measures for non-MPO[8] teachers and staff were announced in May 2021.

Economy-Wide Impacts of Expansionary Fiscal Policies

There is a growing consensus on pursuing an expansionary fiscal policy to address the challenges of the COVID-19 pandemic in Bangladesh (CPD, 2022). A similar consensus has perhaps been reached globally. The pandemic, which started as a health emergency, has negatively affected the employment and income of a large number of people, particularly the marginalized community in the country (Chapter 3). There have also been learning losses for disadvantaged children over the medium term. To this end, the government's expenditure to protect the consumption of low-income households by providing cash transfers and enhancing health and education expenditure in the public sector can be powerful policy tools. However, the economy-wide impacts of these policy choices should also be assessed. Computable general equilibrium (CGE) modeling is useful for an economy-wide evaluation of the aforesaid policies. The model helps understand the impact of public policies in an economic environment and how the economic agents may respond to those policies.

The CGE Model

The present study used a CGE model, which provides a macroeconomic data framework for policy modeling by establishing a sequence of interactions between agents and accounts. The study used a standard CGE model based on Lofgren et al. (2002). Furthermore, a modified version of the Social Accounting Matrix (SAM) of 2012 for Bangladesh was used. The SAM includes the economic relations

considering four types of accounts. These are: (i) production activity and commodity account for sectors and commodities, (ii) four factors of production including two types of labor (skilled and unskilled), land, and capital, (iii) current account transactions among the four institutional agents including households divided into six categories from rural areas (landless farmer, marginal farmer, small farmer, large farmer, rural non-farm poor, rural and non-farm non-poor), and two from urban areas (low education and high education), corporations, the government, and the rest of the world, and (iv) two consolidated capital accounts distinguished by public and private origins to capture the flows of savings and investment.

The present study aimed to understand the economic implications of an increase in government expenditure on health and social protection, considering other factors remaining unchanged. To this end, economy-wide impacts of two policies were examined: (i) doubling the government's transfers to five selected household categories, viz. landless farmer, marginal farmer, small farmer, rural non-farm poor, and low education (hereafter referred to as Scenario 1) and (ii) a 50% increase in government expenditure for health and education (hereafter referred to as Scenario 2).

The model assumes that government savings, i.e., the budget deficit, is flexible, and there are no changes in the tax rates. It is also assumed that investment is driven by savings in this economy. The exchange rate is also considered to be fixed. Among the factors of production, capital and land are assumed to be fully employed but mobile, whereas labor can be unemployed and mobile. The model is useful to understand the economy-wide implications of public policy choices. However, the present CGE model does not allow going beyond a disaggregation level outside the SAM 2012 of Bangladesh developed by the country's Planning Commission. Hence, certain useful disaggregated analyses concerning gender, youth, and environmental impacts could not be inferred.

Results of the CGE Model

The impacts of the two aforesaid policies (Scenario 1 and 2) are presented via three categories: (i) changes in macroeconomic variables such as real GDP, fixed investment, export, import, revenue mobilization, government expenditure, and the budget deficit, (ii) changes in factor income viz. unskilled labor, skilled labor, capital, and land, and (iii) changes in real consumption of the household groups.

The simulation results show that doubling the government's transfers to five selected household categories (Scenario 1) leads to a 17.5% increase in government expenditure and a 0.5% decline in government income (Table 11.5). As a result, the budget deficit increases by 1.4 percentage points from its base value. Furthermore, export increases by 3.7%, whereas the import declines by 0.9%. The fixed investment as a percentage of GDP declines by 1.9 percentage points. Overall, the real GDP increases by 0.1%.

The simulation results also show that for doubling the government's transfers to five selected household categories, incomes for skilled labor and land increase by 0.5% and 2.1%, respectively (Table 11.5). The income of capital declines by 0.4%, while the income of unskilled labor remains unchanged.

Table 11.5 Impacts of Doubling Government's Transfers to Five Selected Household Categories (Scenario 1) and 50% Increase in Government Expenditure for Health and Education (Scenario 2)

Variables	*Impact of doubling the government's transfers to five selected household categories (Scenario 1)*	*Impact of 50% increase in government expenditure for health and education (Scenario 2)*
Changes in macroeconomic variables		
Real GDP (% change)	0.1	0.5
Export (% change)	3.7	0.5
Import (% change)	−0.9	−0.6
Government income (% change)	−0.5	−0.1
Government expenditure (% change)	17.5	10.9
Budget deficit (% of GDP) (percentage points)	1.4	0.9
Fixed investment (% of GDP) (percentage points)	−1.9	−1.0
Changes in factor income (%)		
Unskilled labor	0.0	0.1
Skilled labor	0.5	2.0
Capital	−0.4	−0.1
Land	2.1	0.4
Changes in real household consumption (%)		
Landless farmer	5.2	0.5
Marginal farmer	4.1	0.4
Small farmer	2.8	0.4
Large farmer	0.5	0.4
Rural non-farm poor	3.0	0.5
Rural non-farm non-poor	−0.2	0.2
Low education	2.5	0.4
High education	0.2	1.0
All households	1.7	0.4

Source: Authors' estimation.

Furthermore, the government's cash transfers increase real household consumption. As shown in Table 11.5, among the household groups to which the cash transfers are doubled, landless farmers and marginal farmers followed by rural non-farm poor and small farmers and low-education households are expected to see the highest increase in real consumption. Real consumption of high-education households also increases marginally. However, rural non-farm non-poor households experience a marginal decline in real consumption. Overall, the real consumption of all households on average increases by 1.7%. More importantly, the increases in the real consumption of landless farmers are much higher than the rest. This is mainly because the transfers from the government directly boost their consumption.

The simulation results show that with a 50% increase in the government expenditure on health and education (Scenario 2), government expenditure increases by 10.9%, whereas government income declines by 0.1% (Table 11.5). The overall

budget deficit, as a percentage of GDP, increases by 0.9 percentage points. The fixed investment as a percentage of GDP also declines by 1.0 percentage points. Furthermore, export increases by 0.5% while the import declines by 0.6%. The real GDP growth increases by 0.5%.

Moreover, a 50% increase in government expenditure for health and education results in an increase in the income of skilled labor by 2.0% and an increase in the income of land by 0.4% (Table 11.5). The income of unskilled labor also experiences a marginal increase of 0.1%. In contrast, the income of capital declines only marginally by 0.1%.

According to Table 11.5, a 50% increase in government expenditure for health and education also has a positive impact on real household consumption. Overall, average real household consumption increases by 0.4%. Low-education households in urban areas and all rural households except rural non-farm non-poor households experience an increase in real consumption between 0.4 and 0.5%. Real consumption of rural non-farm non-poor households also increases but only marginally by 0.2%. High-education households in the urban areas experience the highest increase in real consumption by 1.0%.

Consolidating the Results of the CGE Model

The two selected policy interventions (Scenario 1 and 2) are likely to have different implications. Between the two expansionary fiscal policies, a 50% increase in government expenditure (Scenario 2) for health and education positively impacts real GDP growth and export. However, doubling public transfers to five selected household categories (Scenario 1), despite requiring a higher budget deficit, has a much larger positive impact on the real consumption of poorer households. It is, however, to be noted that in both cases, the impacts on GDP, export, and factor income except on capital are positive. Hence, during the pandemic, the two aforementioned expansionary fiscal policies, which would require higher public spending, are expected to bring positive results to the economy in general. Between the two scenarios, doubling the social protection expenditure of the government to five selected household categories would result in a higher and more direct impact at the household level.

As the results indicate, the budget deficit is expected to increase in both cases. However, if the prevailing budget deficit level in the country is taken into cognizance, the overall budget deficit would not exceed 7% of GDP under both scenarios. Pursuing both policy measures simultaneously may require a budget deficit as high as 8% of GDP. Considering the existing low debt-GDP condition, Bangladesh can afford to opt for an expansionary fiscal policy in the form of higher public spending on social protection, health, and education during the pandemic.

Effectiveness of the Support Measures

While the stimulus packages have proven to be effective for some sectors that are capable of taking loans, it has been ineffective for the marginalized sectors unwilling to take loans because they are subject to repayment due to the complex bank system, lengthy disbursement procedure, and lack of knowledge and awareness

about eligibility. Moreover, the marginalized communities suffer from delivery, monitoring, and accountability issues.[9] These have reduced the effectiveness of the packages. Broadly, the issues threatening the effectiveness of the packages are categorized into four parts. These include problems in designing, delivery, monitoring and accountability, and improvement during the second wave. Based on these categories, the issues are discussed below.

First, Bangladesh's COVID-specific stimulus package was predominantly liquidity-induced and constituted a substantially lower share of fiscal support. More than 80% of the support measures were disbursed by commercial banks in the form of repayable loans with concessional interest rates (Akibo-Betts et al., 2021). The budgetary allocation for cash transfers and expanded social safety net programs was considerably low (Rahman et al., 2021). The allocation improved in phase 2 until 2021; however, it could not overcome the constraint of large liquidity support and low fiscal support provision. The liquidity support improved to approximately 86%, whereas the fiscal support halted at about 13% only (CPD, 2022). There was only one free food distribution and cash transfer measure until March 2021. The COVID- or any pandemic-related disasters and consequent crisis demand stronger fiscal support than monetary support as the demand for bank loans is low during such economic downturns. Large public spending boosts the aggregate domestic demand; consequently, jobs are generated and money becomes available to people. As the composition of the support interventions was heavily skewed toward working capital loans (Akibo-Betts et al., 2021), small businesses in the informal sector were mostly unable to apply for working capital loans and could not use any other stimulus packages either (Rahman et al., 2021).

Second, the COVID-19-specific stimulus packages of Bangladesh were characterized by inadequate fiscal support compared to credit support. The fiscal stimulus package was approximately 19% of the total COVID-19 relief fund in the early period of allocation (Rahman et al., 2021) which dropped to 13% (CPD, 2022) later on. Over the time span, the share of fiscal stimulus was approximately 1% of GDP, falling far behind the estimated required allocation of 11% of GDP to combat the socioeconomic impacts of the COVID-19 pandemic (Rahman et al., 2021).

The reason that the stimulus package was not a grant but a subsidized loan with soft terms has hindered many firms from availing of the benefits (Raihan et al., 2020). Furthermore, fiscal support itself is recognized as inefficient in most cases. In the stimulus package of working capital loans to affected industries and the service sector, a 9% interest rate was subsidized to 4.5% by the government. Half of the loans under these packages were to be provided as a Revolving Refinance Scheme that the commercial banks could obtain from the central bank for a period of three years with a repayment agreement on a quarterly basis at a 4% interest rate (CPD, 2020; Rahman et al., 2021). The requirement of having no outstanding due wages, up-to-date salary disbursement, and prioritizing the large export-oriented factories with strong track records have hampered the effectiveness of these stimulus packages as they missed out on smaller factories that were in dire need of those support measures (Sultan et al., 2020).

Third, a big chunk of fiscal support results from the expansion of existing programs. Examining the system adaptation of COVID-19-specific fiscal responses reveals that the government has addressed new vulnerabilities following two types of strategies: increasing benefits for existing beneficiaries and extending coverage to new beneficiaries through existing or new programs (Hebbar et al., 2020). The actual pandemic-related direct fiscal support constitutes only two cash incentive programs for health and other frontline workers (MoF, 2020b). Hence, the fiscal support measures that were declared on account of COVID-19 support measures did not adequately address the vulnerability of the marginalized groups particularly affected by the pandemic.

The duration of the provision of 30 kg rice at a subsidized rate of BDT 10 per kg to 5 million beneficiaries under the existing component of the Public Food Distribution System (PFDS) was extended by an additional month until June 2020 to increase benefits for existing beneficiaries (Hebbar et al., 2020). The Gratuitous Relief (GR) program and special OMS were extended to new beneficiaries to address emergency needs across the country. The regular OMS program has been modified as a special OMS program to sell rice at a subsidized price of BDT 10 per kg (Hebbar et al., 2020). Horizontal expansion (across subdistricts) of lifecycle social safety net programs (SSNPs) was made for three allowances of the Department of Social Services (DSS): Old Age Allowance (OAA), Widow Allowance (WA), and Disabled Allowance (DA). As the vulnerability of these categories is well established and identifiable, the expansion of such SSNPs is politically justified. However, the effectiveness of the expansion of such SSNPs is a matter of concern as it differs from the regular provision by the principle of covering all eligible people, which otherwise results in program rationing across districts at other times due to budget limitations (Hebbar et al., 2020).

Fourth, resource utilization has been insufficient. The proposed amount announced by the government for the COVID-specific recovery packages constituted 1.6 to 9.9% of GDP, whereas the actual spending was significantly lower (Akibo-Betts et al., 2021). The inefficiency has been evident through the disbursement of fiscal stimulus and liquidity support, starting from the BDT 2,500 cash support program, the much-required free-food distribution program, to the liquidity support extended to the export-oriented industries and SMEs. The implementation of the BDT 2,500 cash support program for 5 million households was subjected to multiple field level distortion, fraudulence, and mistargeting, and ended up reaching only approximately 3.5 million households. Considering rising poverty during the pandemic where another 4.1 million new households (10% population) were estimated to fall below the poverty line, the failure of the government to locate the remaining 1.5 million poor households is worrying when recovery is a concern. The free food distribution program could only utilize 43% of the total allocation. The direct fiscal support measures that were most required were presented in an overstated way, though they were confined to peripheral provisions and implemented quite dismally.

Apprehensions were raised regarding the factory owners' misuse of the stimulus funding (Sultan et al., 2020). Considering the wage subsidy, the incidence of not paying the full wages or timely outstanding wages by the factory owners was

evident between March and April 2020. By October 2020, only 32% of the allocation designated for SMEs was disbursed. The loan or grant schemes to the SMEs missed out on intended beneficiaries due to the eligibility criteria that were set or distribution hurdles (Akibo-Betts et al., 2021). Implementing the liquidity support scheme for the distressed workers of the export-oriented (RMG, leather, and footwear) industries was faulty due to the absence of lists with all the eligible workers. This scheme was jointly funded by the EU and Germany, and the number of eligible workers estimated by the EU was approximately 1 million, whereas only 16.6 thousand workers had been covered by the scheme until December 2020. The resource allocation and the corresponding implementation of liquidity support to various industries indicate that the government failed to utilize the resources although they were available (Moazzem et al., 2021).

Fifth, low implementation (disbursement) rates were apparent, particularly to poor and smaller entrepreneurs. Liquidity support for smaller enterprises remained largely unutilized despite the order released by the Bangladesh Bank in regard to completing all the COVID-19-related loan disbursements by the commercial banks in a due manner. The most disadvantaged group was deprived of the optimum disbursement of the stimulus packages; for instance, until March 2021, the CMSMEs had been disbursed with only 64% of the allocation after manifold extensions of the disbursement deadlines. Ironically, the largest industries with stronger bidding power were able to obtain the greatest support owing to their efficiency in applying and obtaining the fund, although these industries were quite capable of dealing with the shock caused by the COVID-19 pandemic.

The slow pace of disbursement was also evident regarding a special refinancing scheme for the agricultural sector at a 4% interest rate. By October 2020, only 45% of the total funds was disbursed under the 'agricultural refinancing scheme', and the disbursement rate in the second phase also did not make any substantial progress (CPD, 2022). As of December 2021, only 55.82% of the total funds of BDT 8000 crore were disbursed to 204,466 farmers (CPD, 2022). Progress was made regarding the refinancing scheme for low-income farmers and small traders because approximately 82.85% of the funds were disbursed to 4,31,418 individuals (CPD, 2022) as of November 2021; however, this disbursement rate was only 22% of the funds as of October 2020 when the disbursement was most essential (CPD, 2022). The disbursement rate of the pre-shipment credit scheme of BDT 5,000 crore for export-oriented industries also had not made any progress as of December 2021 (CPD, 2022).

Regrettably, the design of the packages neither internalized the crisis of the marginalized population and marginal sector, which is reflected in the utilization rates, nor incentivized the employers for protecting employment. Additionally, the slow implementation rate of the stimulus packages for agriculture and SMEs resulted in the failure to avail of further employment generation and retention targets (Akibo-Betts et al., 2021).

Sixth, lengthy disbursement procedures through the complex banking system were evident, particularly for new and small entrepreneurs. Individuals and firms had to use the loans at low or subsidized interest rates through overlong

and complex banking procedures. The strict requirement for various documents, guarantors, and appropriate applications discouraged the small and new enterprises from being involved in the banking procedures. By the same token, regular transactions with banks made the fund receiving procedure easier for large industries. Banks were concerned about disbursing the loans to the SMEs from the commercial perspective and considering the existing trend of higher loan default, the concern is justified. As of December 2021, 49.08% of the funds of the BDT 40,000 crore liquidity support package for SMEs as a working capital loan has been disbursed in two phases to 128,755 recipients (CPD, 2022), which was only 32% of the total funds as of October 2020 (CPD, 2022). Applying for the loans to the banks by the entrepreneurs was not very difficult, but preparing all the documents required for the loan application was difficult for the management staff due to the lockdown and the resulting shutdown of factories, closure of many offices, and restricted movement of vehicles. This made the disbursement more lengthy due to the additional time needed to complete the process (CPD, 2020).

Undoubtedly, the CMSMEs have been disproportionately affected by the pandemic, and the slow pace of disbursement of credit support made it more difficult for them to overcome their losses and get the country back on track toward the 'k' shaped recovery from the pandemic. This is illustrated by the quantum index of industrial production (QIIP) of June 2020, which dropped more for small enterprises compared to the large and medium enterprises after the outbreak of the COVID-19 pandemic.

Seventh, limited access to stimulus packages due to the information and coordination failure has been noticeable. As mentioned earlier, there was a coordination failure among the management staff and workers of industries regarding preparing the workers' list and also the bank-client relationship, illustrated by the hurdles in bank-related services. The coordination failure, its consequent lengthy procedure, lack of information about the stimulus packages, and insufficient allocation deprived 68% of businesses from obtaining the packages. The information dissemination in the relevant business forums was not appropriate and adequate, and the absence of proper information about the stimulus packages proved to be one of the major constraints (Raihan et al., 2020).

According to the Business Pulse Survey conducted by the International Finance Corporation (IFC), approximately 76% of the MSMEs were unaware of the COVID-specific stimulus packages provided by the financial institutions (Kader & Pattanayak, 2020). Among the remaining 24%, an extensive majority failed to obtain support because of insufficient awareness, complex application methods, and eligibility (Rahman et al., 2021). The complexity of getting the information or understanding the application procedure to acquire the stimulus packages was also highlighted by another study as one of the major constraints for nearly half of the beneficiaries to use the stimulus packages (Raihan et al., 2020).

Eight, inadequate coordination with non-state actors (NGOs and CSOs) persisted. The use and management of funds with accountability should be closely monitored by the government with the participation of government agencies, CSOs, NGOs, labor organizations, and the business community, which was largely absent

regarding allocation and disbursement of the COVID-specific stimulus packages (Raihan, 2020). Due to the potential risk of disbursing loans to the CMSMEs, the commercial banks followed a heedful approach while disbursing the loans to the MSMEs. Confusion regarding the collateral requirement for loans also persisted. Taking these factors into cognizance, collaboration with NGOs and microfinance institutions to extend the support could reduce the ineffectiveness of the support programs to some extent (Rahman et al., 2021).

Ninth, commercial banks are major risk takers. As mentioned earlier, commercial banks were the sole risk takers for disbursing the majority of the stimulus packages in the form of liquidity support except for the export development funds. On the one hand, commercial banks had to take full responsibility for risks associated with disbursing loans to the affected industries (CPD, 2022). On the other hand, banks were ordered to set aside the guidelines on Internal Credit Risk Rating System and emphasize the bank-client relationships when providing liquidity support these have led to a natural preference for those entrepreneurs with pre-existing relationships with banks.

Additionally, on the supply side, the cost of funds for the banks was approximately 6% in 2020, whereas the administrative and operating expenses constituted another 5%. As a large portion of the loan had to be distributed to CMSMEs located in various remote areas across the country this has created a concern among the bankers regarding recovering the costs associated with small loans. Furthermore, the short time span in responding to the huge demand for loans did not provide much scope to undertake an inspection of the borrowers' due diligence for examining their repayment ability (CPD, 2020). Hence, covering the risks and associated supervision costs was not practically feasible with an interest rate of 9%, which was determined by the government for liquidity support. The 2% service charge that was permitted to the commercial banks to charge the borrowers was an additional burden for these banks regarding covering costs of the fund disbursement and management (Sultan et al., 2020).

Tenth, the traditional banking behavior of women entrepreneurs persisted. The social context of Bangladesh discourages women from being involved in complex bank procedures. Because women prefer to apply for small loans, banks do not find it lucrative to provide such loans as it increases their operational costs. Moreover, women entrepreneurs find it challenging to obtain bank loans due to the absence of guarantors. Lack of access to information in rural and sub-urban areas created unawareness about the packages among women. Many women entrepreneurs did not even know about their eligibility criteria in order to receive stimulus packages, whereas some were unwilling to take support as it was in the form of loans (not grants) which they had to repay every month.

The recognition of women entrepreneurs in the CMSME by providing them 5% of the total CMSMEs allocation (BDT 100 crore) is well appreciated. However, the credit support has not reached out to the majority of them because of the absence of a pre-existing relationship with banks and collateral and guarantor issues. The ambiguity regarding accessing the allocated liquidity support by women and marginalized communities was also highlighted by Akibo-Betts et al. (2021). The

absence of information persisted among approximately 58% of women entrepreneurs. The government failed to create awareness and a required level of confidence among women entrepreneurs because 93% of them did not apply for loans under the stimulus packages. A separate stimulus package with adequate information dissemination could be more effective for women entrepreneurs (Bangladesh Bank, 2021b).

Eleventh, a lack of transparency and poor governance persisted. There was concern among the trade union leaders regarding adequate transparency/information considering the application procedure and receipt of stimulus packages. There was a demand on the part of the trade union leaders to create a mechanism to monitor the implementation of the stimulus packages by comprising a group of multiple stakeholders, for limiting misuse, addressing grievances, and evaluating the effectiveness of stimulus packages (Sultan et al., 2020). Considering the poor governance, the government failed to locate all of the 5 million poor households for the cash support program even after multiple attempts. There was no clear declaration of the objectives and quantitative criteria to correctly identify 'affected' enterprises and individuals. More disaggregated data on the implementation update of the liquidity support programs should have been disclosed on a regular basis. The adoption of strong monitoring and supervision mechanisms by the Bangladesh Bank at every stage of implementation of the credit support would have helped avoid the risks associated with bank loan default.

Overall, the adopted policies highlight an increase in public expenditure, including support to the private sector, injection of additional liquidity, and expansion of social protection. Through these policies, a comprehensive set of stimulus packages was deployed. However, the fiscal support was inadequate, whereas the hybrid support was not appropriate for the marginalized sector. It is undeniable that the government adopted monetary easing tools and successfully increased liquidity. However, the usage of fiscal space was inadequate. Therefore, a further increase in public expenditure for social protection, health, and education is suggested.

Notes

1 Upazilas can be considered as sub district and reginal administration of Bangladesh, similar to 'borough'
2 Medical equipment includes three-ply surgical masks, surgical masks, protective spectacles, goggles, raw materials for hand sanitizers, and disinfectants.
3 Low-interest loan was intended to be provided as salary support to rural poor farmers, expatriate migrant workers, and trained and unemployed youths.
4 The firms that export at least 80% of their total production are considered export-oriented firms (Bangladesh Bank, 2020a).
5 Buying houses are the trading partners between buyers and sellers in the apparel sector.
6 A K-shaped recovery is a post-recession scenario in which one segment of the economy begins to climb
back upward while another segment continues to suffer.

7 Bangladesh Bank announced a circular on giving a loan of at least BDT 5 lac at a maximum interest rate of 6% to reverse the migration of those who shifted to villages from cities due to the fallouts of the COVID-19 pandemic under the 'Ghore Fera' (Returning Home) scheme.
8 MPO (Monthly Payment Order) teachers means non-government education institute teachers who are having government salary and other facilities
9 Such marginalized communities include communities living in a disaster-prone area, indigenous population, female entrepreneurs and female-headed households, returnee migrants, and the poor.

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12 Raising Delivery Effectiveness of Support Measures for Disadvantaged Households

Mustafizur Rahman, Towfiqul Islam Khan, Muntaseer Kamal, Marfia Alam,Md. Sabbir Hossain and Mostafa Amir Sabbih

Introduction

Bangladesh has achieved commendable success in attaining the Millennium Development Goal (MDG) targets. This boosted the country's confidence in implementing policies to meet the Sustainable Development Goals (SDGs) by 2030. However, the ongoing COVID-19 pandemic has introduced many new and unforeseen challenges to the development process. As authors in this volume have illustrated, the pandemic has both exacerbated pre-existing vulnerabilities and brought in a number of new ones. No doubt, it will leave a far-reaching mark on Bangladesh's development journey.

The Citizen's Platform for SDGs, Bangladesh (2020) has assessed that 13 million Bangladeshis, or about 20.1% of the labor force, are experiencing employment vulnerability amidst COVID-19. The Centre for Policy Dialogue (CPD, 2020) estimates that the national poverty rate has increased from 24.3% in 2016 to 35% in 2020 due to the pandemic – a rise of some 17.5 million people living in poverty.

The situation has been further aggravated by natural calamities that visited Bangladesh in 2020, including successive floods and the cyclone *Amphan.* In similar contexts, relief support programs have long been deployed as disaster response tools by the Government of Bangladesh (GoB), particularly to help the poor, marginalized, and vulnerable. However, the effectiveness of public service delivery to the most marginalized and disadvantaged is limited by a significant difference between what is needed and what is delivered on the ground (Aminuzzaman, 2008). People experiencing extreme or moderate poverty are often deprived of legal rights of access because they are not given due priority, are not organized, and lack adequate information.

Past studies recognize attendant gaps and shortcomings in the delivery of safety nets and relief support programs in Bangladesh. The most commonly observed are inadequate allocation and coverage, 'inclusion' and 'exclusion' errors, leakages, coordination failure among implementing agencies, high administrative costs, and inefficiencies in delivery (Khatun et al., 2008, 2012; Manob Sakti Unnayan Kendro, 2013).

Given the pandemic's confluence with natural disasters, the GoB introduced several relief support measures to be delivered by the local authorities, targeting

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marginalized sections of the population. These included the provision of rice to those affected by sudden unemployment, direct cash support for selected families to buy dry food and children food, and direct cash transfers to selected vulnerable families whose income opportunities had narrowed.

This chapter considers the effectiveness of these public relief support programs during the COVID-19 pandemic in Bangladesh. We argue that the pandemic reinforces that development is not simply the progression of economic trends against fixed criteria. Rather, an important component of development is society's capacity to address emerging challenges in well-targeted and effective ways. We therefore assess the three aforementioned major support programs: (i) cash support of BDT 2,500 each to 5 million households, (ii) food (rice) distribution, and (iii) cash support under Gratuitous Relief (GR) that were put into ameliorate the effects of COVID-19. We seek to determine how effectively these relief programs have met the development needs of marginalized and vulnerable groups in society amidst the pandemic.

Our findings highlight several important realities and challenges. We identify that the role of local-level government agents remains particularly important in implementing relief support measures. They are vested with the responsibility to provide 'access' to government services and productive resources and make these available to deserving recipients. However, effective delivery hinges on an enabling environment of accountability that ensures that the poor and the marginalized are able to cater to their emergency needs appropriately (The Hunger Project, 1994). A review of GoB support measures illustrates that cash and food support programs in response to COVID-19 are aligned with the objectives of three specific SDG targets, falling under the umbrella of SDGs 1, 2, and 10.[1]

This chapter assesses the quality of delivery of COVID-19 targeted support programs by identifying gaps between policies and practices. It seeks to highlight areas of improvement in the delivery of services. We assess the extent to which the relief supports were successful in generating expected outcomes at the local level in view of their targeting and results. In assessing the three specific programs, we also contribute to debates on the implementation and attainment of SDG 16.6 (Develop effective, accountable, and transparent institutions at all levels) from the broader perspective of advancing the causes of accountability and good governance in the development process of Bangladesh.

Analytical Framework

Results Chains of Safety Net Programs

This section outlines our analytical framework for assessing the effectiveness of COVID-related relief programs. The results chain analysis illustrates the theory of change underpinning a program. They elucidate how envisioned outcomes of an intervention can be achieved through a logical sequence of inputs, activities, and outputs while taking cognizance of behavioral processes and external factors. Therefore, results chains can help assess the congruency between program activities and intended and actual outcomes. Results chains also help trace and track

program implementation by associating specific outputs to specific inputs and assessing whether an intervention delivers envisioned results (Rubio, 2011).

For example, a simplified traditional results chain framework for a cash assistance program includes four stages: inputs, processes, outputs, and short- and long-term outcomes (Rubio, 2011). This chapter does not cover all four of the aforementioned stages of the results chain. Rather, it focuses on the processes/activities[2] and outputs/applications[3] of the surveyed support programs to assess the quality of service delivery. To assess the effectiveness of relief programs by identifying gaps between policy and practice, we identify five key pillars of processes/activities and outputs/applications. These include 14 corresponding performance indicators, following the framework articulated in Rubio (2011). These are summarized in Figure 12.3.

Methodology, Survey Design, and Data Collection

Our assessment of relief programs includes both quantitative and qualitative methods. We primarily utilize descriptive statistical analysis. Adapting the framework of Rubio (2011), we undertake a gap analysis (between policies and practices) by assessing the performance of the aforementioned 14 indicators under the five pillars of relief program processes/applications and outputs/applications. We also identify the weakest link in this connection. However, we also carry out inferential statistical analysis in the form of regression, association tests (Chi-square test, t-test), and correlation tests to determine which factors most affect the quality of services delivered by relief programs.

To inform our analysis, we utilize both primary and secondary data sources. Bangladesh Bureau of Statistics (BBS) household survey, together with administrative data kept with relevant ministries and departments, serves to identify the socioeconomic status of selected districts, beneficiaries of programs, and allocations for different support packages and distribution channels. Secondary literature, policy documents, and data have been consulted to set the standards or benchmarks specifically for the Pillar I and II indicators.

A survey of recipients and providers of COVID-19 targeted relief (both cash and in-kind) was conducted in 16 districts of Bangladesh. In total, 2,600 households were engaged as stakeholders in the survey. Data was collected to measure providers' (government agents') performance based on clients' (beneficiaries') experience with the service delivery. Through beneficiary household surveys, data were collected on individuals' knowledge, perceptions, and practices in order to assess service quality for ten indicators under Pillars I, II, and III.

Multiple qualitative methods are deployed to generate additional information, including focus group discussions (FGDs) and key informant interviews (KIIs). This information complemented the data generated for the performance indicators under Pillar II and III. KIIs were conducted with service providers to assess supply-side constraints and elicit information for indicators under Pillar I, IV, and V and with intermediaries for acquiring relevant information for indicators under Pillar I, II, and V. In total, 24 FGDs were conducted. Participants included both

beneficiaries (male and female), and eligible non-beneficiaries of the support programs. Fifty-three KIIs were conducted with relevant stakeholders.[4] An expert group consultation with the participation of academics, policymakers, and international development partners was also held to receive feedback, fine-tune research questions, and elicit suggestions regarding methodology.

Effectiveness of Relief Programs: Major Findings from the Household Survey

Coverage and Allocation

The percentage of respondents who were not included in any of the three relief programs was significant, at 76.5%. Survey results show that only 23.4% of households received at least one of the three relief packages surveyed. Only 3.4% of the total households received support from two or more relief packages.

As Table 12.1 bears out, in the lowest income quartile, 24.8% of those surveyed have received support from at least one of three relief programs. 10.9% received support from at least one other government social protection program. The majority of poor households surveyed have not been covered under any surveyed relief program. Only 35% of the poorest households surveyed have received some form of assistance. These findings corroborate those of Rahman et al. (2021), who indicated that Bangladesh's social safety net programs (SSNPs) typically cover only 32.5% of poor households. This would imply that the COVID-19 response programs could not overcome traditional and common challenges affecting the delivery of SSNPs in Bangladesh, particularly in relation to appropriate targeting.

Program coverage of poor people was inadequate in rural areas. Only 19.6% of the rural population in the poorest quartile had received support from at least one of three COVID-targeted SSNPs (Table 12.1). The corresponding figure for urban areas was higher, at 43.3%.

Table 12.1 Receipt of Relief Programs by Per-Capita Income Quartile of Respondents by Geographical Areas (in Percent)

Income group	*At least one of three COVID-targeted programs*	*At least one other program*	*Did not receive any benefits from any programs*
National			
1st quartile of respondents	24.78	10.94	64.29
All respondents	23.45	8.09	68.47
Urban			
1st quartile	43.25	9.50	47.25
All respondents	34.76	6.20	59.04
Rural			
1st quartile	19.63	10.14	70.23
All respondents	18.85	8.85	72.30

Source: Authors' calculation based on household survey data.
Note: As multiple responses were allowed, the sum of all shares could be greater than 100.

Qualitative survey findings show there was a 50% shortage in food relief compared to demand. This indicates that it was not possible to provide relief to all eligible persons according to their needs or at the same time.

Spatial Dimensions

Estimates based on the Ministry of Disaster Management and Relief (MoDMR, 2020) and BBS (2015, 2019) data reveal that GR (rice) allocation had a strong correlation (0.84) with the population size of local recipient communities compared to correlation with the total number of extreme poor, which was found to be very low (only 0.14, as seen from Figure 12.1 A and B). Similarly, GR (cash) allocation had a strong correlation (0.85) with the population size of local recipient communities compared to the correlation with the number of extreme poor (only 0.17, as is seen in Figure 12.1 C and D). It can be concluded from these results that allocations of

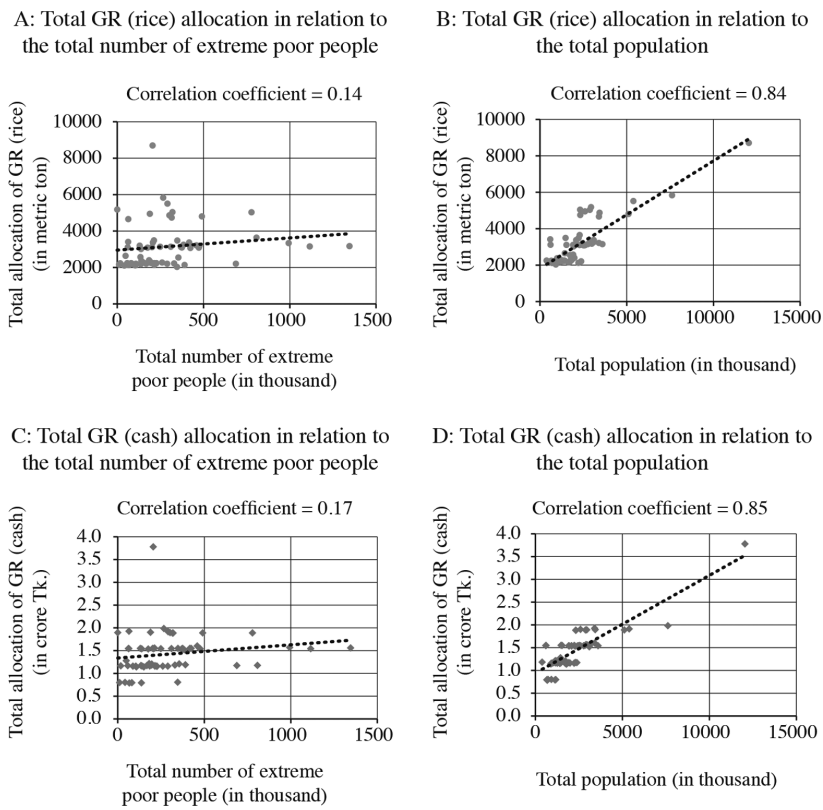

Figure 12.1 Scatter Diagrams of Relief Allocation in Relation to the Total Number of Extreme Poor People and Total Population in Districts of Bangladesh

Source: Authors' calculation based on MoDMR (2020), BBS (2015, 2019) data.

GR (rice) and GR (cash) have been made based on population size rather than the poverty rate scenario prevailing in the particular locality.

Targeting and Selection Process

Quartile distribution data indicates varying degrees of 'inclusion error'. Among the beneficiaries, only about one-third of households in the lowest income quartile have received at least one of three relief packages; about two-thirds of support was received by quartiles two, three, and four. Many surveyed workers in the informal sector remained outside the remit of the three relief programs. Almost 77.3% of households that experienced income loss as a result of COVID-19 did not receive any of the three relief programs surveyed. This speaks of a potential targeting error. On the other hand, capturing this segment of the population was indeed a key objective of the government, as per the stipulated guidelines.

A number of observations may be made from qualitative survey findings. Khulna community leaders consulted observed that many city dwellers who lost income opportunities simply went back to villages, where they did not receive any support from the three relief programs due to a lack of communication with local government (LG) bodies. This reflects that selection and targeting were based on whether potential recipients were known to LGs. Influxes of people from urban areas were not anticipated. Local government representatives resorted to traditional methods of targeting based on population and area-specific approaches with their in-built weaknesses. This resulted in the exclusion of many households whose income has decreased. Local administration representatives in Chattogram stated that 'not all the internal migrants lost their jobs; hence, they had to exercise caution while providing relief'.

There was hardly any scope for self-selection for receiving support from the three relief programs. The share of beneficiaries who had applied independently and were selected was significantly low, accounting for only 1.4% GR (rice), 1.5% GR (cash), and 7.6% for the cash support program. Selection of the beneficiaries was largely driven by the choices of chairpersons, secretaries, and members of the respective Union Parishad (UP).[5]

At least 44% of beneficiaries complained about a lack of transparency in the selection process. Only a small number of beneficiaries said that the selection process was transparent: 11.6% for the GR (rice) program, 10.2% for the GR (cash) program, and only 5.5% for the BDT 2,500 program. These findings are corroborated by qualitative findings obtained from FGDs and KIIs with the participation of beneficiaries and non-beneficiaries, service providers, and stakeholders.

Information Dissemination

The government's humanitarian assistance guideline stated that LGs would be responsible for undertaking extensive campaigns to disseminate information about relief programs; 'hotline' activation and miking (announcing by using mikes) were to be deployed. However, survey data shows that about 80.9% of GR (rice) beneficiaries, 75.9% of GR (cash) beneficiaries, and 74.5% of the BDT 2,500 cash

support program beneficiaries were informed about the programs by the Chairman, Secretary, or members of the UP and the guards. The second-highest percentage of beneficiaries were informed by family, friends, and neighbors. Local influential persons also played a key role in spreading information about the assistance programs, especially in case of the GR (cash) (20.6% of beneficiaries) and the BDT 2,500 (18.3% of beneficiaries). However, very few beneficiaries were informed by other designated, formal channels and sources, such as miking, newspapers, radio programs, community meetings, and social media (e.g., Facebook).

Regrettably, only 1.6% of beneficiaries were aware of 'hotline' numbers associated with the assistance programs. Limited awareness-raising activities were a key reason here. Pre-existing weaknesses, such as digital illiteracy, lack of access to internet and mobile usage, and low mobile network coverage, were also responsible for low levels of awareness and low use of hotline numbers. According to the qualitative survey findings, this was more relevant for people living in remote areas.

Degree of Transparency

59.3% of GR (rice) and 57.7% of GR (cash) program beneficiaries did not have knowledge about program eligibility criteria. For the BDT 2,500 cash support program, this share was even lower. Public availability of beneficiaries' list is yet another strong indicator to measure transparency as regards the eligibility criteria. From Figure 12.2, it is seen that a large number of beneficiaries either reported that

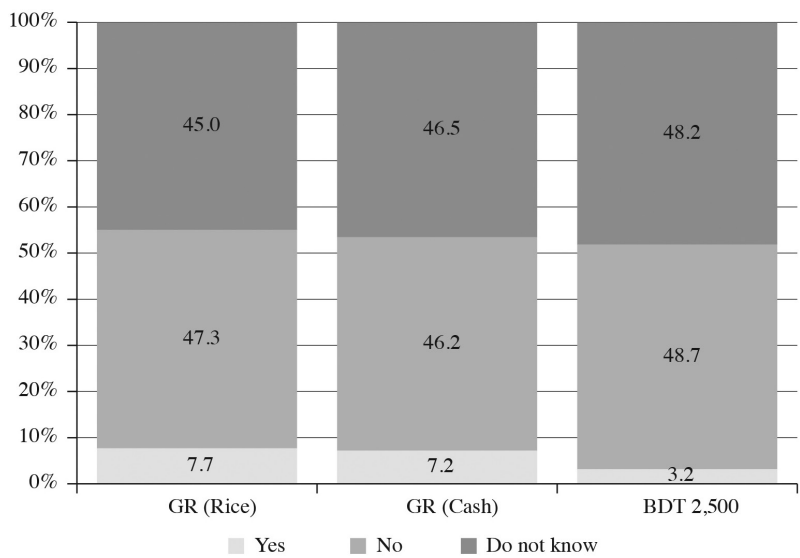

Figure 12.2 Public Availability of Beneficiary List (in %)

Source: Authors' calculation based on household survey data.

the beneficiary list was not available publicly or they were not aware of the list. Only 7.7% of GR (rice), 7.2% of GR (cash), and 3.2% of BDT 2,500 beneficiaries had reported that the beneficiary list was publicly available.

In many cases, service providers (the government officials and local government representatives responsible for delivering the program) were not clear about program selection criteria. For example, during the distribution of GR (rice and cash), in some areas, it was mentioned during multiple FGDs and KIIs that if a household had a recipient from other SSNPs, it would not be included in the list of beneficiaries. However, relevant guidelines do not mention this precondition. The lack of clarity among service providers on executing the BDT 2,500 cash transfer program has constrained its delivery.

Transaction Costs Related to Receiving Benefits

About 95.9% of GR (rice) and 92.9% of GR (cash) program beneficiaries had to incur transportation costs to reach the Upazila, Municipality, or UP distribution centers to collect the benefits. For beneficiaries, accessing provisions involved cost and time, particularly in the case of rice grains because relief centers were some distance away. Surprisingly, 17% of cash support beneficiaries had to incur transportation costs to receive BDT 2,500 even though the cash transfer program was executed through the mobile banking system. Very few beneficiaries of GR (rice) and GR (cash) had to spend additional money for collecting the benefits: 1.8% and 1.1%, respectively. However, the percentage of BDT 2,500 cash support beneficiaries who spent additional money was significantly higher at 45.8%.

Timing of Delivering Benefits and Transfers

Half of the GR (rice), GR (cash), and BDT 2,500 cash support beneficiaries received the benefits within five, seven, and 30 days, respectively. The majority of beneficiaries (81.2%) did not face any delay in receiving cash transfers of the GR (cash) and BDT 2,500 cash support programs. Among the people who faced a delay, the majority had faced challenges in opening a bank account. About 15.1% of beneficiaries faced a delay in receiving cash due to technological errors on the part of mobile financial service providers. Apart from this, a lack of an NID or mobile number – or an incorrect NID or mobile number – had hindered the verification process, causing delays in receiving cash. This was true for 12.9% and 5.6% beneficiaries, respectively.

Information Dissemination, Monitoring, and Supervision by Local Authorities

Local government representatives led the information dissemination process. A large number of beneficiaries were informed about the three relief packages by the Chairman, Secretary, members of the UP, and the guards. Many beneficiaries' information, NID, and telephone numbers were verified by government officials

during the support provisioning period. This was done by verifying a Voter ID card, NID card, by visiting recipient houses to check the eligibility of beneficiaries, or by crosschecking beneficiaries' lists with the help of Tag officers (a designated government official at the Upazila level) and non-governmental organization (NGO) workers.

Both qualitative and quantitative survey findings testify to the presence of government officials or local government representatives during the support distribution process. Survey data shows that 75.9% of beneficiaries had reported the presence of UP Chairman or Members during the benefits distribution process. This needs to be appreciated. Secondly, about 23.5% of beneficiaries reported that some Tag officers were present during the distribution process (Table 12.2). However, 10.4% of beneficiaries did not report the presence of government officials at the time of relief distribution. Qualitative survey findings obtained from consultations in Sirajganj and Netrokona districts reveal that Tag officers were always present at relief distribution spots to ensure that food relief distribution was carried out in a proper manner.

Grievance Redressal System

85.1% of beneficiaries were not even aware of any grievance redress system in connection with the three assistance programs. 13.4% of beneficiaries stated that no such system was put in place. Only 1.5% of beneficiaries were aware of the existence and availability of any such system. However, almost all beneficiaries stated that neither they nor anyone they knew submitted any complaint through such a system.

A very few beneficiaries who submitted complaints about the three assistance programs did so using 'hotline' numbers. All such beneficiaries indicated that the service providers did not resolve their problems. In most cases, beneficiaries were not aware of how to register a complaint and to whom to complain. Qualitative survey findings also indicate that problems were not resolved, in most cases, for those who did submit a complaint. In some instances, complainants faced misbehavior and experienced nepotism by political leaders when they wanted to lodge a complaint.

Table 12.2 Presence of Government Officials and Local Governments (LGs) at the Time of Relief Distribution (in Percent)

Categories	*Percentage*
UP Chairman/members	75.91
Tag officers	23.49
Do not know	10.37
None of the aforesaid groups	6.52
DC/UNO/DRRO	1.05
NGO/CSO members	0.33
Total	100.00

Source: Authors' calculation based on household survey data.
Note: Multiple responses were allowed.

Availability and Access to Up-to-Date Databases

Lack of an up-to-date database of eligible people who are in need of support has severely constrained the quality of delivery of the SSNPs. The absence of a central database for distributing relief packages was affirmed by government officials working on the ground. Qualitative survey findings indicate that relief was distributed according to a manually constructed list made by government officials. The lack of a central database, disaggregated spatially, was mentioned by many beneficiaries. At a time of fast-changing scenario of poverty and destitution, this lack of real-time household-level data had severely constrained the appropriate targeting of relief programs.

Overall Performance under the Five Pillars

Based on the assessment so far, the summarized performance of COVID-targeted relief programs under the five pillars of processes/activities and outputs/applications introduced above is presented in Figure 12.3. Among these pillars, performance under Pillar II (application, selection, and enrolment) was found to be particularly unsatisfactory. Weaknesses in the areas of beneficiary targeting, the scope for self-selection, transparency in the selection process, and public availability of beneficiaries' lists contributed to this result. Similarly, performance

Pillars	Performance indicators
Pillar I: Coverage strategy and promotion	1. Consistency between coverage strategy and number and type of beneficiaries (rural/urban, male/female, etc.)
	2. Adequacy of activities and mechanisms for information dissemination (awareness campaigns, mass media, community meetings, etc.)
Pillar II: Application, selection, and enrolment	1. Adequacy of targeting
	2. Effectiveness of beneficiary selection or targeting
	3. Degree of transparency of eligibility criteria (e.g., Percentage of the target population who correctly identify the eligibility criteria for receiving relief supports)
Pillar III: Transfer/receipt of benefits	1. Proportion of total transfers that are lost due to error or leakages
	2. Average transaction cost for receiving the benefits
	3. Average time taken to receive the benefits
	4. Adequacy of benefits
Pillar IV: Information management	1. Extent of use of MIS for transferring benefits and/updating changes in beneficiary information
	2. Percentage of beneficiaries using the designated hotline numbers
Pillar V: Control mechanisms	1. Degree of systematic use of control mechanisms (household information verification, database crosschecks, telephone hotlines, etc.)
	2. Adequacy of monitoring and supervision (local dealers, payment agencies)
	3. Grievance redressal system

Very	Unsatisfactory	Neutral	Satisfactory	Very Satisfactory

Figure 12.3 Assessment of Performance as per the Five Pillars: A Dashboard
Source: Authors' calculation based on household survey data.

under Pillar IV (information management and use of technology) was also unsatisfactory due to inadequate information management. The quality of performance under the remaining two pillars (I and III) was somewhat in between. One would have expected that under Pillar V (control mechanisms and grievance redress), a functional 'grievance redress system' would be put in place, given the specificity and urgency of the situation. However, this was not the case.

Factors Affecting the Delivery of COVID-Targeted Relief Programs

From the literature survey, three key factors and 11 associated sub-factors (variables) could be identified as impacting the effectiveness of service delivery. These are presented in Table 12.3 below.

A logistic regression model was developed to identify determinants of effective delivery of COVID-targeted relief programs. Ten variables associated with the aforementioned three key factors were selected to carry out the analysis. At the same time, five variables pertaining to the socio-demographic status of survey respondents were taken into consideration. It was assumed that these 15 variables would have an impact on the effectiveness of delivery of the three surveyed

Table 12.3 Factors Affecting the Quality of Service Delivery

Key factors	*Sub-factors/variables*
Influence of strategic location on service delivery	1. It takes less time to reach the location of service centers 2. It involves no additional cost to access the service centers
Influence of institutional characteristics on services delivery	1. Service providers adequately disseminate service-related information (e.g., eligibility criteria, allocation amount, place, and method of service distribution, etc.) to citizens 2. Service providers adequately promote the use of technological innovation (e.g., hotline numbers) 3. Service recipients are selected based on eligibility, rather than their 'connectivity' (e.g., political identity, friendship, relation) with the selectors 4. Beneficiaries can register in the programs easily 5. Service providers provide updates about the date and time transfers/benefits delivery 6. Service providers are responsive to complaints
Influence of monitoring and evaluation on service delivery	1. Designated officials always remain present at the site of service delivery 2. Higher ranked public officials regularly visit the site of service delivery to ensure proper monitoring 3. Systemic control mechanisms (e.g., household information verification, database crosschecks, telephone hotlines) are taken advantage of on a regular basis

Source: Authors' elaboration based on Drezner et al. (2012), Jones and Gessaman (1974), and Ngorobi (2015).

programs implemented by the GoB during the pandemic period. A Pearson Chi-square test was used to evaluate the fundamental relationship between the dependent variable (quality of service delivery) and the abovementioned 15 independent variables.

The insignificant influence of strategic location on service delivery can be observed: the Chi-square P-value is greater than 0.10 (10%). Nonetheless, approximately 55% of beneficiaries felt satisfied when their residence was closer to the distribution centers. While receiving the transfers (rice and other goods), 61.9% of the beneficiaries did not face any problems. Hence, according to their perception, the delivery process was satisfactory.

Among the five institutional factors, an acquaintance with selection committee members and beneficiaries' ease as regards program registration had a significant association with service delivery effectiveness. Among the household heads (beneficiaries) who had acquaintance with any of the selection committee members, 11.5% perceived the service delivery to be satisfactory, while only 2.7% responded otherwise. About 43.8% of beneficiaries were satisfied with the service delivery because they found the registration system helpful. A general scenario of dissatisfaction regarding the dissemination of service-related information to potential beneficiaries is revealed based on the analysis.

The presence of local administration (government officials at the subnational levels) was significantly associated with the quality of the service delivery. The presence of local government representatives was found to have an insignificant association with the effectiveness of service delivery. When government officials verified or crosschecked households' information, NID, or telephone numbers at least once, beneficiaries were more satisfied with the service delivery.

Household heads' educational level is significantly associated (with a p-value of less than 0.05) with the effectiveness of service delivery. Less educated household heads were generally more satisfied with service delivery than households with higher academic qualifications. The beneficiaries who belonged to the lowest income quartile (22.80%) or rural areas (41.1%) were more pleased with service delivery. However, these variables exhibit an insignificant association with the effectiveness of service delivery. Most satisfied and dissatisfied beneficiaries were from the Mymensingh (13.5% and 7.3%, respectively) and Chattogram (11.8% and 6.0%, respectively) divisions.

Disaggregation of the four variables significantly associated with the effectiveness of service delivery and their respective odds ratios observed from the logistic regression model provide insights about the influence of certain variables. Table 12.4 shows that household heads who were admitted to primary school but did not pass grade one (pre-primary) were 0.6 times less satisfied with service delivery quality than beneficiaries who did not have any education.[6] Here, the association between pre-primary level education and satisfaction with service delivery is significant at a 10% level. Similarly, household heads with higher-secondary level education were 0.8 times less satisfied than those without education. Beneficiaries who knew selection committee members were 2.1 times more satisfied with service delivery quality than those who did not have any relation with them. Beneficiaries

Table 12.4 Factors That Are Significant in Affecting the Quality of Services Delivery

Variables	*Odds Ratio*	*P-value*	*95% Confidence Interval (CI)*	
Education level of household head				
None	1.00[a]			
Pre-primary	0.41	0.07*	0.16	1.06
Primary	0.76	0.27	0.46	1.25
Secondary	1.06	0.80	0.66	1.71
Higher Secondary	0.25	0.01**	0.08	0.74
Tertiary	5.06	0.15	0.52	48.68
Acquaintance with selection committee members				
Yes	2.14	0.07*	0.93	4.93
No	1.00[a]			
Beneficiaries' ease of registration for the program				
Easy	1.50	0.04**	1.02	2.20
Difficult	1.00[a]			
Presence of local administrations (DC/UNO/PIO, Tag officers)				
Yes	1.57	0.05*	0.99	2.48
No	1.00[a]			

Source: Estimated from household survey data.
Note: Here (**) indicates 'significant' at the 5% level (<0.05) and (*) indicates 'significant' at the 10% level (<0.10).

who found the registration process easier were 1.5 times more satisfied than those who did not. Finally, beneficiaries who stated that local authorities were present during the distribution process were 1.6 times more satisfied with the quality of service delivery than those who did not.

Conclusions

COVID-targeted relief programs were meant to be significantly different from traditional SSNPs. These targeted programs were introduced amidst a crisis that had adversely affected almost every aspect of life and livelihood in Bangladesh. There were no pre-existing mechanisms or planning in place to confront a crisis of such an overwhelming magnitude and scope. In view of the evolving scenario, the GoB had to roll out the various relief programs under severe time constraints. Therefore, it is not surprising that the government faced considerable difficulties in effectively addressing the emergent situation. Indeed, the intensity and urgency of the crisis, time constraints, a lack of pre-existing instruments, and structural and operational weaknesses made the government's task enormously complex and challenging. This, in turn, had implications for the success and effectiveness of the emergency relief programs that were put in place.

Undoubtedly, the coverage and adequacy of COVID-19 targeted relief programs for marginalized people – who need significantly enhanced support amidst the pandemic – would emerge as critically important issues. The study revealed that many eligible beneficiaries, including the 'new poor,' were excluded from specific relief

programs. In this context, poor coverage, inadequate information dissemination, targeting errors, and a lack of transparency in defining eligibility criteria were challenges accentuated by pre-existing and embedded weaknesses. The study also found that a renewed emphasis will need to be placed on 'hotline' numbers, reduction of transaction costs such as transportation costs for receiving GR (rice), and payment of additional money for receiving the BDT 2,500 cash support.

Several lessons for government policy actions and initiatives may be gleaned based on the preceding analyses and study findings.

First, *allocation matters*. Higher overall allocation of support in terms of both population coverage and the amount of support provided is necessary for any emergency situation. In such a scenario, the number of people in need rises significantly and needs also rise in tandem. Fiscal constraints should not justify inadequate relief when emergency support for the poor and 'new poor' is required at a time of unprecedented disaster. The capacity of the government to assess the needs of the newly marginalized, and provide support quickly, can make the difference between some comfort and extreme deprivation. This reality should inform policymakers.

Second, *spatial dimensions matter*. Relief supports during the pandemic were allocated based primarily on population size, without proper consideration of factors specific to the area or locality. Other concerns such as floods and cyclones and the topography of disaster-prone areas (such as char, haor, and coastal areas) have accentuated the suffering of some people arising from the pandemic. Every disaster has local dimensions. These local specificities either mitigate or accentuate the adverse impacts of disasters. Spatial features of impacts ought to inform interventions in terms of quantity and type of support.

Third, *new dimensions of vulnerability matter*. Targeting of programs surveyed has been mostly conducted based on income level at a time when the nature of destitution was changing rapidly. This led to the exclusion of many unemployed people, 'new poor', and people migrating from urban to rural areas from the relief programs. Limited scope for self-selection, familiarity with local government representatives, and non-transparent selection processes have further aggravated targeting errors and led to both errors of 'exclusion' and 'inclusion'. This resulted in ignoring many eligible beneficiaries, both old and mostly new. Higher unemployment, income erosion, new jobs with lower pay, and new dimensions of vulnerabilities should guide both targeting and allocation. Furthermore, there should be scope for self-selection given disaster scenarios change on a daily basis.

Fourth, *access to information matters*. Tangible improvements are necessary to promote the use of 'hotline' numbers. The government will be able to reach many more people if some pre-existing weaknesses are addressed, including digital illiteracy, lack of access to the internet, and mobile usage and network limitations, particularly for people in remote areas.

Fifth, *transparency matters*. Lack of adequate knowledge about program eligibility criteria was found to be pervasive. Making the beneficiary list public, both locally and nationally, and ensuring transparent eligibility criteria must become the norm with the help of digital platforms. Service providers must be provided with clear implementation guidelines and selection criteria. Among service providers, a

lack of clarity regarding how to distribute GR (rice and cash) and how to execute BDT 2,500 cash transfers constrained the quality delivery of the programs. Greater transparency in selection criteria is necessary to deliver any relief program effectively. Digital platforms can be useful in this regard, where provisions should be posted for all to access and take advantage of.

Sixth, *costs involved in accessing services matter*. Transportation costs and additional costs associated with receiving benefits should be mitigated so that they are not additional cash burdens for low-income marginalized groups. During pandemics, the financial burden involved in accessing public services may be partially or totally prohibitive. The slogan should be: 'Take services to the doorsteps of needy people; needy people do not have to come to the doorsteps of service providers'.

Seventh, *timing matters*. Adequate preparations should be made to avoid delays in delivering transfers and benefits. The lessons from delivering agriculture inputs and implementing cash transfer (BDT 2,500) should be instructive. Timely delivery of cash transfers is also important for triggering a rise in aggregate economic demand and the consequent supply-side response, which would lead to income augmenting employment creation.

Eighth, *innovation matters*. Many government officials, local government representatives, and non-state actors have put in admirable efforts to raise the efficacy of services delivered. They worked to disseminate information, verify beneficiaries' information, and monitor and supervise the distribution process. New and innovative forms of partnership should be encouraged and incentivized and should be scaled up through cross-learning exercises involving delivery agencies.

Ninth, *redress of grievances matters*. There is no functional grievance redress mechanism for relief programs or any follow-up mechanisms for that matter. A transparent and accountable grievance redress system should have designated responsibilities vested with individual officials. There should be an accessible documentary record to verify actions taken.

Tenth, *a whole of society approach matters*. Bangladesh has a long tradition of active involvement of non-state actors – NGOs, CSOs, CBOs – in times of natural disasters. The government is responsible for pursuing and ensuring a 'whole of society' approach in dealing with the pandemic and delivering relief support programs. Collaboration should cover a range of activities at the local level, including beneficiary selection, information dissemination, database creation, verification of beneficiaries, and delivery of services at the doorsteps of marginalized people. Policymakers need to appreciate that taking advantage of non-state actors will benefit the government, particularly when this concerns delivering services to the left behind, marginalized people, and hard-to-reach areas. This calls for an inclusive partnership toward a common cause.

Eleventh, *zero tolerance matters*. At the outset of launching the COVID-related relief programs, the Hon'ble Prime Minister sent out a cautionary note about pursuing a 'zero tolerance policy' against corruption and malpractice in relief delivery. The general experience, based on field-level investigation, was that there were no serious allegations of corruption in the GR (rice and cash) programs. However, there were many complaints about the cash support program. Indeed, these led to the

discontinuation of the cash support program, although it had proved to be the most effective intervention. The government has now planned to launch similar programs in future. It will be important to enforce the 'zero tolerance' policy in this regard.

Twelfth, *reliable data matters*. The absence of an up-to-date database of potential beneficiaries proved to be the government's 'Achilles' heel' during the pandemic. Ensuring proper targeting in the absence of a reliable database of eligible beneficiaries, reflecting the real-time situation on the ground has proven to be extremely difficult. In the absence of this, officials had to use an old and outdated database. Development of a reliable database maintained centrally but with local disaggregation and updated regularly should be given the highest priority by policymakers.

The COVID-19 pandemic is far from over. Indeed, Bangladesh passed through the second wave of the pandemic beginning in May 2021 and is currently in the midst of the Omicron wave during the early months of 2022. The lessons articulated above will hopefully aid in designing and implementing the needed social safety net programs to address ongoing and future emergency situations. These recommendations are also relevant in dealing with weaknesses generally faced in implementing social safety net programs in Bangladesh in normal times.

Notes

1 The targets include SDG 1.3 (Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable); SDG 2.1 (By 2030, end hunger and ensure access by all people, in particular, the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round); and SDG 10.4 (Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality).
2 Processes/activities cover the implementation of a program, which includes, inter alia, outreach and application, beneficiary targeting and selection, payment delivery, and periodic eligibility reassessment.
3 Outputs/applications are goods and services delivered through the program activities.
4 Interviewees included Deputy Commissioners, members of COVID-19 prevention committees at district and Upazila levels, local government representatives (i.e., Upazila Chairman, Upazila Parishad Chairman, members), Upazila Nirbahi Officer (UNO), District Relief and Rehabilitation Officer (DRRO), Disaster Management Information Centres (DMIC) at the national level, representatives from NGOs, community-based organizations, civil society organizations, community leaders such as Imams (religious leaders), and schoolteachers.
5 Union Parishad (Council) is the lowest elected local government entity of Bangladesh.
6 When the 'Odds Ratio' is greater than 1, it implies an increased occurrence of an event implies a decreased occurrence of an event.

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13 Data Initiatives for Evidence-based Policymaking

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Introduction

COVID-19 has had many adverse socioeconomic and health impacts. Just as prominently, it has brought about seismic shifts in the demand for reliable data by healthcare professionals, policymakers, and the public at large (Lewis et al., 2021). Demand for data has risen, and the type of data demanded has shifted. Amidst the pandemic, the conventional modes of data collection have become risky and near-obsolete due to health risks of in-person contact and travel restrictions within countries and around the world (Siddiqui & Rathinam, 2021). Furthermore, existing methods of attaining, processing, and using data to inform policy are outdated, resulting in data and information that is 'late, incomplete, and error-prone' (Lewis et al., 2021). The precariousness of the ongoing global pandemic makes it difficult to use historical data in a forecasting model (Fakhruddin, 2020).

In addition to evolving data collection processes, providing data access is critical for policymakers and the public alike (Pousadela, 2020). Reliable and up-to-date health and socioeconomic data are necessary for effectively targeted interventions amidst the pandemic. Additionally, timely dissemination of reliable information to the public is vital to communicating public health measures and policies.

Many issues within Bangladesh's data ecosystem predate the pandemic. Few surveys used by the Bangladesh Bureau of Statistics (BBS) to generate data have undergone upgrades over the years. Consequently, their outdated methodology and subsequent data handling processes result in information that is outdated, unreliable, and unrepresentative of the population or of the country's development progress (United Nations Development Programme [UNDP], n.d.). Additionally, COVID-19 also gave rise to new issues within Bangladesh's data ecosystem. One prominent example is the rather drastic but necessary move toward contactless data collection methods, given the virus's contagiousness. In this context, it is critical to understand the process of generating basic statistics concerning COVID-19 in Bangladesh and assess how these statistics are translated into policy responses by the government.

This chapter reviews and documents the processes, tools, and partnerships formed in Bangladesh to generate and use public health data to combat COVID-19. Beginning with a review of the existing data ecosystem in Bangladesh, we argue that institutional mechanisms and systemic efforts are underway to generate

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basic statistical data on the pandemic. These mechanisms rely upon both existing and new data infrastructures. We note that collaboration between government and non-government agencies has become more robust in many aspects of the data ecosystem. While there are clear processes for storing generated data, accessing this data is challenging and complex.

Second, this chapter assesses whether data-generating measures enabled the design and delivery of policy measures to combat COVID-19. We find that policymakers' acceptance of new data initiatives was slow, with quite limited use of generated data to inform policies. Many factors influenced this, including the complex web of actors involved and limited institutional buy-in, particularly at the start of the pandemic. However, the government is more interested in accommodating data-driven findings into policy after the second wave of the pandemic.

Third, this chapter considers the emerging best practices around data ecosystems and data-driven policy responses to COVID-19. We argue that there is scope to draw from new initiatives developed by international organizations and other countries to strengthen data initiatives in Bangladesh while also remaining responsive to the country's unique context.

The current chapter seeks to document the evolving data initiatives in Bangladesh during the COVID-19 pandemic, which is a novel attempt. Hence, the chapter primarily relies on a desk review of the available policy documents, literature, and online data portals from both national and international sources. A significant portion of the analysis of the chapter is also based on several key informant interviews (KIIs) and expert discussions from which insights and information were drawn from the actors involved in different stages of the data value chain. These actors were directly or indirectly related to the public health-related data initiatives that took place during COVID times.

Evolving Data Initiatives during the Pandemic

Several leading international data platforms have undertaken COVID-19 targeted initiatives.[1] These initiatives may be categorized according to their functional framework. This categorization comprises two major clusters: online resources and partnerships that have emerged and been leveraged to meet rising data needs.[2] Notwithstanding the development status, examples of new data initiatives can be identified at the country level.[3]

In response to the national emergency caused by COVID-19 in Bangladesh, several government agencies, including Aspire to Innovate in Bangladesh (a2i), the Directorate General of Health Services (DGHS),[4] and the Institute of Epidemiology, Disease Control and Research (IEDCR)[5] have undertaken new and innovative data-driven initiatives (UNStat, 2021). This chapter reviews these national data initiatives and their role in combating COVID-19 through the lens of four primary healthcare functions: promotive care, preventive care, curative care, and rehabilitative care.

Following the categorization of Henry E. Sigerist, Organisation for Economic Cooperation and Development and The GovLab (2021), health-related data

initiatives in Bangladesh have been classified into two layers: first, the health care functions they serve, and second, the types of data products that are generated. Considering the high number of health-related data initiatives, this chapter eschews an exhaustive examination favoring a closer look at the most prominent ones providing statistics and information related to COVID-19[6] in Bangladesh.

Data-Driven Initiatives to Combat COVID-19 in Bangladesh

Countries across the world have taken measures to safeguard the health of their citizens and revive their economies. The Government of Bangladesh (GoB) has been no exception. Among the public policy interventions taken in Bangladesh, the disbursement of BDT 2,500 to five million households and the country's vaccination program have each received heightened attention. This section utilizes these two case studies to examine the application of data-driven initiatives while carrying out these interventions.

Use of Innovative Data in Implementing the 'BDT 2,500 Cash Support Program'

The cash support program of BDT 2,500 was targeted at five million households that do not generally fall under the tax net and were hit hard by the pandemic. The target groups include, inter alia, day laborers, domestic workers, farmers, and transport workers. Despite attempting to integrate multiple actors and data systems to disburse cash support through a government to person payment system, the government was not able to reach the intended five million households in a timely manner. A careful examination of the role of data in this initiative will help identify the challenges that must be addressed in the future.

First, the BBS prepared the primary list of beneficiaries using the 'National Household Database' through proxy means test scoring and then distributed it among the Deputy Commissioners (DCs)[7] via email. The DCs then sent the list to the Upazila Nirbahi Officers[8] in Excel format, which was subsequently sent to local government representatives (such as Chairpersons or members of Union Parishad).[9] The local government representatives updated or modified these lists as necessary or to reflect local-level realities based on their own judgment.

Second, the list was sent back to DCs, who forwarded it to the Finance Division. The Division sent the list to the Ministry of Disaster Management and Relief for further verification and assessment. The Finance Division also cross-checked the list with other beneficiary databases and removed people who were receiving other allowances. A2i contributed to the data-cleaning process in this phase by checking duplication using mobile numbers and cross-checking with other databases. After being cross-checked by a2i, the list was sent to the National Telecommunication Monitoring Centre (NTMC), which was matched with national ID (NID)/mobile phone numbers and shortened further. The list was repeatedly cross-checked and finalized with around 3.6 million beneficiaries.

Third, money was distributed to beneficiaries through mobile financial services such as Nagad, bKash, Rocket, and SureCash, or through bank accounts. These

organizations, such as Nagad received the beneficiary list from the 'integrated Budget Accounting System', which the Finance Division of Bangladesh uses. It again verified the list with all mobile operators through their biometric database.

Several data issues in the field hindered the listing and subsequent distribution process. For instance, in some cases, no mobile number was registered against an NID or mismatches between the registered mobile number, NID (as listed in the NID and election commission databases). In other cases, the mobile number was recorded in a wrong format, or there was a lack of detailed occupation-related information. Local-level government officials complained that they had limited time available to prepare initial beneficiary lists.

The cash support program undertaken in 2021 after the second wave of the pandemic added beneficiaries from other occupations, such as fishermen and motorcyclists engaged in ride sharing. However, this new list has not yet been integrated into the initial database (Centre for Policy Dialogue & Oxfam, 2021). Creating a comprehensive database by integrating all possible beneficiaries would improve targeted cash support programs' future reliability and accuracy.

Utilizing Data to Implement the COVID-19 Vaccination Program

The online vaccination portal, 'Surokkha', is an excellent example of data-driven policy in Bangladesh's COVID-19 response. This portal covers almost the entirety of the vaccination process, from registration to receiving a vaccination certificate. The data-driven vaccination management system has made it possible to roll out vaccines systematically, reach beneficiaries without requiring human contact (in most steps), and administer vaccines promptly, subject to availability.

The use of data in the vaccination process has two components. The first relates to vaccine supply chain management, while the second deals with vaccinating citizens. The distribution of vaccines has been determined by four major factors: total availability of vaccines, the administering capacity of regions and vaccination centers, estimated daily delivery coverage, and estimated daily delivery coverage for prioritized groups. In supply chain management, two sources of data have been used. Firstly, there is data from the 'Surokkha' portal, including the number of doses administered to date and projected doses required in future. Secondly, there is data outside this system, such as administrative data on vaccine availability, logistics, and infection rates.

The capacity of available cold-chain facilities often determines the regional distribution of vaccines. For instance, the Pfizer vaccine needs to be stored below minus 60 degrees Celsius and is not feasible to administer in most parts of Bangladesh except Dhaka City Corporation. On the other hand, available cold chain facilities developed as part of the routine Expanded Program of Immunization (EPI) can handle Sinopharm and AstraZeneca vaccine transportation up to the Upazila level. Furthermore, other logistical requirements, such as mixing syringes, diluents, and vaccine carriers, also determine the distribution of vaccines across regions.

Ensuring maximum coverage to reduce COVID-19 transmission has been the government's highest priority. Front-line and migrant workers have been

prioritized in this regard. The distribution strategy of multiple vaccines has been determined by their availability and the size of prioritized groups.[10] In this case, the first challenge was to deliver across the country given minimal cold chain capacity. The second challenge was to provide adequate coverage given the volume of available vaccines, which were again initially reserved for migrant workers as per instructions from the government.

The calculation of vaccine wastage is made by EPI headquarters using data on the number and type of vaccines distributed to centers and the number of people receiving vaccines. Vaccines packaged in multi-dose vials require multiple beneficiaries present and ready for vaccination before being unpacked. For example, the AstraZeneca vaccine, which has ten doses per vial, required ten people to be present for vaccination before unpacking. However, centers have also been contrarily instructed that they must administer the vaccine even if eight people are present instead of ten. In such cases, 10%–20% of each vial might get wasted.

As soon as a beneficiary completes registration in the 'Surokkha' portal, real-time data is generated to develop a vaccination card and registration number. Later, beneficiaries receive an SMS to fix vaccination appointments. Finally, the citizens can get vaccine certificates using the 'Surokkha' portal through their devices. Data from the 'Surokkha' portal helps the authorities estimate the demand for vaccines in particular locations and develop vaccine coverage plans considering the cold-chain and logistics capacities at delivery centers. The percentage of population of certain categories (e.g., medical students, general students, migrant workers) who can be covered, given the capacity of the center, is estimated. Based on this estimation, an SMS is sent to individuals and the sequence of coverage is maintained. However, this sequencing can only be conducted based on occupational categorization. Age-based sequencing has not been feasible yet due to technical reasons.

The data-driven vaccination program of 'Surokkha' can indeed be considered an appreciable attempt for Bangladesh, given the country's vast population and limited technological resources. However, the requirement of an internet facility to register for vaccines leaves out many eligible people. The GoB has tried to mitigate this through spot registration while carrying out the mass vaccination program. However, this deviation from a data-driven approach leverages traditional systems to ensure mass coverage.

Emerging Data Ecosystem to Address the Pandemic

This section of the chapter presents a substantive analysis of the COVID-19 'data ecosystem': the emergent processes, tools, and partnerships for generating and utilizing COVID-19 data. This section brings out insights into the national best practices regarding COVID-19 data initiatives. Additionally, the operational modality of the actors of the data ecosystem is highlighted. Finally, the findings also focus on the pre-existing strengths and weaknesses of the data ecosystem in Bangladesh, which have garnered renewed attention in view of the COVID-specific data initiatives.

Motivation behind Data Initiatives

In the early days of the COVID-19 pandemic, when the number of testing centers was quite limited, the GoB was concerned with collecting timely health data to predict transmission vectors. Some government agencies took a 'demand-driven' approach to COVID-19 targeted data initiatives. For example, a 'National Corona Care' repository was developed by a2i under the leadership of DGHS to obtain real-time infection information. The government approached academics and others to predict the pandemic's trajectory through various statistical projection techniques, particularly before the second wave.

Other data initiatives were supply-driven in nature, led by non-resident Bangladeshi academics from multidisciplinary backgrounds and other stakeholders such as policymakers, telecom companies, data scientists, and epidemiologists. One such example is the 'syndromic surveillance' system, which used telecom data to monitor the coronavirus's trend, cluster, and outbreak before cases were actually reported to public health agencies. Telecom data is obtained when people report their symptoms by calling a number, sending a text message, or using Unstructured Supplementary Service Data (USSD) or an app. The government authorized mobile operators to coordinate with key stakeholders (i.e., NTMC and a2i) for the COVID-19 collective intelligence System (Ahmed, 2020). However, policymakers had some inertia toward accepting the various models and projections produced by independent actors, particularly during the early phases of the pandemic; but the situation has since improved.[11]

Collaborative data initiatives with non-government entities were mostly supply-driven, although the scenario has changed in recent years. Non-government entities received assistance from the government with COVID-19-targeted data initiatives, whether they were demand-driven or supply-driven. In fact, certain supply-driven data initiatives could not be possible without the partnership of government agencies. For instance, IEDCR is mandated to monitor COVID-19 trajectories, and such data initiatives require a partnership with IEDCR.

It could be challenging for non-government entities to collaborate with government agencies. However, it is not always due to reticence on the part of government. The in-built bureaucratic procedures can often be cumbersome, requiring permission from higher authorities regarding collaboration or sharing certain information.

Innovation and Data Generation

A large volume of user-generated data has been accumulated during the pandemic through many new data collection methods. These include syndromic surveillance through telehealth, telemedicine services or hotline numbers, Interactive Voice Response (IVR) systems, USSD, and SMS. Data was collected through these methods, either by people enquiring about their symptoms or by allowing them to self-report. Ironically, 30% of mobile phone users in Bangladesh cannot read, while 46% cannot respond to SMS. This has put a challenge on effective big data analysis as long as the representativeness and comprehensiveness of the SMS service-generated data are considered (Rabbani, 2020). Hence, the effectiveness

of IVR systems and USSD services is also a matter of concern as both of these services require people to respond.

Apart from hotlines and mobile-based data collection systems, the hospital-based data collection process has also gained momentum. For instance, hospitals are now connected to the DHIS2 system[12] of DGHS. A designated person in each hospital has been assigned to regularly upload the logistics-related data in this system, providing an almost real-time scenario. Over 13,000 community clinics and sub-district health care facilities are connected with central, divisional, and district levels through the DHIS2 system of DGHS (United Nations Children's Fund, 2019).

The 'Contact Tracing App' was another data-driven policy attempt in Bangladesh, even though it was unsuccessful due to its usage model and poor public health behavior. A system has been developed to track the nationwide distribution of masks through a collaboration between government and private entities. A study has been conducted based on a cluster-randomized trial in Bangladesh, and it estimates a roughly 9% reduction in symptomatic seroprevalence and 11.6% reduction of symptoms in the treatment group due to an increase in mask wearing intervention (Abaluck et al., 2021). Considering these findings, the 'Mask Distribution Hub' with a view to coordinate and ensure mask distribution throughout the country to prevent COVID-19 is a commendable attempt. A 'socioeconomic dashboard' was also created in the pre-existing SDG tracker to provide key socioeconomic indicators. This dashboard was developed on the recommendations provided by national stakeholders, such as the SDG coordinator at the PMO, DCs, DGs, and agencies like BBS, among others.

The Health, Nutrition and Population Program (HNPP) of BRAC has developed a community-based digitalized syndromic surveillance system to identify suspected COVID-19 cases through a combination of community informants, community health workers, telemedicine services, and further management support. For instance, community informants would highlight suspected COVID-19 cases and lead a community health worker to visit that person's house to screen and verify. If the person tests positive, they are provided further support such as a follow-up meeting or telemedicine appointment. The HNPP has also developed an online data management system for RT-PCR and Antigen test registration.

Operational Modalities

A 'government-agency centric' approach was followed in most initiatives, while a selected few pursued a 'whole of society' approach. Government agencies such as IEDCR and DGHS played their part in various capacities as data generators, mobilizers, and users for multiple data initiatives. For example, the 'National COVID Dashboard' was created by the Epidemiology and Public Health Committee, which is comprised of senior officials from IEDCR and DGHS. Experts analyze the dashboard weekly, with analyses presented to the committee for decision-making. These agencies facilitate data generation processes not only for government organizations but also for non-government institutions. For instance, IEDCR and DGHS have facilitated data collection of ICDDR,B[13] for several COVID-19-related activities.

These involved generating data for indicators such as seroprevalence of vaccine effectiveness, mortality, and vaccine response rates.

a2i has both generated and mobilized several COVID-19-related data initiatives. It has facilitated data generation processes by coordinating multiple global and national organizations, the government, and private sector actors. a2i brought together their technologies and experience to generate data alongside the development of new tools and methods for data generation on behalf of government agencies. Furthermore, it has facilitated knowledge development regarding data-driven real-time policy analysis and action within government. As a data mobilizer, a2i has also developed pipelines to move data through interoperable systems of several entities and introduced synchronization mechanisms to exchange data in real time. Examples of such activities include setting up labs for sample collection, coordinating with data operators for inputting data in lab/hospital data systems, and re-creating a sample collection PHP script tool to overcome the challenge of continuous data inputs. Lastly, it has been uploading data to the DHIS2 system in real-time and sending test results to people via SMS, uploading those results in the 'National COVID Dashboard'.

Telecom companies have also played a role as data generators and managers for some COVID-19 targeted data initiatives. They have contributed to data collection for real asymptomatic cases through the syndromic surveillance system. They have also helped verify, clean, and analyze collected data using artificial intelligence, sending the final dataset to the DHIS2 system. The HNPP has also acted as both data user and generator during COVID times. For example, it has used syndromic surveillance data to design an outreach project for people who need health services or food. Furthermore, HNPP was actively involved in disease surveillance and contact tracing committees formed during the pandemic, working in many sectors, including sample collection and disease surveillance data management system improvement.

Some local administrations were involved in policy interventions and contributed to the utilization of data. For example, zonal lockdowns were imposed in Dhaka through collaboration with Mayors and a district-wise lockdown was imposed with assistance from DCs. Regrettably, these lockdowns could be implemented only at a limited level.

Storage and Accessibility of Data

Data storage systems have been developed for COVID-19-related data initiatives undertaken by government agencies. For example, the 'National Corona Care' repository is connected to the DHIS2 system of DGHS. The DHIS2 system itself is further connected to contact tracing apps, hospital databases, vaccination databases, and other systems of statistics about transmission trends, hospital logistics, hospital mortality trends, and area-specific demands. All this information is stored in the repository and can be viewed through a dashboard.

The online availability of data resources amidst the pandemic has been impressive. However, when only 5.6% of households in Bangladesh obtain

home computers and only 37.6% have access to the internet at home (BBS, 2019), there are concerns of a 'digital divide' where people without internet access cannot benefit from the new data initiatives. Furthermore, not all COVID-19-related data initiatives have outputs available in the public domain. For example, data on all indicators and statistics of the 'National COVID Dashboard' can be accessed only by selected senior officials of DGHS, the Health Ministry, the Cabinet division, and the ICT division, with limited access granted to DCs and civil surgeons.

No formal mechanism has been established to allow individuals to obtain COVID-19-related data. There is scope to apply for and obtain data from DGHS or IEDCR via email. However, the subsequent lengthy bureaucratic process often diminishes the usefulness of this access, especially when an immediate response is required. Aside from formal bureaucratic processes, accessing data also often requires liaising with multiple actors – IEDCR, MIS, the Non-communicable Disease Control Center, and the ADG of planning – due to the absence of a designated contact system and persons. In some instances, even if approval of higher authorities is attained, employees downstream can be less helpful. The two most common problems in this regard are a lack of technical capacity to provide data and being overburdened with work. Additionally, there is no formal mechanism to obtain data from local-level actors. Accessing data from government agencies often requires pre-existing connections. Hence, it might be possible for large organizations like BRAC to obtain the data. But for small organizations or independent researchers, there may be no such scope.

The government is required to act proactively to integrate data generated by non-government entities. Technical limitations might be an issue in this regard, as is a reticence by government agencies to use data generated by the non-government sector. There is scope for a greater drive on the part of the government to disseminate data for use in further research, modeling, and policy responses. The reasons behind this gap include an inadequate capacity of government agencies and a lack of a specific vision to invest in data-driven research modes.

Usability and Comparability of Data

The available data on COVID-19 provides basic information regarding the spread of the pandemic in Bangladesh. However, the representativeness of this data has come under scrutiny. One reason behind the possible under-reporting of COVID-19 cases in Bangladesh is that data sources are primarily hospital-based, not community-based. Sixty-nine percent of the patients in Bangladesh received health care services outside the hospital, and the number of patients staying home also increased. Statistics are only generated by people who access services from hospitals, overlooking those who do not seek formal healthcare. Also, COVID-19 reporting is completed based on confirmed cases rather than the presence of symptoms. Additionally, the shortage of testing facilities, large numbers of outbound migrants, and false-negative PCR test cases have all contributed to the under-reporting of COVID-19 cases. Mismatches between data reported on the ground

and that shown in dashboards were also present. A lack of synchronization between different data-gathering and data-reporting entities adds to the problem.

The usability of information received from government agencies can be limited due to data and formatting inaccuracies. Data is often not well-structured, inferring the possibility of disorganized collection from the outset. This reduces the usability of data and induces government agencies' reluctance to provide data to other entities when requested. Furthermore, data often lacks the granularity required for detailed analysis.

Among COVID-19 targeted data initiatives, both government and non-government actors have developed interoperable data systems. For instance, a system was developed by a2i to track the mobility of positive COVID-19 cases, which incorporated multiple channels, including DHIS2 platform, NTMC, and telecom companies, for data to pass through. The data curation process of the Corona Care repository also demonstrates an interoperable data system. Equally, similar programs are evident in non-government organizations. For example, lab results from RT-PCR tests conducted in ICDDR,B and its three sample collection facilities (the Gopalganj, Shariatpur, and BRAC booths) can be directly uploaded to the DHIS2 system. When the HNPP developed its digitalized data platform in 2019, it was ensured that the generated database was compatible with the DHIS2 system. Similarly, the COVID-19 surveillance database created by BRAC has also been made compatible with the DHIS2 system to share data with the government.

Data-Driven Policies

Bangladesh has made good progress in developing systems to generate COVID-19-related data. However, performance has been less satisfactory while translating these data initiatives into policy action. Understanding of overall data initiatives is still very limited within the government. This poses a challenge toward utilizing these initiatives in a timely manner to address the pandemic.

Nonetheless, the government has made multiple attempts to translate data initiatives into policy action. For example, a location-specific lockdown was imposed in some parts of Dhaka City based on risk zoning derived from data. However, this attempt was not successful due to administrative and law enforcement challenges. Additionally, the 'National COVID Dashboard' is actively used to inform policy action by the Health Ministry, PMO, and the public health committee experts responsible for monitoring COVID-19-related issues. However, the uptake of this dashboard for policy use was rather slow in the initial stages but started receiving greater attention during the last quarter of 2020 and the second wave of the pandemic.

The government has been proactive in accepting data-driven analyses by academics. For example, in the initial period of the pandemic, academics from both home and abroad came forward to collaborate with government officials to trace the COVID situation through various data initiatives. Though there was some reluctance in the early period, the government was ready to accept their proposed initiatives after a certain time. In some cases, the government officials themselves

approached the academics of recognized organizations to obtain their data analysis. However, there were some reservations in terms of using pandemic forecasting to tailor policy responses. One key challenge is the inherent limitations of assumption-based forecasting models, which often fail to capture rapidly changing real-world dynamics.

A lack of coordination among different government actors has hindered the effective use of data for policy responses during the pandemic. The processes and bases of decision-making are often unclear, even amongst government officials, since several ministries, agencies, and political actors are involved. Sometimes, the implementation of data initiatives was not congruent with their design. Principal decision-making bodies often do not have access to adequate support from public health experts. Furthermore, there is no in-built mechanism to involve local government officials in data initiatives.

Sustainability of Data Initiatives

The technical committee created to assess COVID-19-related data initiatives is rather homogenous. To be effective in the long term, it must accommodate observations from economists, sociologists, anthropologists, and other disciplines. Bangladesh's socioeconomic dynamics must be considered while designing data initiatives to ensure their sustainability. Furthermore, the involvement and utilization of local government actors would increase the effective delivery of future data initiatives.

Some pre-existing data initiatives in Bangladesh are actively functioning despite the pandemic and are providing useful information. For example, the DHIS2 system of DGHS is updated in real-time when any health-related activities take place in hospitals. Apart from DHIS2, many systems attached to the MIS of DGHS can inform decisions such as resource allocation. The actual use and effectiveness of these systems in terms of decision-making is questionable. It is worth noting that systems are now in place if data-driven policymaking gains more momentum. The syndromic surveillance system, the COVID-19 testing and reporting system, and the 'COVID-19 dashboard' are some new data initiatives that have good scope for replication and use in the future.

Research institutes, universities, and data scientists are conducting COVID-19 research and generating data regularly across the world and in Bangladesh. Strengthening these entities through adequate funding will help expand Bangladesh's data ecosystem both vertically and horizontally. Several COVID-19 targeted data initiatives have been undertaken by NGOs or CSOs in Bangladesh. Regrettably, their integration into policy responses has remained very limited. By accommodating such initiatives into the policy decision process, Bangladesh could set an example for the world.

Conclusion

Globally, policymakers were poorly prepared for the challenges posed by COVID-19. Often, they have tried policy actions while equipped with limited information.

Being one of the world's emerging economies, Bangladesh has faced considerable challenges in this regard. At the same time, the pandemic provides renewed opportunities to improve the country's data ecosystem.

This chapter has documented and analyzed the success of new data-gathering initiatives in Bangladesh seeking to address COVID-19. Several notable observations emerge from the in-depth analysis conducted above.

First, this chapter identified multiple existing and new efforts by government and non-government actors to generate basic statistics and data on COVID-19. While many of these efforts remain partial, the pandemic has presented opportunities to build partnerships between the public and private sectors. Data-gathering initiatives involving user-generated and telecom data have grown in importance throughout the pandemic. While challenges remain, government agencies have become more willing to coordinate their data-gathering and usage efforts with the non-government sector. Equally, while there are relatively robust and formal data storage systems in most initiatives, individuals' access to this data is limited, overly bureaucratic, and complex.

Second, this chapter considered the effectiveness of key COVID-19 data-gathering programs. A lack of understanding by government actors about the significance of the data initiatives, the multitude of actors involved in data gathering processes, and concerns about accommodating data initiatives within subordinate agencies all loomed as key challenges. However, engagement between the public and private sectors over the use of COVID-19-related data has increased since the second wave of the pandemic. While the use of data has thus increased throughout the pandemic, we also noted continuing concerns regarding the accuracy, representativeness, and quality of data collection initiatives which do not engage with people without internet access.

Third, this chapter noted that the data collection and usage programs that have emerged in Bangladesh during the pandemic remain largely agency-centric. Transforming these multiple cross-cutting data collection efforts into a systemic program is an impending challenge for policymakers. We noted that existing successful data initiatives can be scaled up and reimagined in the future to strengthen Bangladesh's data ecosystem. Further accommodation of non-state actors in the data collection and policymaking processes will be useful in this regard.

The chapter has highlighted the reality that new and constructive data-collecting initiatives have been developed in Bangladesh amidst the Coronavirus pandemic. The government primarily undertook these initiatives to formulate immediate pandemic responses. Despite some early reticence, the government has since accommodated supply-driven data initiatives as and when necessary. With time, the scope, efficiency, institutional capacities, and utilization in policymaking of these initiatives have improved. Bangladesh has also utilized new and innovative data technologies such as telecom data and smartphone apps. More proactive uses of existing databases, such as NID for policy actions were also observed. Bangladesh has also embraced new institutional frameworks that enabled them to collect real-time health data. New partnerships were formed involving multiple stakeholders within and outside government. Such initiatives were not absent in the past but have definitely broadened in scope and speed during the pandemic.

Along with the notable positive developments mentioned above, these data collection initiatives have also faced several challenges. Initiatives have often translated into limited provision of public support, and data analyses have failed to inform decision-making. While the NID database was successful as it covered a larger section of the population, the use of the contact tracing app failed due to very low smartphone penetration in local communities and other technical issues. Overall, we found that the mindset and flexibility of stakeholders toward data-driven initiatives were critical to their success. As well as transparency standards, buy-in times and rates by government agencies could be improved. These improvements will help in scaling up initiatives in the future.

The future development of data initiatives in Bangladesh will critically hinge on the system-wide adaptation of the successful initiatives, enhanced scalability of initiatives across horizontal and vertical domains, and ensuring sustainable patterns in terms of human resource, financing, and institutional development. First, there is a need to establish a clear, system-wide institutional architecture for data-gathering initiatives, ensuring good governance. Discussions about the development of such a system-wide architecture should involve all relevant stakeholders and avoid a legalistic disposition. The creation of a 'knowledge hub,' containing all relevant data, statistics, research, and analysis from government and non-government entities will benefit the cause of system-wide adaptation. This proposed knowledge hub could be an integrated and aggregated form of numerous existing data platforms. Data standardization, reconciliation, disaggregation, interoperability, access, and quality assurance should be prioritized in forming this knowledge hub. Data privacy and confidentiality must also be ensured. Therefore, the formulation of data privacy policies and the development of data sharing frameworks should receive the highest priority.

Second, taking cues from experiences during the pandemic, the scaling up of data initiatives should focus on incorporating more sectors, issues, and stakeholders from within and outside government. The formation of a 'data community,' following a 'whole of society' approach will be useful in scaling up data initiatives. This will help overcome traditional silos and limitations within the data ecosystem. It will also provide non-state actors a gateway to integrate into government data-related activities, in turn ensuring the utilization of local capacities to their fullest.

Finally, the sustainability of data-related initiatives will require more resources – financial, human, and technical – from both domestic and foreign sources. This is particularly pertinent for non-state actors who might lack the resources necessary to develop robust data architectures. Lessons from the pandemic time should be utilized to bolster and modify existing data initiatives moving forward. For instance, health-related modules could be integrated into mainstream economic surveys. Real-time health data generation mechanisms developed during the pandemic should be maintained and expanded to other sectors. The BBS must expedite the use of administrative data, user-generated data, and geospatial data to provide more up-to-date socioeconomic forecasting.

Overall, political buy-in is critical in all three areas mentioned above. As has been discussed, the data-driven approach toward policymaking has shown growth

and improvement during the pandemic. However, data generators and the knowledge community must continue their endeavors to sensitize policymakers regarding the usefulness of data. To ensure this, documenting Bangladesh's experience, generating evidence of the positive impacts of such initiatives, and engaging multiple stakeholders to improve outcomes will be needed.

Notes

1 These platforms include the United Nations World Data Forum (UNWDF), United Nations Statistics Division (UNStat), European Statistical System (Eurostat), Partnership in Statistics for Development in the 21st Century (PARIS21), and the Global Partnership for Sustainable Development Data (GPSDD).

2 The selected international organizations made efforts to support the data ecosystem in two ways: 'shifting priorities online' and 'leveraging partnerships'. As regards 'shifting priorities online', certain organizations developed online platforms in the form of websites and data dashboards presenting relevant COVID-19 statistics, for example, the 'National Statistical Resilience' dashboard by PARIS21, and 'COVID-19 Data Hub' by UNStat (Paris21, 2020a; United Nations Department of Economic and Social Affairs [UNDESA], 2020a); certain organizations conducted surveys to assess the state of national statistics offices (NSOs), for example, UNStat and World Bank, Eurostat (EuroStat, 2020; UNDESA, 2020b); few organizations developed new tools to support the continuity of NSO activities, for instance, 'PARIS21 E-learning Academy' by PARIS21 to support NSOs, curated emailing list of NSOs by GPSDD (Jutting, 2020; Melamed, 2020); and few facilitated peer-learning among the key stakeholders of the global data ecosystem through virtual sessions, in particular, UNWDF virtual data forum in 2020 (United Nations, 2020). Regarding 'leveraging partnerships', certain organizations under review leveraged old partnerships and formed new ones to address data gaps and related challenges: for instance, the 'COVID-19 Task Force' by PARIS21 to engage NSO partners, and 'Administrative Data Collaboration' by GPSDD (GPSDD, 2021; Paris21, 2020b).

3 Five countries were selected to this end, viz. Ghana, Vietnam, Estonia, South Korea, and Switzerland. COVID-19 targeted data initiatives by these countries, predictably, placed greater emphasis on health as there was greater concentration on contact tracing through online-based surveys and Bluetooth tracking. The surveys and Bluetooth tracking of Vietnam, Estonia, and Switzerland were often criticized for data privacy concerns (Geber & Friemel, 2021; Lwanga, 2020; Nguyen et al., 2023). South Korea chose to coordinate with relevant agencies to obtain credit card data, location data to track movements of individuals which is even more invasive (Shin et al., 2020). Ghana, however, used alternative data sources to monitor the effectiveness of enforcing lockdowns by obtaining call detail records from telecom operators (UNDESA, 2021). Ghana's focus, additionally, has also been on establishing COVID-19 data initiatives that address the pandemic's impact on the country's local businesses, employment, and households. While majority of these countries favored digital solutions to the rising data challenges, Ghana pursued telephone-based methods (Ghana Statistical Service [GSS] and UNDP, 2020; GSS, UNDP and World Bank, 2020; GSS, 2021).

4 The DGHS is one of the agencies of the Ministry of Health and Family Welfare of Bangladesh and it is responsible for implementing health programs and services for the ministry. The DGHS also provides technical assistance to the ministry.

5 IEDCR is a research institute under the Ministry of Health of Bangladesh and works as sub-ordinate agency of DGHS.

6 Among the data initiatives, those related to preventive and curative aspects of health care received heightened importance, for instance, eight data initiatives, inter alia, 'COVID -19 Dynamic Dashboard for Bangladesh', 'Shonkhay Corona Virus', 'COVID -19 Tracker', 'Vaccination Press Release', 'COVID-19 Situation Related Health Bulletin'

etc. focused on preventive health care; and six data initiatives, inter alia, 'COVID-19 Dynamic Dashboard', 'COVID-19 Commodities Dashboard', 'Coronavirus COVID-19 Dashboard', 'Telehealth Centre Daily Report', etc. focused on information associated with curative health care. The data initiatives did not reflect the rehabilitative aspect of health care at all. The majority of the data initiatives have been undertaken in the form of 'Data dashboard', 'Press releases and bulletins', and 'Hybrid products'. An overwhelming majority of data initiatives utilized data from DGHS and its various wings, besides IEDCR, ICT Division of Government of Bangladesh and Bangladesh Computer Council.

7 In Bangladesh, DC is the local administration representative who performs as lead administrative and revenue officer of a district or administrative sub-unit of a division in the country. There are 64 districts comprising eight divisions in Bangladesh.

8 Upazila Nirbahi Officer is the lead executive officer of an Upazila (subdistrict) who is a civil servant of the Government of Bangladesh.

9 Union Parishad or Union Council is the smallest local government unit in Bangladesh.

10 For instance, 100,620 doses of the Pfizer vaccine were obtained, with which 50,310 people could be double-vaccinated.

11 Under Section 97 (Ka) of the Telecommunication Act in Bangladesh, the government may authorize telecommunication operators to keep a record of a specific user on the ground of national security. According to the Global System for Mobile Communications Association COVID-19 privacy guidelines 18, the mobile network operator data can be used if the use of data is transparent and confined to a specific purpose of combating the pandemic (Ahmed, 2020; One Trust Data Guidance, 2021). During the pandemic, these companies were authorized by the government to use user-generated data to predict the various state of the pandemic, including the concentration of infections.

12 DHIS2 stands for District Health Information System 2. It is a web-based software platform that is used for data collection, management, and analysis. DHIS2 is used in the Ministry of Health in many countries, including Bangladesh.

13 ICDDR,B stands for International Centre for Diarrhoeal Disease Research, Bangladesh, and it is an international health research organization located in Bangladesh.

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